

University of Warwick institutional repository: <http://go.warwick.ac.uk/wrap>

A Thesis Submitted for the Degree of PhD at the University of Warwick

<http://go.warwick.ac.uk/wrap/35743>

This thesis is made available online and is protected by original copyright.

Please scroll down to view the document itself.

Please refer to the repository record for this item for information to help you to cite it. Our policy information is available from the repository home page.

**Interfacing anthropology with epidemiology to extend understanding
of caring for sick children in rural North Central Nigeria**

by

Bolanle Ola

A thesis submitted in partial fulfillment of the requirements for the degree
of Doctor of Philosophy

University of Warwick, School of Health and Social Studies

November 2010

Eni to ba wa si aiye ti ko bimo, o wa lasan ni?

Someone who comes to this earth without having children has got nothing.

Olómó là.

The person who has children has prospered.
(Having children is the best type of prosperity)

TABLE OF CONTENTS

	Page
List of Tables	I
List of Figures	IV
Dedication	V
Acknowledgments	VI
Declaration	VIII
Abstract	IX
Glossary	X
Abbreviations	XII

CHAPTER 1 – INTRODUCTION

1.1	Epidemiology and anthropology	5
1.2	Epidemiology	10
1.2.1	Under-five child mortality	10
1.2.2	Child mortality in Nigeria	16
1.2.3	Determinants of child mortality	21
1.2.4	Health inequalities	28
1.2.4.1	Explanations of health inequalities	31
1.2.4.1.1	Materialistic and neo materialistic	31
1.2.4.1.2	Behavioral and Cultural	34
1.2.4.1.3	Psychosocial	37
1.2.4.1.4	Life course	39
1.3	Summary	41
1.4	Anthropology	41

1.4.1	Structural Violence	41
1.4.2	Ideas about causation of child morbidity and mortality	45
1.4.3	Plural health seeking	49
1.5	Summary	54

CHAPTER 2 – THE NIGERIAN CONTEXT

2.1	Introduction	56
2.2	Pre colonial Nigeria	56
2.3	Political history of Nigeria	57
2.4	Governance	58
2.5	Geography	59
2.5.1	Country profile	59
2.6	Economy	62
2.6.1	Structural Adjustment Programme	64
2.7	Demographic Profile	67
2.8	Poverty and inequalities	69
2.9	Health Status of Nigeria	70
2.9.1	Under five morbidity and mortality in Nigeria	72
2.10	Health services in Nigeria	75
2.10.1	History of health services	75
2.10.2	Nigeria’s current health system	77
2.11	Traditional health practitioners	83
2.11.1	Traditional birth attendants (TBA)	85
2.11.2	Herbalists	86
2.11.3	Bone setters	87
2.11.4	Traditional surgeon	88

2.11.5	Traditional pharmacist	88
2.11.6	Faith healers	89
2.11.7	Traditional Psychiatrist	89
2.11.8	Diviner	89
2.12	Women in Nigeria	92
2.13	Study area within Nigeria	94
2.13.1	Northern Nigeria	94
2.13.2	Northern context of child mortality	95
2.14	Donors and partners	96
2.15	Description of study area	96
2.15.1	History	96
2.15.2	Geography	98
2.15.3	Local Government Area	98
2.16	Local government health care delivery	100
2.17	The Village	104
2.18	Yoruba Polytheistic religion	106
2.19	Yoruba People	112
2.20	Position of women in Yoruba land	115
2.21	Summary	117

CHAPTER 3 – RESEARCH METHODOLOGY

3.1	Introduction to methodology	118
3.2	Qualitative research method	119
3.3	Negotiating Field	123
3.3.1	Ethics and Access	123
3.3.2	Accessing the Field	125
3.5	Data Set	129

3.6	Sampling	131
3.7	Methods	134
3.7.1	Semi-structured interview	134
3.7.2	Focus group Interview	136
3.7.3	Household interview	139
3.7.4	Participant and non participant observation	141
3.7.5	Participatory research technique	143
3.7.6	Verbal Accounts of child death	145
3.8	Data analysis	146
3.9	Insider/outsider perspective	150
3.10	Quantitative data	156
3.10.1	Limitation of Demographic health survey	159
3.10.2	Secondary analysis of 2008 NDHS	162
3.10.2.1	Rationale	162
3.10.2.2	Analysis	163
3.10.2.3	Dependent variables	163
3.10.2.4	Independent variables	165
3.10.2.5	Univariate variables	167
3.10.2.6	Multivariate variables	168
3.11	Summary	168

FINDING CHAPTERS

CHAPTER 4 – LIVING CONDITIONS AND LIVELIHOODS

4.1	Introduction	170
4.2	Village water source	171
4.2.1	Bore hole	175
4.2.2	Well water	177

4.2.3 Spring	180
4.3 Food sources	181
4.4 Cooking fuel	188
4.5 Livelihoods	191
4.6 Education	193
4.7 Health services utilization	196
4.7.1 Health centre	197
4.7.2 Immunization	198
4.7.3 Drugs, Accessibility and Equipments	201
4.7.4 Attitude of health workers	205
4.7.5 Health workers	211
4.8 Discussion	217
4.9 Summary	224

CHAPTER 5 – HOW TO KEEP CHILDREN HEALTHY

5.1 Introduction	226
5.2 Environment and clean water	226
5.3 Nutrition	228
5.4 Breastfeeding	230
5.5 The concept of God	231
5.6 Holy oil and water	232
5.7 Bio-medical prevention	233
5.7.1 Over-the-counter drugs	233
5.7.2 Immunization	233
5.8 Traditional Prevention	240
5.8.1 Home remedies	240
5.8.2 Itageri and Palm wine	241

5.8.3	Bracelet, Armlet and waist bands	242
5.8.4	Tiro	243
5.8.5	Ajesara	244
5.8.6	Incisions	245
5.8.7	Other traditional methods	245
5.9	Discussion	247
5.10	Summary	252

CHAPTER 6 – DEALING WITH SICK CHILDREN: CARE GIVING AND HEALTH SEEKING BEHAVIOUR

6.1	Introduction	253
6.2	The medical diagnostics of childhood illnesses	255
6.2.1	Treatment for fever and convulsions	260
6.2.2	Treatment for fever, cough and diarrhea	262
6.2.3	Oral Rehydration therapy	265
6.3	The Social diagnostics of illnesses	268
6.3.1	Teething	268
6.3.2	Measles	270
6.3.3	Ile tutu and So o la ta	271
6.4	Plural health seeking behavior	273
6.4.1	Traditional herbal remedies	273
6.4.2	Views on use of herbal remedies— <i>Agbo</i>	283
6.5	Discussion	290
6.6	Summary	299

CHAPTER 7- ACCOUNTS OF CHILD MORTALITY

7.1	Introduction	300
7.2	Reasons given by mothers and caregivers for child deaths	302
7.3	Accounts of children dying	308
7.4	Discussion	318
7.5	Summary	322

CHAPTER 8- CONCLUSION

8.1	Introduction	323
8.2	Theoretical and Empirical Questions	323
8.3	Conceptual contributions to knowledge	324
8.3.1	Interfacing epidemiology and anthropology extends understanding of child health care and health seeking behavior in a socially disadvantage setting	324
8.3.2	How did the medical and social diagnostics interface to affect the health seeking behavior of caregivers?	326
8.3.3	How structural violence is experienced at the community And household levels and the scope of agency of care givers	327
8.4	Empirical contributions to extending knowledge	328
8.4.1	Socio-economic community and household factors affecting The health of children and health seeking behavior of Mothers and caregivers in the village	328
8.4.2	Keeping children healthy	330
8.4.3	Dealing with children's illnesses	331
8.5	Limitations of the study	332

8.6	Future Research	334
8.7	Summary	334
	REFERENCES	335

APPENDICES

371

- Appendix 1 Field Photos
- Appendix 2 Topic Guide
- Appendix 3 Perceived cause of childhood illnesses

LIST OF TABLES

	Page
Table 2.1 Demographic Profile of Nigeria	71
Table 2.2 Causes of Death among Under-five	73
Table 2.3 Public Sector Health System Service Level	101
Table 2.4 Local Government Area health facilities	103
Table 3.1 Qualitative Table set	122
Table 3.2 Characteristics of Data set	130
Table 3.3 Framework approach for the analysis of Qualitative Data	148
Table 3.4 2008 NDHS tables showing ethnicity and religion figures in the region	163
Table 3.5 Frequency Table of Type of Place of Residence	166
Table 3.6 Frequency table of wealth index	166
Table 3.7 Frequency table of maternal educational level	167
Table 4.1 Water source by Rural and Urban areas	171
Table 4.2 Logistic regression showing univariate and multivariate analysis of type of drinking water	172
Table 4.3 Food sources in Rural and Urban areas given to a child over the	182

course of a day

Table 4.4	Logistic regression showing univariate and multivariate analysis of children given eggs	183
Table 4.5	Logistic regression showing univariate and multivariate analysis of bread and noodles	187
Table 4.6	Cooking fuel in rural and urban areas	188
Table 4.7	Electricity in rural and urban areas	190
Table 4.8	Occupation of partners/husbands in the rural area	192
Table 4.9	Logistic regression showing univariate and multivariate analysis of delivery	207
Table 5.1	Logistic regression showing univariate and multivariate analysis of ever had vaccination	234
Table 5.2	Logistic regression showing univariate and multivariate analysis of place of OPV3	235
Table 5.3	Logistic regression showing univariate and multivariate analysis of place of DPT3	235
Table 5.4	Logistic regression showing univariate and multivariate analysis of place of BCG 3	236
Table 5.5	Logistic regression showing univariate and multivariate analysis of measles Vaccination	237
Table 6.1	Logistic regression showing univariate and multivariate analysis of fever in the last 2 weeks in relation to residence, wealth and education	256
Table 6.2	Yoruba terms for children's illnesses that are medical diseases and times mentioned	258
Table 6.3	Children with coughs in the last 2 weeks by type of cooking fuel urban and rural area	259

Table 6.4	Logistic regression showing univariate and multivariate analysis of recent Diarrhoea by place of residence	261
Table 6.5	Biomedical treatment for fever and cough by place of residence wealth index and education	262
Table 6.6	Logistic regression showing univariate and multivariate analysis for ORT	265
Table 6.7	Local Taxonomies of illness	268
Table 6.8	Logistic regression showing univariate and multivariate analysis of visiting of visiting traditional health practitioner with child with fever/cough	273
Table 6.9	Logistic regression showing univariate and multivariate analysis of children given home remedy or herbal medication for diarrhoea	275
Table 7.1	Childhood Mortality rates per 1000 live births by type of residence, maternal education and wealth	301

LIST OF FIGURES

	Page
Table 1.1 Under-five mortality rate 2000-2008	12
Figure 1.2 Under-5 mortality rates (1000 live births) by background characteristics (1998-2006)	15
Figure 1.3 Under-5 mortality estimated trend and MDG goal Nigeria (1980-2004)	17
Figure 1.4 Major causes of child mortality	19
Figure 1.5 Operation of the five group of proximal factors on the health dynamics of population	24
Figure 1.6 Conceptual Framework for the analysis of household and community socio-economic factors	26
Figure 2.1 Map of Nigeria 36 states and the six geopolitical Zones	61
Figure 2.2 Government funding flows to the health system in Nigeria	80
Figure 2.3 Local government division	99

DEDICATION

To the awesomeness of my HEAVENLY FATHER. Without HIM this would not have been possible.

To my Mum and Dad.

ACKNOWLEDGEMENTS

I express my sincere thanks and appreciation to my Supervisor Professor Gillian Hundt for her unwavering advice, support and encouragement throughout this PhD process. Having her constantly challenge and stretch me brought out the best in me, and I will forever remember her support and advice when my laptops were stolen and I lost my data. I have certainly learned a great deal from her over the years, and it is knowledge I hope to pass on to others in the future. I am also indebted to my second supervisor, Professor Nicholas Spencer. I thank him for his constant and indispensable support and assistance throughout the years. I am deeply grateful to both of them for their support and guidance, without which this work would never have reached this stage.

My appreciation goes to the entire research team and staff of the School of Health and Social Studies for their incalculable support. I particularly want to say thank you to Jas for being a listening ear anytime I was down and for her constant encouragement.

I will also like to thank the Measure Demographic Health Surveys office for supplying the recent 2008 Nigerian Demographic Health Survey data. My sincere thanks go to Dr Ngianga-Bakwin Kandala for his advice with statistical analysis and Dr Femi Owolabi for his encouragement.

To my wonderful family I want to say thank you for believing in me and for supporting me in every way through the years. I am thankful I did not let you down. To my mum, thank you for forever being there for me and for your patience in answering all my many questions. You birthed this dream in me and I am thankful I was able to take it to the next level. To my dad, thank you for your prayers, this has been what has carried me through all the difficult times. To my sister, Yinka, thank you for being the perfect sister, your support was what made this possible. To my brother, Yemi, thank you for all your support and for regularly coming around even in the winter (which you hate) to see me. To my brother, Lanre, thanks for all the encouragement and love. To my brother, Tomi, thanks for always making me laugh, reminding me that laughter is really the best medicine. To my sister-in-laws Jumoke and Joke, thank you so much for your support and encouragement and for being my friends. To my nephews and nieces, Mayowa, Moyosoluwa and the triplets- Titobioluwa, Iyanuoluwa and Anuoluwa. I love you all.

My sincerest thanks and appreciation also goes to Otunba Olushola Adekanola for supporting me over the years. Thank you so much.

My thanks also goes to the entire staff of the health centre where I conducted my fieldwork for their support during my research, and my key informant who has become a very good friend of the family.

To my friend Oana, we started this together and I am happy we are finishing together.

And to everyone who has supported me throughout this PhD journey, I say a big thank you. God bless you all.

DECLARATION

I declare that this thesis is the result of my own work, and has not been submitted for any other degree at another university.

SIGNED:

DATE:

ABSTRACT

This thesis addresses how mothers and caregivers take care of sick children in rural north central Nigeria combining secondary analysis of the Nigerian Demographic Health Survey (NDHS) and ethnographic fieldwork in a village in a rural area. Theoretically, the thesis draws on concepts from epidemiology and anthropology in order to analyze and extend understanding of plural health seeking behaviour in a socially disadvantaged setting

Methods: Rapid ethnographic assessment of mothers and caregivers in rural village in north central Nigeria was carried out using focus group discussions, household interviews and non participant observation over eight months.

Findings: The NDHS analysis showed a social gradient generated by different level exposure to socially patterned risk and protective factors overtime in relation to illness, nutrition and living conditions. These mothers and caregivers were constrained by materialistic and neo materialistic factors shaping their circumstances within their daily lives and within Nigerian society – an example of structural violence. They express human agency in their decisions concerning caring for their children in a way that is shaped by cultural behavioural understandings of social and medical diagnostics of health and illness which is manifested in plural health seeking behaviour.

GLOSSARY

<i>Afa/mallam</i>	Muslim healer
<i>Amuwa olorun</i>	Sent by God
<i>Ajesara</i>	Eating/put into the body for life long prevention of various illnesses and diseases or evil and it can be inform of herbs ingested orally or used externally like bathing or in form of incisions on the face, head or other parts of the body and these are often accompanied by incantations performed by the traditional healer
<i>Abiku /Obanje</i>	A child reborn many times only to die
<i>A 'buro'</i>	Junior siblings
<i>Alagbo</i>	A woman knowledgeable about different herbs to use for different ailments, who also can be a traditional birth attendant and a diviner
<i>Agbo ile</i>	Body/flock of houses or compound
<i>Aporo</i>	Traditional remedy for stomach pain
<i>Baale</i>	Head man
<i>Babalawo</i>	Ifa priest
<i>Dada</i>	A child born with natural dreadlocks
<i>Eba</i>	Food derived from gari
<i>Egbon</i>	Elder siblings
<i>Eledaa</i>	The creator
<i>Fufu</i>	Is food made by boiling and pounding cassava into paste form
<i>Gari</i>	Is food is made from grated fermented cassava usually in dry form
<i>Hantu/rubutu</i>	Drink made from washing Quran verses written with chalk on a writing plate
<i>Ibaton</i>	Relative

<i>Ifa</i>	Oracle spirit
<i>Iyalode</i>	Mother in charge of internal affairs
<i>Ile'</i>	House
<i>Íyáwo`</i>	A newly married woman
<i>Itageri</i>	Fruit of a creeping plant placed in the home to prevent illnesses
<i>Obatala</i>	Yoruba lesser god
<i>Olodumare</i>	Supreme Being
<i>Orisa</i>	Yoruba lesser god
<i>Oriki</i>	Yoruba praise name
<i>Orun</i>	Heaven
<i>Tiro</i>	Lead containing traditional stone used as an eye cleanser and as cosmetics
<i>Sanpona</i>	god of smallpox

ABBREVIATIONS

AIDS	Acquired Immune deficiency syndrome
BCG	Bacillus Calmette Guerin
CI	Confidence Interval
Den	Denominator
DFID	Department for international development
DPT	Diphtheria, Pertussis Tetanus
GNP	Gross National Product
HIV	Human Immune Deficiency Syndrome
IDSR	Integrated Diseases Surveillance and Response
IMCI	Integrated Management of Childhood Illness
IMHCHs	Strategy integrated maternal newborn and child health strategy
LGA	Local Government area
MDGs	Millenniums Development Goals
MICS	Multiple Indicator Cluster Survey
NDHS	Nigeria Demographic Health Survey
NPC	National Population Commission
Nos	Numerator
OPV	Oral Polio Vaccine

OR	Odds ratio
ORT/ORS	Oral Rehydration Therapy/Oral Rehydration Solution
PHC	Primary Health Care
SAP	Structural Adjustment Programme
USAID	United States Agency for International Development
UNDP	United Nations Development Programme
UNICEF	United Nations International Children Educational Fund
VPDs	Vaccine Preventable Diseases
WHO	World Health organization

INTRODUCTION – THE STUDY

This research study aims to examine the factors at the household and community levels affecting child morbidity and mortality in a village in Nigeria's North Central region by interfacing epidemiology and anthropology. The standpoint of this research study is that there is scholarship in epidemiology and within anthropology on structural violence, health seeking behaviour and plural health seeking but that there is little scholarship that combines or interfaces the two disciplines.

There were two incidents that fuelled my interest for the choice topic for this PhD thesis. Firstly, while I was growing up I had a cousin who could not walk properly and I had always wondered about him. As I grew older I understood that he had had polio which affected his mobility. I grew up in a family with three nurses because my two aunties and my mother were qualified nurses and midwives. I wondered how my cousin could have polio with all these health experts in the family.

Secondly, we had a neighbour whose 3 year old son died suddenly. His name was Tayo. Tayo was very popular in the neighbourhood as he was very playful and very friendly. The day before Tayo died I saw him and even played with him so it was a shock to hear early next morning that Tayo had died in the night. I was told Tayo had convulsions. His parents sent for their pastor and it was while he was being prayed for that he died. I wondered why his parents did not take him to the hospital.

These two incidents influenced my interest in the health and illness of young children. My first degree in microbiology gave me the science background needed for my MSC in public health. For my MSC dissertation, I carried out an analysis of the national health policy in Nigeria focusing on the implementation of the polio policy.

Chapter One: Introduction

Polio was endemic in Nigeria then and still is today although concentrated in Northern Nigeria.

Nigeria has one of the highest under-five mortality rates in the world. It has been said that by the time someone snaps their fingers a child has died and there is a 95% chance that the child resides in Africa. As one of the respondents in this study said about children dying

‘Child rearing is like trading... you gain some and you lose some’ (Mother of 1)

This research explores factors influencing child morbidity and mortality concentrating on the rural northern area of Nigeria where I grew up. I combined the disciplines of epidemiology with anthropology to explore under five mortality in rural northern Nigeria to explore the complexities surrounding childhood morbidity and mortality.

STRUCTURE OF THE THESIS

The thesis begins with a section on the benefits and scholarship of interfacing epidemiology and anthropology and a review of literatures around the two disciplines. Chapter 2 sets out the context of Nigeria where the study was carried out. Chapter 3, ‘Methodology’, discusses the methods used in the research.

Chapters 4 to 7 present the finding chapters. Chapter 4 presents living conditions and livelihoods. Chapter 5 discusses how mothers and care givers keep their children healthy and chapter 6 explores care giving and health seeking behaviour in terms of dealing with sick children. Chapter 7 discusses accounts of children dying and chapter 8 concludes the thesis.

RESEARCH QUESTIONS

This thesis seeks to answer the following theoretical and empirical research question;

THEORETICAL QUESTIONS:

- How is structural violence experienced at the community and household levels and what is the scope of agency for caregivers?
- How does interfacing epidemiology and anthropology extend understandings of care giving?
- How do medical and social diagnostics interface to affect health seeking behaviour of care givers?

EMPIRICAL QUESTIONS:

- What are the socioeconomic, community and household factors affecting the health of children and health seeking behaviour of mothers and caregivers in the village?
- How do mothers and caregivers keep their children healthy?
- How do mothers and caregivers deal with children's illnesses?

Chapter One: Introduction

The original contribution to knowledge of this thesis is to show the consideration of interfacing anthropology and epidemiology. This thesis shows that neither quantitative (epidemiology) nor qualitative (anthropology) data alone are sufficient to account for the complexity of the social and cultural context of childhood morbidity and mortality; however, in combination, they provide for deeper understanding of these health outcomes.

CHAPTER ONE: INTRODUCTION

This thesis addresses how mothers and caregivers look after children under-five years old when they fall ill in a Muslim Yoruba village in Nigeria's North Central region. The thesis draws on the disciplines of anthropology and epidemiology in the research of the beliefs and behaviours caregivers adopt in keeping their young children healthy. It also explores the socio economic factors affecting these women/caregivers and the barriers to health care they face. This study aims to extend understanding and knowledge of child morbidity and mortality in rural Nigeria.

In this introduction I discuss the contrasts and similarities between anthropological and epidemiological approaches. I follow this with an overview of the relevant epidemiology literature concerning factors affecting child health and illness, such as determinants and explanations of health inequalities, before moving on to the anthropological concepts of plural health seeking behaviour and structural violence.

1.1 EPIDEMIOLOGY AND ANTHROPOLOGY

People in different disciplines have different perspectives on health, illness and disease. Epidemiology is more statistical and quantitative than anthropology with a focus on patterns and determinants of health and disease in populations. Anthropology takes a more qualitative look at the meanings of beliefs and practices as they relate to health, illness and disease. Each discipline has developed its own rich body of knowledge according to different paradigms. Epidemiology utilizes a deductive, positivistic paradigm whilst anthropology is shaped by an inductive paradigm (Spicer,

Chapter One: Introduction

2004; Snape and Spencer, 2003). Trostle (2005) advocates a common ground where these disciplines can intersect to obtain a more holistic view postulating there is need to understand both the epidemiological and anthropological perspectives of the grass-roots view of daily life.

Epidemiology tries to identify and measure the relative importance of factors within a web of disease, looking at the web of distribution and determinants surrounding disease patterns in human populations (Dunn and Janes, 1986; Trostle, 2005). Critical to epidemiology is the understanding of how cultural and social environments affect health related behaviour. Prevention often involves a change in behaviour and intervention is channelled towards it. Preventions entail a reduction of exposure to causal agents or environmental processes, early stage detection, diagnosis of illness and treatment and cure of illnesses.

Epidemiology looks at large population samples and the risks attributable to individuals are determined using retrospective and prospective study designs. A prospective study for example, might follow a sample group over time and track the exposure to causes of disease and the rates of diseases observed to see if differences are due to levels of exposure. A retrospective study by contrast, would look at records and reports of those that already have a given disease and compare the data to people without the diseases.

Epidemiology and anthropology both look for patterns in health related behaviour found in culturally patterned responses to diseases, for example food habits or religion. An epidemiologist might, for example, find patterns in aggregated data across multiple individuals based on bio medical theories of causation of illnesses,

Chapter One: Introduction

statistical texts and risk factor definitions whilst making use of computer based statistical packages.

Marilyn Nations (1986) argues that statistical calculations may build on valid mathematical models but run the risk of being inaccurate as they exclude vital human elements (Nations 1986:97). According to Trostle (2005), 'descriptive abstraction' occurs both in epidemiology and anthropology but while the epidemiologist uses quantitative data to explain patterns of health and disease anthropologists analyze their patterns of cultural and social behaviour using text and film based ethnography.

Anthropologists often carry out observations (non participant, semi participant or participant). Interviews are also used as they occur in the course of daily conversations or guided by the researcher. If structured questionnaires are used, they will have been generally developed from field-based enquiry and with knowledge of local concepts and beliefs (Hahn and Inhorn, 2009). Epidemiologists tend to use a more formal interview technique with larger samples, using questionnaires and surveys (Inhorn 1995), and are often tested against hypotheses.

Dunn and Janes, (1986) has advocated that getting sick depends on a complex network, which includes the host metabolic state and immune system, the economic environment, cultural beliefs and practices. All these interact on an individual or group which ultimately have an impact on their health status. It has also been argued that instead of focusing on the parasite, the person who is the host should be the focus, allowing the elements in his environment to be considered.

Chapter One: Introduction

The different approaches of these two disciplines can be combined to give a more holistic perspective for understanding the multiplicity of factors associated with illnesses and health seeking behaviour. This enhanced understanding has the potential to be used to plan locally acceptable community based interventions (Dunn and Janes, 1986; Hahn and Inhorn, 2009). According to Inhorn (1995), epidemiology asks ‘who’, ‘when’, ‘where’ and ‘how’ but not ‘why’. The ‘why’ may be addressed by anthropology.

There is often a difference between how epidemiologists may choose to describe illnesses for example, through medical diagnostics from an objective, outsider’s point of view (etic), and the way local people or group may describe illnesses using social diagnostics (how people thought and acted about an illness as a result of local taxonomies and explanatory models) from a subjective, insider’s point of view (emic). Furthermore, local taxonomies and treatments of illness may differ from biomedical explanations and pharmaceutical remedies. Enriching the explanations of health behaviours through understanding cultural ideas, beliefs and behaviours surrounding illness is one contribution from anthropology (Inhorn and Brown, 2005).

The distribution of diseases is influenced by human actions that affect the surrounding ecology through the presence of microbes and other infectious agents in the environment. As such, some human behaviour either increases their presence or curtails it. Marilyn Nations (1986) highlighted the need to integrate human behavioural factors with biological correlates to give a more holistic view of infectious diseases. She further elucidated how specific cultural beliefs and practices expose people to disease transmission or directly contribute to inhibiting infection.

Chapter One: Introduction

Social and cultural variables relevant to the etiologic models of illnesses and diseases include dietary customs, child care patterns, religious practices, migration patterns, agricultural techniques, kinship relationship and traditional medicines.

These factors affect health seeking behaviour. For example, when children with measles contract diarrhoea in rural Bangladesh, mothers choose not to administer oral dehydration therapy because of the belief that the body is actually flushing out impurities (Nations, 1986:97). Mull (1997) explained how the spiritual and religious beliefs of the people influence how they perceive infection and diseases. In Northern India, diseases such as measles are linked to an angry goddess who attacks children and has to be appeased (Nations 1986).

Understanding local knowledge is essential for identifying effective interventions as it is important to know if new behaviours are practicable. When these are considered a better understanding of these processes will result so that an intervention could build on specific local practices. For example oral rehydration solution can be made up by adding sugar and salt to water in specific quantities, but also rice cooked in more liquid can be an effective substitute since the liquid has starch and salt (Islam *et al*, 1994; Fontaine *et al*, 2000). The taste of a mixture of salt, sugar and water can be usefully likened to the taste of tears.

Trostle (2005) stated that disciplinary boundaries should be seen as 'a semi-permeable membrane 'where there can be a free flow of ideas and knowledge rather than defending borders' (Trostle 2005:172). Both disciplines can jointly look at data collection as a process of social exchange, with more attention to the influence of society and culture on health. The aim of this thesis is to combine perspectives and methods from anthropology and epidemiology in order to extend understandings of the

complex phenomenon of child health, health seeking behaviour and care giving in rural Nigeria.

The next section of this literature review will explore the epidemiological approaches to understanding the mortality of children under the age of five.

1.2 EPIDEMIOLOGY

1.2.1 UNDER-FIVE MORTALITY

Of the 10.8 million children under the age five that die each year, 10 million (more than 92%) reside in low income countries or poor areas of middle-income countries. This figure represents more than twice the total number of children born annually in North America (Global Health, 2000; Jones *et al*, 2003; Hill *et al*, 2003; WHO, 2005). Under-five mortality is the probability of a child dying before reaching the age of five.

According to You *et al* (2010), the global under-five mortality rate reduced from 90 deaths per 1000 live births in 1990, to 65 deaths per 1000 live births in 2008. Global under-five mortality rate in 2008 stood at 8.8 million down from 12.5 million in 1990, with Sub-Saharan Africa accounting for half of world wide deaths. Africa (51%) and Asia (42%) together accounted for 93% of under-five deaths. In Sub-Saharan Africa, especially West and Central Africa, there were 169 deaths per 1000 live births recorded in 2008.

Chapter One: Introduction

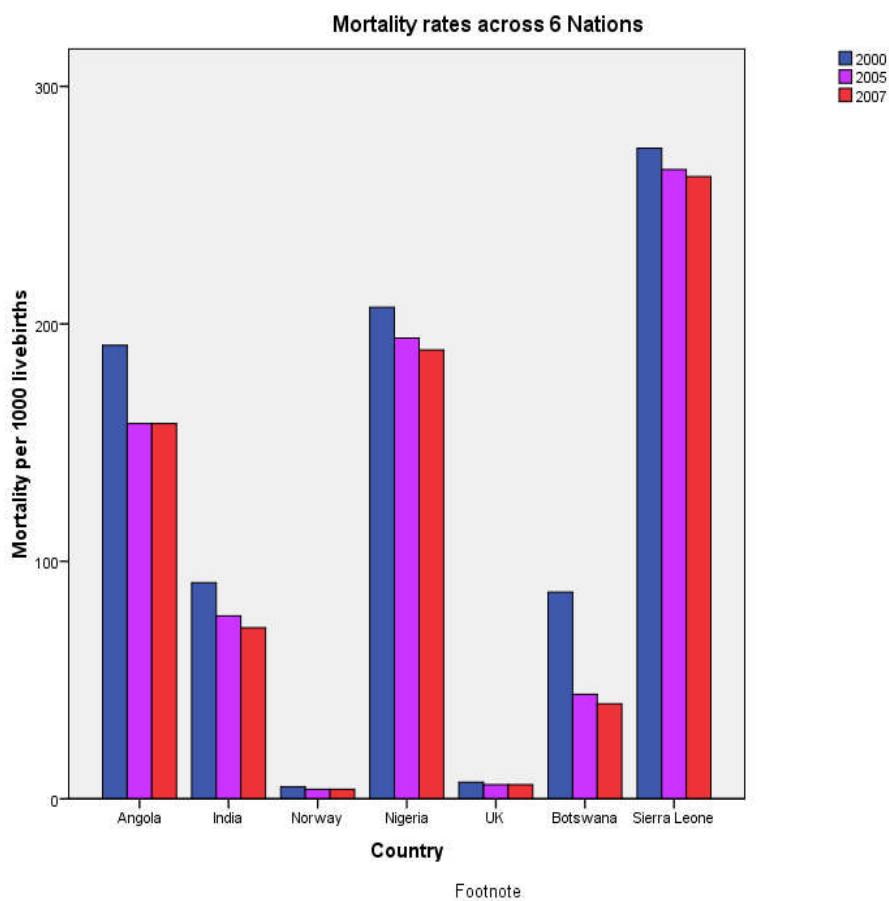
Across the world, children from low income families are more likely to die with the majority of deaths concentrated in rural areas of poorer countries (Gupta and Baghel, 1999 cited by Heaton *et al*, 2005). Africa is the poorest region in the world, around a sixth of the entire population of Sub-Saharan Africa- a population totalling over 100 million are chronically poor (Commission for Africa, 2005). UNICEF estimates that less than 30% of the rural population in Africa have access to modern healthcare, safe water and sanitation systems. Child mortality is higher among children living in the rural areas and in the poorest households. In these regions the under-five mortality rate exceeds 144 per 1000 live births (You *et al*, 2010). This is in contrast to 8, 6, 27 and 100 per 1000 live births in Europe, North America, South America and Asia respectively (UN, 2006).

One of the Millennium Development Goals is the reduction of under-five mortality by two thirds of its 1990 levels by 2015 (MDG4); this target is still overly ambitious for most African countries (UN, 2007). Asia- Pacific, Central and Eastern Europe, Latin America and the Caribbean are the only regions that are on track to meet the under-5 mortality millennium goal (Doherty, 2008), representing only 31 countries. These countries have an annual decline of 2.1% in the under-five mortality rate. To achieve the MDG4, annual decline should be at 4.4% (Rajaratnam *et al*, 2010). Of the 38 countries with the highest under-five mortality rates, worldwide 34 are in Sub-Saharan Africa. Countries with the highest mortality rates in Sub-Sahara Africa include Nigeria, Guinea-Bissau, Niger, Mali, Chad and Equatorial Guinea.

Although a supply of medical aid from more developed countries to under-developed countries in the past decades has helped to lower mortality rates, the decline in mortality rates has stalled at relatively high levels in most of these countries (Oni,

1988; Kuate-Defo, 2002; United nations 2007) and has fallen behind South Asia. These figures have been linked to limited access to advanced health care and lower vaccination coverage compared with other areas of the world. West African countries have been found to experience under-five mortality that is up to three times higher than neighbouring countries in Northern and Southern Africa (Balk, *et al*, 2004). The under-five mortality rate per thousand live births in Nigeria stood at 235 in 1990 and 201 in 2003. The equivalent figures in Norway were nine deaths per thousand live births in 1990 and four in 2003 (United Nations, 2006; NPC, 2004).

Figure 1.1: Under-five Mortality rate 2000-2007.



Source: United Nations 2009

Chapter One: Introduction

Trends in mortality are complex and are related to various, often interrelated factors. Figure 1.1 shows the under-five mortality rates over time. The high mortality rate in Angola can be attributed partly to conflict which has taken its toll on children, destroying livelihoods and uprooting populations, and the reduction between 2000 and 2005 may be explained by subsequent resettlement and many returning to their homes following the war ending in 2002 (UNICEF, 2006). Other African countries such as Botswana also have very low rates compared to other countries in Africa, where routine immunization is very high and 95% of the population has access to drinking water. AIDS however has some notable adverse effects on the population (UNICEF, 2007).

In Nigeria the decrease in mortality rate is due to socio-economic factors, specifically increasing levels of education for women. The high under-five mortality rate in Sierra Leone may be due to the fact the country is recovering from war, and immunization coverage is still low (UNICEF 2004). Other reasons given for the decline in mortality rates have been associated with insecticide-treated bed nets for malaria and the treatment of mother to child HIV transmission. The inability of medical technology to reduce child mortality to an acceptable level has necessitated the need to look at other ways to tackle child morbidity and mortality. As yet though, there is insufficient understanding of local explanations for these broad national trends. Kandala *et al* (2007) asserted that national data masked variations in morbidity within states and likewise at the district level. They carried out an analysis of childhood morbidity in Nigeria using the Nigeria Demographic Health Survey (NDHS) and found that the rate of diarrhoea varied from 6.7% to 27.5% in the same region.

Nigeria receives donor funding from international partners. In 2008, a total of £148 million was committed by the UK Department for International Development

Chapter One: Introduction

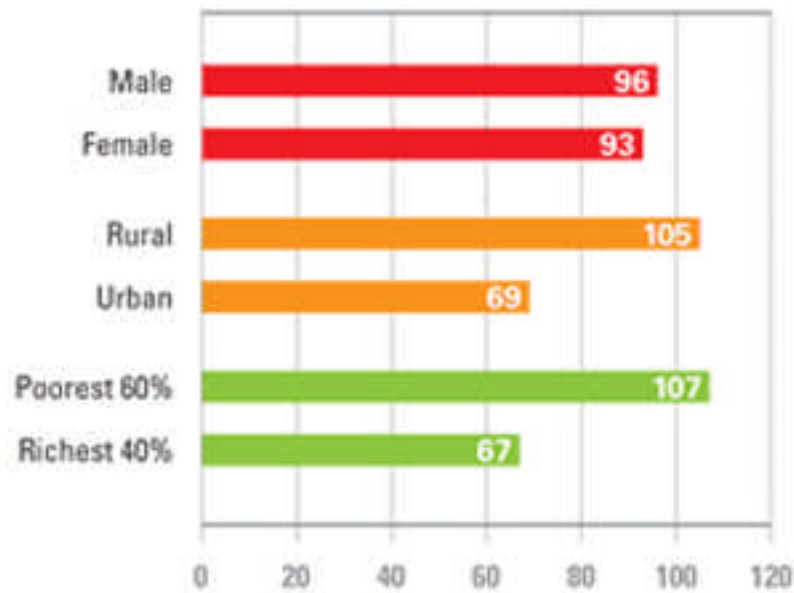
(DFID) through the Partnership for Transforming Health Systems (PATHS), and the Support to National Malaria programmes (SuNMAP) to support the integrated maternal Newborn and Child Health programme. The World Bank pledged 1 billion US dollars, of global funds for AIDS, TB and malaria, investing over \$600 million, and the Bill and Melinda Gates Foundation has indicated an interest in supporting programmes in Nigeria. In August 2009, the government of Japan donated 8.5 million dollars to Nigeria to support polio eradication, routine immunization and malaria efforts (UNICEF, 2009). In the last ten years, the Japanese government has donated over 66 million US dollars to the cause of child survival in Nigeria.

Despite the presence of donor funding from international agencies and improved governmental immunization strategies, Nigeria today is rated as the country in the world with the eighth highest under-five mortality rate (United Nations, 2008) at 189 per 1000 live births. The country has adopted and implemented major global initiatives to reduce morbidity and mortality in children and mothers such as Safe Motherhood Initiatives and Making Pregnancy Safer, Integrated Management of Childhood Illness (IMCI), Integrated Maternal Newborn and Child Health Strategy (IMHCH), Integrated Disease Surveillance and Response (IDSR) and many others, but in spite of these efforts child mortality is still high (Ochiawura, 2004). In addition, it seems that the 37% of Nigeria funding for health comes from international agencies. A more recent midwives service scheme was established in 2009 which sought to mobilize unemployed and retired midwives to selected primary health centres in rural areas (NPHC, 2009).

The under-five mortality rate is a leading indicator of the level of child health and over all development of a country (WHO, 2000). Lopez (2003) states that reductions in infant and child mortality exert a substantially greater impact on levels of

life expectancy than similar proportionate declines in mortality rates in older age. Child mortality moreover has a clear class social gradient that has allowed it to be hidden (Scheper-Hughes 1992:275)

Figure 1.2: Under-five mortality rates (per thousand live births) by background characteristics (1998-2006)



Source: UNICEF (2010)

This graph is based on the household survey data from the Demographic health surveys and the multiple indicator cluster surveys from 63 developing countries (2003-2006). The graph shows the unequal distribution of under-five mortality, it shows that a greater number of deaths occur in rural areas and in the poorest household.

Today children of the rural and urban poor working classes are mostly affected by and die of preventable illnesses, which are rare in economically rich countries. Epidemics of infectious diseases will kill children from all backgrounds but the poor tend to suffer more. They suffer from a form of ‘double jeopardy’ of malnutrition and gastrointestinal problems relating to their impoverished and unsanitary living conditions

(Scheper-Hughes, 1992). Pneumonia, malaria, diarrhoea and AIDS accounted for 43% of all child deaths in 2008 (Bryce *et al*, 2005; UNICEF, 2010). There is evidence however that the total wealth of the country is not the vital factor, but rather the distribution of that wealth (Wilkinson 1997).

1.2.2 CHILD MORTALITY IN NIGERIA

Nigeria is one of six countries worldwide that account for half the world's total under-five mortality. The country is ranked second in terms of total number of child deaths and eighth when ranked according to under-five mortality rate (United Nations, 2008; Black *et al*, 2003) Nigeria (12%) and India (21%) together account for a third of the total number of child deaths worldwide (You *et al*, 2010). Nigeria is one of the seven countries in Africa which has seen little improvement in their child mortality rate over the past 50 years (WHO, 2005). By contrast, almost all the countries with worse rates than Nigeria, as ranked by UNICEF, recently suffered natural or man-made disasters. Among its neighbours, which include Ghana, Niger, Benin and Togo, only Niger had a worse under-five mortality rate than Nigeria (UNICEF, 2005). Nigeria is one of the six remaining countries in the world where polio is still endemic (WHO, 2004) with Nigeria having the highest rate of circulating wild poliovirus. Polio cases rose from 201 in 2007 to 651 in 2008 (UNDP, 2008). Measles is responsible for 5% of child deaths in Africa, half of which occur in Nigeria.

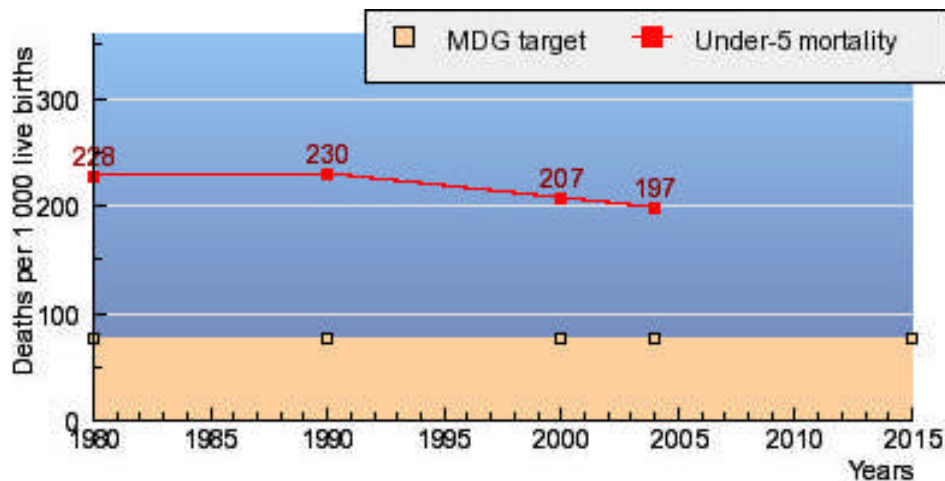
The 2008 Nigerian Demographic and Health Survey (NDHS) reported that 75 of 1000 infants born in Nigeria die before their first birthday while 157 of 1000 children die before the age of five. Demographic and Health Surveys are designed to collect data on health and nutrition of children and mothers, as well as fertility rates and family planning strategies. The 1999 (NDHS) reported an infant mortality rate of 75 per 1000

Chapter One: Introduction

live births and an under-five mortality rate of 140 deaths per 1000 live births between 1995 and 1999 period. The 2003 (NDHS) reported an infant mortality rate of 100 per 1000 live birth and an under-five mortality rate of 201 deaths per 1000 live births between 2003 and 2008.

The trend shows an increase in both the infant and under-five mortality rates between 1999 and 2003, but 2003 and 2008 (NDHS) showed a decrease in both infant mortality and under-five mortality. This trend shows Nigeria having a very low rate of reduction over a 20 year period compared to other countries. Figure 1.3 shows under-five mortality rates estimated from 1980-2004 for Nigeria and the MDG target. This figure shows how far behind Nigeria is at reaching two-thirds of the 2015 MGD reduction levels. To reach its MDG target, Nigeria would have to reduce its under-five mortality rate to 30 or less per 1000 live births (Nigerian Report, 2007).

Figure 1.3: Under-five mortality estimated trend and MDG goal Nigeria (1980-2004)



Source: World Health Statistics 2006

Mortality rates may have been underestimated for some regions in Nigeria, as the higher rates as seen in 2003 NHDS could be associated with better quality of data

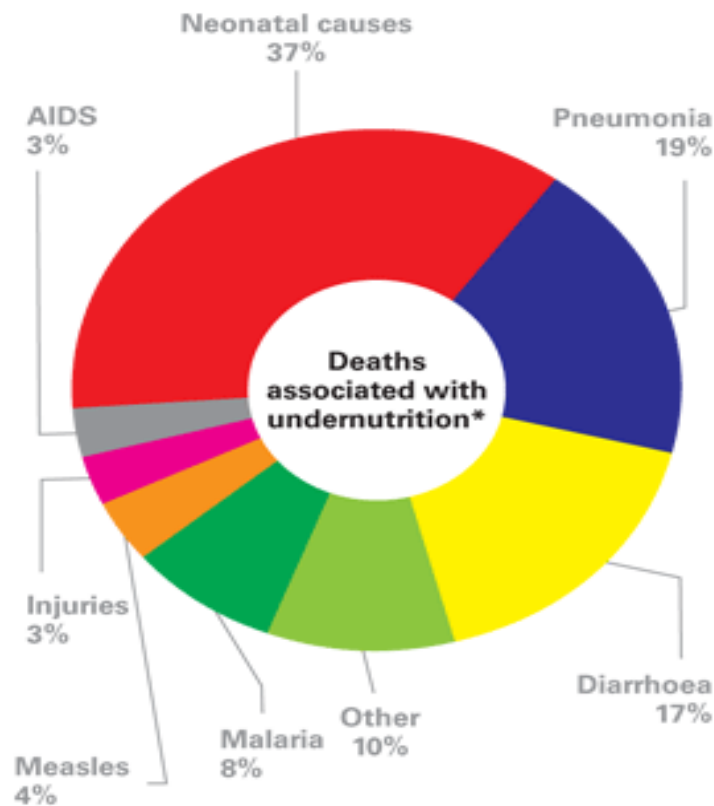
Chapter One: Introduction

collection (NPC, 2004; UNICEF, 2007). Variations among different parts of the country, in the urban and rural areas as well as the north and the southern areas are striking but masked in the national rates.

The 2008 NDHS reports lower under-five mortality in Nigeria urban areas at 122 per thousand live births compared with rural areas at 191 per thousand live births. Under-five mortality in rural areas is almost 1.5 times higher than in the urban areas and twice as many children die in the northeast than in the southwest (UNICEF, 1999; NPC 2009). Infant mortality and under-five mortality rates in the North Central region of Nigeria, the focus of this study, for the previous 10 years were 77 per 1000 and 135 per 1000 live births respectively (NPC, 2009). The under-five mortality rate in this area is one of the highest in Nigeria. According to the Multiple Indicator Cluster Survey (MICS3) a male child in Nigeria has a probability of dying than as an infant or as an under-five than his female counterparts (MICS, 2007).

Research has shown that children in Nigeria die mostly from malaria, diarrhoea, acute respiratory infection, whooping cough and tuberculosis (UNICEF 2007, NPC 2004). Generally, malnutrition contributes to 52% of deaths of under five years of age (DFID, 2003).

Figure 1.4: Major causes of child mortality (2000-2003)



Source: UNICEF 2010

Under nutrition has been estimated to be the underlying cause of in up to half of under-five deaths. Figure 1.4 shows most neonatal (first four weeks of life) deaths (37%) occur as a result of under nutrition followed by pneumonia (19%) and diarrhoea (17%). The least three was associated with HIV/AIDS.

Sub-Saharan Africa, Nigeria and Ethiopia account for more than one-third of all underweight children (UNICEF, 2007). Furthermore, the alarming rise in the prevalence of HIV/AIDS in pregnant mothers which may result in mother to child transmission (PMCT) has also increased this burden. According to a study carried out by Kandala *et al*, (2007), using the NDHS, the prevalence of childhood diarrhoea, whooping cough

Chapter One: Introduction

and fever were higher in the Northern and Eastern states of Nigeria. Immunization remains an important strategy against childhood mortality and in Nigeria children are vaccinated against diphtheria, tuberculosis, pertussis (whooping cough), poliomyelitis and measles.

According to WHO recommendations, all the above vaccines should be given before a child's fifth birthday. NPC (2009) states that only 23% of Nigerian children between the ages of 12-23 months can be considered fully vaccinated. This is double the figure the NDHS estimated in 2003, but still very low. Current immunization coverage for various childhood illnesses in Nigeria is among the lowest in the world (NPC, 2006) and Nigeria has the highest rate of circulating wild poliovirus (Schimmer and Ihekweazu, 2006). The low coverage has been blamed on a lack of vaccines, suspension of funds from funding bodies and children missed by vaccinators because of parent's failure to bring them forward for immunization due to rumours about the safety of vaccines, civil unrest and lack of human resources (Ochiawura 2004; Arevshatian *et al* 2007). Renne (2009) added that people questioned the top-down nature of government decisions about immunizations, which are made without their input. They also questioned the wisdom of an eradication programme that cuts down on staff and resources for public health centres. Furthermore in Chad and Nigeria, children of educated mothers are two to four times more likely to be vaccinated than children of mothers with no education (UN, 2006).

Child mortality reduction could be linked to a better nutritional status (Jegade, 2002). Nigeria has a high rate of infant low birth weight (<2.5kg) (ILBW) at 16%. Other countries like China have 8% and the USA and UK both have 7%. When people,

Chapter One: Introduction

especially children, are not eating a balanced diet and food necessary for growth, they will be susceptible to various diseases as is evident in Nigeria today.

Vaccination alone will not reduce child mortality, for example, malaria requires other forms of prevention and treatment, as does malnutrition. Taking a holistic view of the causes and means of preventing child mortality, it is also necessary to understand local beliefs, practices and knowledge about child mortality.

1.2.3 DETERMINANTS OF CHILD MORTALITY

Childhood mortality is an indicator of the health status in a country. Researchers over the years have attempted to identify factors that contribute to high childhood mortality and its slow decline in developing countries. Almost three decades ago, Caldwell (1979), proposed an explanatory model that described 'the classical factors of childhood mortality'. Based on the results of an urban survey carried out in Nigeria, Caldwell suggested that maternal education is the most significant factor in explaining child survival rates.

A number of other studies have also supported the general evidence that maternal schooling is a strong factor in child welfare in developing countries (Boerma, 1992; Armar-Klemesu, *et al*; 2000; Fotso and Kuate-Defo, 2005). Iyun (2000) however argues that in spite of the strong correlation observed between maternal education and child survival in developing countries, this relationship is relatively weak in Sub-Saharan African countries compared with results from other developing countries.

Adetunji (1995) carried out a research study in Ondo state, using the Nigerian Health Demographic Survey generated in that state to attempt to explain the trend. The

Chapter One: Introduction

results suggested that data errors, use of health care services and quality of maternal care were not enough to explain these relationships, but using logistic regression analysis he showed that breastfeeding and maternal age were the most statistically significant variables, which, he concluded, captured the effects of harsh economic conditions on child mortality.

In addition, in a study carried out by Kandala *et al* (2007), analyzing the combined 1999 and 2003 Nigerian Demographic Health Survey, the researchers found a lower association of childhood diarrhoea with children from educated mothers. In another study using the Malawi DHS, parental education especially maternal education was found to be an important socio-economic factor for diarrhoea and fever morbidity (Kandala *et al*, 2006).

Increased education of the father may improve the housing and sanitation conditions and quality of food, which enables parents to take better advantage of healthcare (Gyimah, 2003). Bicego *et al* (2002), however argue that educated women in the rural areas may still find it difficult to break away from traditional but harmful practices because of social pressure which may be absent in an urban setting. In addition, Bender and McCann (2000) asserted that a grandmother's education exerts an influence on the health behaviour of mothers above and beyond maternal education. This was found to be more pronounced with health seeking strategies which favour the care of grandmothers.

Many studies have also indicated the importance of the family as the primary care provider in the home for infants and toddlers. The mothers are sometimes known to be the exclusive providers of child care services. The underutilization of health services and the health seeking behaviour of mothers and caregivers according to Feyisetan and

Chapter One: Introduction

Adeokun (1992) is influenced by the social and cultural context of the parents (Sauerborn *et al*, 1989; Adetunji, 1991).

Access to and utilization of healthcare services is problematic especially for antenatal services and immunization of children (Sasty, 1996; Lambo and Sambo, 2003). The low access to and use of health services was a major factor of mortality in Uganda, Nepal, Guinea-Bissau and Pakistan (Cutts *et al*, 1996, Kiwanuka, 2008; Rahim *et al*, 2009; Ghimire *et al*, 2010). Healthcare facilities are often located far from villages and transportation problems impede access to health centres.

Women have described healthcare providers to be unkind, rude and unsympathetic (Ochiawunma, 2002). Where healthcare givers are perceived as such, women may prefer to depend on traditional healers (WHO, 1998). Again children from the poorest families are significantly less likely to be brought to healthcare facilities and may receive lower-quality care once they arrive at these centres (UNICEF, 2006).

The use of running water and refrigerators are vital in terms of hygiene. In addition, electricity supply, housing and the availability of transport are important household determinants of child health (Iyun, 2000; Frost, 2005). Stasy (1996) however, postulated in his study of child survival in Brazil that water quality was only an important contributor to good health for children of less educated mothers, while the net effect on children with better educated mothers is negligible. Toilet facilities have been found to be one of the factors that affect childhood morbidity (Ndugwa *et al*, 2008). A study by Gyimah (2003) suggested that the absence of toilet facilities increases the likelihood of childhood diarrhoea by 48%. As with other factors, environmental factors serve as a mechanism for social stratification and are associated with socioeconomic positions (Simondon *et al* 2001). According to the 2008 NDHS, 75% and 31% of

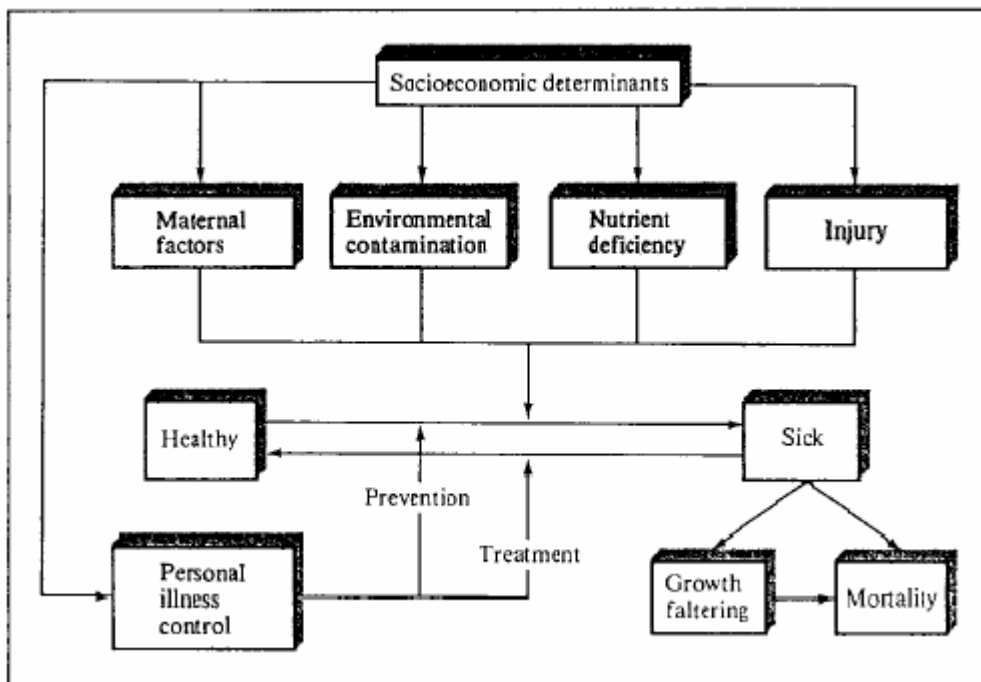
Chapter One: Introduction

Nigerians living in urban area have improved water source and toilet facilities respectively compared to 45% and 25% in rural areas.

Mosley and Chen (1984) offer an analytical/theoretical framework to explain the major factors that enhance the survival of children in developing countries. They suggest a framework comprising of the following categories:

- a) The proximal factors which refer to biosocial mechanisms that have direct influence on the risk of morbidity and mortality
- b) The intermediate variables including maternal, and child factors, local environmental contamination and other factors.
- c) Socio-economic and wider environmental factors operate through the intermediate and proximal factors to bring differentials in child survival

Figure 1.5: Operation of the 5 groups of proximal factors on the health dynamics of a population



Source: Mosley and Chen 1984

Chapter One: Introduction

Mosley and Chen's model identifies five proximal or intermediate factors that directly increase risks of mortality:

- a) Maternal factors: age, parity, birth interval
- b) Environmental contamination: air, food/water/hands; skin/soil/inanimate objects; insect vectors.
- c) Nutrient deficiency: calories, protein, micronutrients (vitamin and minerals)
- d) Injury: accidental or intentional
- e) Personal illness control: personal preventive measures; medical treatment.

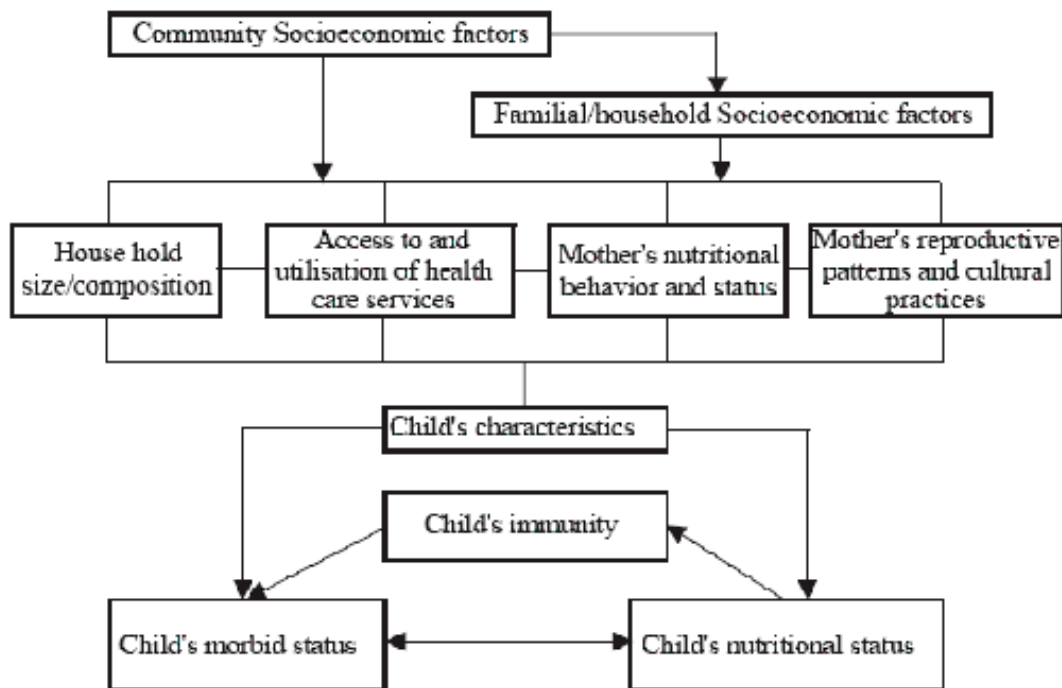
All the above factors vary between neighbourhood, community and region and vary at the micro level of household characteristics.

Using the above framework as a guide, Fotso and Kuate-Defo (2005) devised their own framework. They focused on the proximate and intermediate factors using these as determinants of measures under which children are born and grow. Their framework broadly divided mortality and morbidity factors into two major groups: community socioeconomic factors and familial/household socioeconomic factors.

These are not entirely independent as community socioeconomic factors can influence child health and survival by shaping the familial /household factors or by directly affecting the social, economic and physical environment shared by residents which in turn operate through more proximal attributes to impact on health outcomes (Fotso and Kuate-Defo, 2005).

One example of how the familial/household socioeconomic factors can influence its members' health is through the financial ability to secure goods and services that promote better health and help maintain a more hygienic environment.

Figure 1.6: Conceptual framework for the analysis of household and community socioeconomic factors.



It is essential to bear in mind that proximal factors are themselves influenced and partly dependent on distal factors. Although Fotso and Kuate-Defo used this framework to study the socioeconomic inequalities in early childhood morbidity and malnutrition among children under-five, it is adapted in this study to extend an understanding of the care of sick children.

In the study carried out by Fotso and Kuate-Defo (2006) on childhood mortality using multi-level modelling of DHS data from five African countries, they showed that living in poor conditions increased the odds of a child having both diarrhoea and malnutrition, and that community-socioeconomic status was found to significantly modify the household status. In another study, (Fotso and Kuate-Defo, 2006) used a socioeconomic index measured at household and community levels in understanding inequalities in health and survival. DHS data from five African counties were used and

Chapter One: Introduction

three socioeconomic indices were constructed namely household, household social index and community endowment index. Women from a higher socio-economic status were more likely to seek help at medical centres and had lower malnourished children and mortality compared with mothers from lower socioeconomic levels. A further study by the same authors pointed out that clustering of childhood malnutrition in the rural-urban context can be mostly accounted for by household and community socioeconomic status (Fotso and Kuate-Defo, 2005; Fotso, and Kuate-Defo 2006). Using DHS from 15 countries in Sub-Saharan Africa, they found that socioeconomic inequalities in the form of stunting occur in both urban and rural areas but were found to be more pronounced in urban areas (Fotso and Kuate-Defo 2006; Fotso, 2007).

In a recent paper, Krieger (2008) argues that the use of the concept of distal (upstream) and proximal (downstream) in explaining factors that affect health is problematic, confusing and gravely hinders public health. Both terms are similar to terms used in other disciplines like physiology, biology and physics to denote factors that are closer to, or further from the object of discourse. She argues that analysis along these lines distorts deeper multileveled thinking because everything not operating close to the body is treated as distal.

Social, political and economic relationships affect people's lives and ecological context and in turn shape the patterns of distribution of diseases. Consequently, the way health is distributed in a society cannot be separated from political and economic interactions. When the distal-proximal terms are used it obscures such dynamics and processes.

Krieger argues that scale and level should not be used interchangeably as interactions between the two are affected by, but not identical, to each other. In addition,

Chapter One: Introduction

not all pathways travel through intermediate levels because events at one level can greatly and directly affect adjacent levels. Proximal and distal events are separated by time and space and are therefore sequential, levels however are thought to operate simultaneously and as such have specific effects on events. The concept of proximal and distal factors tends to merge levels together instead of connecting them she argues. Krieger (2008) has suggested that levels and pathways should be used instead of distal and proximal factors. The standpoint taken in this thesis will follow the approach of Krieger in analyzing different levels rather than distal/proximal factors. These levels will be explored through an analysis of community and households factors within the model of Fotso and Kuate-Defo (2005).

1.2.4 HEALTH INEQUALITIES

An individual or a child's health has been found to be a determinant as well as an outcome of their socioeconomic circumstances. The poorest among the population have been found to have the highest levels of illnesses and premature mortality. Health inequality is driven by the unequal distribution of income, goods and services. As some social structures and policies have been found to favour certain people and places above others, those occupying privileged positions, often the rich and powerful, benefit at the cost of the disempowered poor (WHO, 2008).

Health inequalities occur within high income, middle, and low income countries. These inequalities of health occur along social stratifications within any given society like socioeconomic, political and cultural arenas. People with low socio-economic status are marginalised or disadvantaged and tend to have worse health outcomes than people with higher status (Antai, 2010). According to Sousa *et al* (2010) under-five mortality rates reduced among those who were better off in richer municipalities but not

Chapter One: Introduction

among those the worse off (Ruger *et al* 2006; Brockerhoff *et al*, 2007). Malnutrition, exposure to infections and health care is worse among more deprived groups (Uthman 2009; Houwelling, 2010). Life expectancy also aligns with social disadvantage (Tobias *et al* 2009). Mothers' education is also a factor in socioeconomic inequalities as it was found to reduce inequalities in schooling (Sastry, 2004).

The poorest countries in terms of Gross National Product (GNP) have been found to show higher adverse child health outcomes than richer countries (Spencer, 2000). GNP broadly reflects the individual income and poverty of a country. Health inequalities however do not always directly correlate with levels of GNP. Some countries with high GNP, such as Saudi Arabia, have high child mortality. Variations occur within countries as well for example, the under-five mortality rate in north east Nigeria is 222 per 1000 live births and 89 per 1000 live birth for south west Nigeria. This trend also follows with higher mortality rates in rural areas than in urban ones. Socially disadvantaged infants are almost twice as likely to die in infancy compared to their more privileged counterparts.

The WHO (2008) argues that avoidable health inequalities arise as a result of circumstances in which people live and the means available to them for health care. All of these are embedded in the social, political and economic forces influencing and constraining people's lives. Inequalities are considered to be unjust because they are as a result of a combination of social policies, unfair economic arrangements and politics. All these are responsible for inequalities between and within countries. Paul Farmer (1999) argues that in inequitable socio-political and economic structures lie the primary roots of diseases and suffering.

Chapter One: Introduction

Trade policies encourage the consumption of food which is high in fats and sugars at the expense of fruits and vegetables. Other policies like the Structural Adjustment Programme implemented in Nigeria in 1986, brought immense economic hardship. The poor had to make adjustments in terms of food consumption, shelter and health services which in the end compromised their health, especially mothers and their children. SAP was criticized for an over reliance on markets to solve social problems. Additionally, economic strategies promoted in low income countries rarely have the same consequences as when they are in high income countries (WHO, 2008).

Two of the indicators of population health are life expectancy and infant mortality. Countries with high under-five mortality would usually have a low life expectancy. In Nigeria, the under-five mortality rate is 157 per 1000 live births and expected life expectancy is extremely low at 49. Life expectancy gives a broad picture of the social, political and economic situation in a country but as such it is only a depiction of the average and obscures variations within the country itself.

A child needs a safe, healthy, supporting and nurturing environment in which to grow. Globally, 200 million children are not growing to their full potential. Malnutrition is a factor contributing to childhood mortality and morbidity in developing countries. Food patterns, nutrient intake and physical outcomes of growth are indicators of social and economic conditions (Lincoln *et al*, 2007). Children from better off homes are likely to eat healthier food than children from poorer homes. From the 2008 NDHS, children between the ages of 6 to 23 months in rural areas eat less milk products, grains, tubers, vegetables and vitamin A fruits than children in urban families.

Malnutrition reduces the body's defences against diseases and the absence of nutritious food, poor sanitation and unsafe water sources, increases the risk of

Chapter One: Introduction

malnutrition (Graham 2007). According to Spencer (2000) malnutrition's direct effect on growth is in a cyclical process. A stunted mother as a result of childhood malnutrition will give birth to a low birth weight baby who goes on to experience malnutrition, thus continuing the cycle. In Nigeria, malnutrition in children increases with age, wasting in children peaks at 6 to 8 months, and stunting is highest at 18-23 months. Stunting was found in half of this age group (NPC 2009) and 29% of children in urban area have stunted growth compared to 40% in rural areas.

1.2.4.1 EXPLANATIONS OF HEALTH INEQUALITIES

There are different explanations for health inequalities – materialist, neo-materialist, behavioural/cultural and psycho-social. The materialist approach postulates that health is affected by social disadvantage.

1.2.4.1.1 Materialist and Neo-materialist explanations of health inequalities

The materialist interpretation suggests that health inequalities are a result of the differential accumulation of exposures and experiences rooted in the material world (Lynch *et al*, 2000). Within countries, materialist explanations concentrate on relationships with income in terms of what it can buy and how it will affect health. Neo-materialist explanations on the other hand concentrate on public provision such as schools and health care services which are subsidised by the government (Bartley, 2004). Exposure due to occupation, diet, housing and atmospheric pollution have been implicated as the causes of some illness. For example people that can only afford to live in houses close to busy roads are exposed to harmful chemicals from exhausts of cars and trucks.

Chapter One: Introduction

Health inequality is reflected in both negative exposures and in a lack of resources. Unequal distribution of income can be seen as a result of cultural, historical, political and economic process. All these play a role in the resources available to an individual which in turn shapes how individuals live. For example, people cooking more with charcoal or straw instead of electricity or gas are exposed, as are their children, to air pollution leading to respiratory illnesses.

According to Carpenter and Dolan (2001), people who live in more disadvantaged situations tend to suffer more from illnesses and typically have shorter life expectancies. Different approaches have been adopted over the years to explain health inequalities. The disadvantages experienced by poor communities are important contributors to the wider determinants of health inequality. Wagstaff and Watanabe (2003) however argue that concentrating on the poor can obscure what is happening to intermediate groups. Health inequalities are also described in terms of relationships between socioeconomic positions and health (Graham, 2004).

In the UK different policies have been enacted to target closing the health gap between the rich and the poor. The worst off and the better off infant and child mortality rates for the population had fallen across all social classes but were twice as high in the lower class. In Nigeria, infant and child mortality rates are still very high across the population and higher in rural areas. Poverty is higher in rural areas than urban settings particularly in north central, northwest and north east Nigeria. This means children growing up in northern rural areas are worse off and are more likely to have poor health in adulthood compared to their counterparts growing up in urban areas (Aigbokhan 2000).

Chapter One: Introduction

It has been found that people with moderate levels of income, also suffer from some health disadvantages. People who are better off have enhanced amenities by virtue of where they live, better health care provision and therefore better quality of life. The majority of the population in Nigeria reside in rural areas where there is a lack of basic amenities like water, drainage, waste systems, good roads and accessible health centres. According to Smith *et al* (2004), higher income inequality is associated with higher infant mortality. This is evident in Nigeria where income inequality has been high for years, but worsened in 1986 after the establishment of Structural Adjustment Programme (SAP), and was especially pronounced in rural areas. Consequently, infant and child mortality rates in Nigeria are one of the highest in Africa with higher mortality figures recorded in the rural areas.

Countries with rapid economic growth tend to have increased income but only experience improved health outcomes if the income is distributed widely and evenly. Countries like South Korea and Taiwan had experienced such growth and had an increase in life expectancy and fall in child mortality. Countries like China and Sri Lanka although poorer, have high levels of life expectancy compared to richer countries such as South Africa. One possible reason is that these countries have fewer income inequalities and have invested in female literacy and provisions of education and health for the poor. These countries had policies which sought to improve the lives of the poor, and attempted to close high wealth gap (Global health, 2001; WHO, 2008). This in turn means that it is not the richest but rather the most egalitarian societies that have better health because of more equitable distributions of income (William *et al*, 2007). In Iceland two infants in every 1000 die in the first year of life whilst, in Nigeria 75 die in every 1000 (WHO, 2008; NPC, 2009).

Chapter One: Introduction

Regional inequalities also exist within countries and between rural and the urban areas. In Nigeria, unequal income distribution has resulted in unstable political, economic and socio-cultural conditions that have shaped people over time. This has influenced the level of education that can be attained, choice of health care, the type of food a child is fed, and the transportation and quality of housing available to the family. This results in people adopting some behavioural changes in order to survive in this environment.

Pregnant and lactating mothers are in turn compromised. In addition heavy agricultural work coupled with household responsibilities prevents adequate nutrition and healthcare especially for children. Premature births are common among mothers who are anaemic or malnourished. In Gambia, during the rainy season when planting is at its peak, women tend to have babies with low birth weight (Lado, 1992).

In countries like Nigeria the burden of inequality has fallen on poorer household with young children, leading to poor health outcomes. Farmer (1999) asserted that the burden of inequality is borne by the poor and marginalized. Since the introduction of SAP in Nigeria, the cost of health care services has gradually been increasing, even more so with current government policies which charge patients for health care services in all public facilities. This has put a huge strain on those most vulnerable of the poor who cannot afford to take their sick to health providers.

1.2.4.1.2 Behavioural/cultural explanation of health inequalities

This explanation of health inequalities is based on the premise that lifestyle and behaviour are the result of a number of individual choices and decisions. These choices and decisions are viewed as voluntary and people are expected to engage in ones that

Chapter One: Introduction

are healthy. This implies that people harm themselves and their children when they choose health damaging lifestyles. According to Bartley (2004), people with less control of their employment situations and those belonging to a lower socio economic class are likely to be less endowed with personal characteristics or intelligence. They may also be incapable of understanding and applying healthy behaviour. Socially disadvantaged people are therefore seen to be more likely to engage in risky behaviour and to be in need of needing guidance and education in order to change their behaviour (Spencer, 2007).

The cultural/behavioural explanations of health inequality have been established in the medical sectors as being the main cause of social class difference (Blane, 1985). This has led to a focus on health related behaviour like smoking and diet in post industrial countries like the UK. Health related behaviours have been found to pass from one generation to another, in much the same way that children of smokers are more likely to smoke themselves. This process is referred to as the ‘culture of poverty or deprivation’ (Naidoo and Wills, 2000; Spencer, 2007).

Interventions have targeted changing individual behaviour through health education initiatives in schools and workplaces, and through policy changes as the government beings to take responsibility in encouraging people to make better choices regarding their health. Examples of such recent policies include increasing taxation on cigarettes and alcohol, and banning smoking in public places. Because the onus of responsibility falls on an individual’s behaviour this explanation has been associated with victim blaming (Naidoo and Wills, 2000) and is thought not to take into consideration an individual’s social and cultural context.

Chapter One: Introduction

According to Bushfield (2000), individual health behaviour can be categorized into positive and negative. It is positive when it reduces exposure to infectious agents, injuries or chemicals or when behaviour helps to build up resistance. It is negative when behaviour increases exposure to infections and injuries or decreases the chances of good health. For example smoking amongst mothers has been found to have adverse effects on pregnancy, birth weights, and on children's health through passive smoking.

A concentration on individual health related behaviour outside of its social cultural context fails to see other complexities in human behaviour. The work of Blackburn and Graham (2000) on the role of smoking for mothers in terms of coping with day to day pressures and social isolation is one example of this. Occasionally, individuals are not fully aware of health hazards involved, in particular actions or have few alternative options. For example, in rural Nigeria, women and children drink unclean water because they do not have access to clean drinking water. They are poor and cannot afford to feed children with high protein food and depend more on starchy cassava.

Dunn and Janes (1986) divide behaviour into deliberate and non-deliberate behaviour and take into account the social and cultural context of the individual. Avoidance of exercise, smoking and routine medical checkups were deemed to be deliberate actions of individuals but non deliberate if the individual is not aware that these are patterns of unhealthy behaviour. These actions could also be considered non deliberate if there are some social, structural and economic conditions which constrain or are beyond the control of the individual. Examples of this would include a lack of provision of social and economic services, an absence of basic infrastructures like medical facilities, good water supply and sewage management. In addition, Spencer

Chapter One: Introduction

(2007) asserts that the material and societal constructs of people's lives influence their behaviour and can override, limit or mould their choices, since behaviour, he argues, cannot be separated from its context (Spencer 2007:162).

Behaviour is also thought to be influenced by life-course circumstances and experience. Culture can be seen as a system of meaning within a community or as learned behaviour occurring regularly in institutional domains within a community, like a family or ethnic group. A particular behaviour may be based on beliefs or cultural practices of the local people. This can either expose or protect people from transmission of diseases (Nations, 1986).

For example, the Hausa in northern Nigeria incorporate specific herbs and plants into the indigenous diet, which were found to guard against gastrointestinal disorders though containing phytochemical constituents like tannins and astringents, gum resins, mucilage and others. These herbs have been popularly used by the Hausa as a therapy for gastrointestinal diseases (Etkin and Ross, 1982). In an area of Kenya dogs are trained as 'wet nurses' and help clean the anuses of children after defecation by licking them clean with their tongues, but in the process the dog introduces infective echinococcus to the child (Dunn and Janes 1986).

1.2.4.1.3 Psychosocial explanation

Another explanation of health inequalities involves psychosocial factors. According to Marmot and Wilkinson (2001), inequality is influenced by psychosocial factors. The psychosocial approach postulates that socio-economic differences affect health through perceptions of place in the social hierarchy with high relative deprivation leading to social distrust, weak social capital and cohesion. In addition, material

Chapter One: Introduction

conditions are mediated through social and economic problems that affect health indirectly through worry, threat, and insecurity. An individuals' inability to shop and own possessions weakens their self image, wealth being a marker of success, social status and respect. Wilkinson (1997) argues that all these produce negative emotions such as shame and distrust that can lead to poor health and may induce stress behaviours like smoking.

Psychosocial risk factors include low control over life, insecurity, bullying, isolation, depression and unemployment which can all translate into the body and lead to poor health. In Nigerian society, especially in urban areas, the growing gap between the rich and the poor has heightened levels of relative deprivation, antisocial behaviours like bullying and insecurity are manifested by high rates of armed robbery, vandalism and other examples of social violence. This lack of trust and instability in urban areas has led to a further breakdown of health and safety leading to low levels of social cohesion, poor health and mortality for many.

Wilkinson (1997) further asserts that a given level of income may be enough for everyday day life in a developing country, but quite inadequate in a developed wealthy country where an individual may not be able to afford things considered basic in their particular social context, like owning a telephone, a car or having a job. The more unequal the distribution of wealth in a society, the greater the relative deprivation, the greater the adverse effect on health of the society as a whole (Wilkinson 1997).

Smith *et al* (2004) argue that little empirical data has supported the psychosocial interpretation on the effects of social capital upon population health. Lynch *et al*, (2001) added that the impact of psychosocial factors on health cannot be studied in a vacuum without referring to the material circumstances surrounding daily experience. Material

circumstance, they argue, existed and generated inequality before their effects resulted in psychosocial factors.

1.2.4.1.4 Life course approach

Smith (2003) added that the life course approach to health inequality considers how exposures from before conception through to death can impact on health. Disease in adulthood was found to be strongly influenced by cumulative effects over sustained periods of time from infancy. For example helicobacter pylori infection in early life is enhanced by conditions such as overcrowding. This has been associated with stomach cancer or peptic ulcer in adulthood. Poor educational attainment may lead to unfavourable adult occupations and low incomes for families.

Children who grow up in deprived circumstances experience an increased risk of poor health outcomes in adulthood, irrespective of their circumstances later in life (Pearce *et al*, 2003). It was found that early life circumstances determined population differences in death rates for certain diseases 70 years after the population experienced the exposure. Life course explanations of population health examine material, institutional and political factors as determinants of health inequalities. Smith *et al* (2003) assert that the life course approach has been found to be more successful in explaining population health differences.

Child inequality in Nigeria is also affected by maternal religion (Antai and Antai, 2009), ethnicity (Brockerhoff and Hewett, 2000; Ndugwa *et al* 2008; Fayehun and Omololu, 2009), geographical location (Kandala *et al*, 2006) and government policies like SAP. Experiences in early childhood in addition to early and later education are key factors that affect the entire life course (WHO, 2008).

Chapter One: Introduction

In rural villages people suffer from a plethora of poor social conditions, such as living in poor quality housing and limited access to clean water. Rural children have less access to the facilities known to enhance health than some of their urban counterparts. In rural areas families are often large and children are born into poverty (Pearce, 1999). According to the life course approach children brought up in such adverse deprived environments frequently grow up with their health compromised. These socioeconomic inequalities will be reflected in a social patterning of exposures across their life course. Children in this setting are born into an already compromised environment which has a further detrimental effect on their life course.

In most countries women live longer than men but the life expectancy in Nigeria for males is 41 and females 42 (USAID, 2009). According to Global health (2001) narrow differences in life expectancies between men and women, as in the case of Nigeria reflect poor treatment of women.

Women in the rural areas of Nigeria depend mainly on agriculture for survival. They also have designated roles like waking up before dawn to fetch water and firewood, cooking, walking long distances to the farm for weeding, harvesting and planting. They also carry out food processing like cassava processing which is time consuming and labour intensive. These roles are also combined with other household responsibilities like childcare. This heavy burden of work reduces the time available for childcare and affects women's health. This work routine often leads to back problems in later life, caused by the frequent carrying of heavy loads (Lado, 1998).

1.3 SUMMARY

In this section on how approaches from epidemiology contribute to an understanding of child health, illness and disease, the literature of particular pertinence to this study is the work of Fotso and Kuate-Defo (2005) on determinants at the community and household levels, which affect health, and Krieger's emphasis on different levels of factors rather than proximal and distal factors (see pp 25 above).

In addition, the explanations of health inequalities that are relevant to this study of care giving and child health in rural Nigeria include the cultural behavioural explanation, but only when considered alongside materialist explanation, as the behaviour of rural villagers is shaped not only by their beliefs and culture but also by their material and political circumstances. These explanations of health inequalities blend well with concepts used in medical anthropology by Farmer (1999) and Scheper Hughes (2004) on structural violence.

1.4 ANTHROPOLOGY

1.4.1 STRUCTURAL VIOLENCE

Structural violence is a term used to describe the social arrangements that put individuals and populations in harm's way. According to Scheper-Hughes (2004), 'Structural violence is the invisible social machinery of inequality that reproduces social relations of exclusion and marginalization via ideologies, stigmas, attendance to race, class, sex and other invidious distinctions.' She explains further that it neutralizes poverty, sickness, hunger and premature death, such that they are taken for granted; this makes people indifferent with no one being held responsible except the poor

Chapter One: Introduction

themselves. Structural violence is 'structured' suffering. These structures results in an unequal distribution of resources which constrains agency.

Human agency has been blamed by clinicians over the years to have contributed to spread of infectious diseases and resistance to drugs. Farmer (1999), on the other hand having worked in rural Haiti and some parts of the United States on tuberculosis and AIDS has emphasized the need to move beyond the concept of 'risk groups' to consider the interplay between human agency and the powerful forces that constrain it, such as inequality, deepening poverty and political dislocation which conspire together to hasten the spread of HIV and, in most cases, all infectious diseases especially those affecting children.

It seems the poor have no chance but to be at risk and succumb to various infectious diseases. Poverty is not only defined as a lack of income but as unequal distribution to opportunities and access to resources and services (Hornberg and Pauli, 2007). When populations lack access to clean drinking water or access to adequate health care services, chances of acquiring infection multiply especially amongst children. Farmer (1999) asserts that access to health care is a basic human right. Ho (2007) adds that when agency is constrained to the extent that basic human needs are unattainable or denied, structural violence becomes a violation of human rights.

These deeper structural conditions fashion how societies are organized. In developing countries like Nigeria, poverty and poor social policies, unfair economic arrangements, inadequate health provision, absence of social responsibility and lack of governance result in some parts of the population lacking the necessary infrastructure needed for healthy living (WHO, 2008). Structural violence therefore originates in this unequal distribution of power among actors and can further be traced directly or

Chapter One: Introduction

indirectly to human agency. In many cases these translate into inequality and material deprivation in low income countries and poor communities in rich countries. For example, water borne diseases are caused both by a lack of clean water and by the political, social and economic forces leading to this lack.

In industrialized countries like the United States, poverty and racial discrimination increase chances of contracting tuberculosis, since there is a higher probability of ending up in a shelter where people live within close proximity of each other if one is poor and black. Farmer (1999) stresses that the spread of HIV is fundamentally linked to poverty. Increasing economic pressures may for example force women to practice transactional sex, or labour migration may affect family life with men living away from home for long periods.

In a study of child mortality in Brazil, Scheper Hughes (1992) noted that when women were asked why so many children die there, the women's answers focused primarily on socio-economic factors. Typical answers might be that children die because their mothers are poor and hungry, or because of worthless medical care (Scheper-Hughes, 1992). These same factors were cited in the works of Farmer (1999) in a study of infectious diseases (TB and HIV). External constraints, it is argued, bear on child mortality and morbidity at a level which is beyond the control of these women.

In Africa, like Haiti, gender inequality is harshly enforced, with power relations between men and women such that it is often very difficult for women to either make decisions by themselves or to be able to act on their decisions. This in turn affects the children since the women are the primary care givers and the children, especially those under-five years old, spend more time with them. Because of this they sometimes cannot make prompt decisions necessary for their children's health.

Chapter One: Introduction

Many caregivers have to walk long distances to get to health centres and sometimes do not get the required drugs for their children. Heggenhougen (2009) argues that a social change is necessary for the success of primary health, as it not only requires initiatives geared towards improving access to health, but also requires a social restructuring to improve equality, social justice and health itself.

Farmer (1999) stresses the complicated relationship between individual agency and structural violence. He notes that in some places where tuberculosis is prevalent, the degree to which a patient can comply with treatment is limited by forces beyond their control. He gives examples of families that have been almost destroyed by multidrug resistant tuberculosis (MDRTB), because they often only have intermittent access to second line drugs.

Farmer (1999) argues that culture can be used to rationalize inequality between western and developing countries. Some cultural beliefs or behaviours can sometimes excuse suffering and inequality under labels of 'culture' for example torture and genital mutilation. He restates that cultural boundary lines strengthen and justify suffering which further deepens inequality (Farmer, 2005). According to Inhorn and Brown (2005) culture provides a way to conceptualize the understanding of diseases that cause human suffering and death because coping with them is an aspect of human experience.

Farmer (1999) argues that the poor and sick in developing countries experience and suffer the same process of relative inequality as those in developed western countries. Modern inequality as described by Wilkinson is located within developed countries alone. This, Farmer (1999) argues should not be separated from inequality suffered by the poor in low income countries since they both lead to negative outcomes such as crime, mistrust and low social capital. Only in understanding infections and

suffering and the way they are shaped by the economic, social, cultural and political context can the complexity inherent in human experiences be used to holistically understand child health.

1.4.2 IDEAS OF CAUSATION OF CHILD MORTALITY AND MORBIDITY

Ethnic differences and weaning patterns could predispose a child to a host of infections. For example in an ethnic group in Ghana, the *Akan*, mothers are discouraged from giving their young children eggs because of the belief that it predisposes them to becoming a thief whilst in another ethnic in Ghana, the *Ewe*, mothers give their young children specially prepared nutritional food (Gyimah, 2006). Beliefs about causes and symptoms of illness are likely to affect treatment choices and health outcomes, especially where biomedical knowledge is limited and women often rely on traditional beliefs to diagnose and treat sickness (Heaton *et al*, 2005; Adeniyi, 1991).

A study carried out by Fayehun and Omololu (2009) enumerated how the patterns of child mortality are affected by ethnicity in Nigeria. Using quantitative data from the NDHS, they found that some particular behaviour and child health care practices are linked to people's cultural beliefs and to their ethnicity (Feyisetan, 1997; Brockerhoff and Hewett, 2000). They found that ethnic groups in northern Nigeria have the highest proportion of young mothers while the Yoruba's and Igbo's mothers are older. This is because of cultural beliefs in northern Nigeria that a girl must get married after her first menstrual period. They argue that there is a need to consider the cultural beliefs and practices of people when designing measures and outcomes aimed at improving health.

Chapter One: Introduction

Some children are thought to make the choice of wanting to die. This is highlighted in several studies. Gottlieb (2004) in Cote d'Ivoire, Scheper Hughes (1992) in Brazil, and Adetunji (2004) in Nigeria. Child deaths are attributed to being victims of witchcraft, the evil eye or other ancestral spirits. In the study carried by Scheper-Hughes (1992) in Brazil, women blamed the death of children on the children lacking the zeal to fight for their lives, stating that their babies were born weak, fragile or nervous. They further described child death as natural coming from God or unnatural from the evil one. In a study carried out in Haiti, Farmer (1992) questioned if *sida*, an illness thought to be caused by sorcery, is actually caused by bitterness that drives poor people to send illness to one another, or jealousy illness related to competition in a setting of material scarcity.

In South Africa, strokes are recognized by local populations as being a physical condition requiring biomedical treatment but simultaneously being a condition caused by humans, and as such part of a taxonomy of African illnesses which requires treatment by traditional healers or prophets. In a study carried out by Lewando Hundt *et al* (2004), stroke survivors were found to visit hospitals, clinics and traditional practitioners (*Inyanya* and prophets). They recognized that stroke in its acute phase needed hospital care and that it was linked to high blood pressure (high blood) and so required antihypertensive medication. They understood that its aetiology was related to bewitchment (*xifulana*) and this required intervention from healers or prophets. Alongside clinical diagnostics and treatment of stroke, the social diagnostics and care were also present. This plurality it was argued meets the physical, social and emotional needs of stroke survivors and their households.

Chapter One: Introduction

Gottlieb (2004) in her study of the Bang people of Cote d'Ivoire pointed out that infants and children are believed to retain their previous existence in the spirit world and as such, they do not have a complete hold or commitment to this world. Because of this, they are vulnerable to different malevolent spirits who threaten their health. Similarly, in Nigeria, there is a belief in *Abiku* children, who are believed to be children who are born just to die and go back to the spirit world. It is believed that these children are sent to torment their parents and can be born several times only to die again (Adetunji, 1991; Feyisetan *et al*, 1997; Ogunjuyigbe, 2003).

Their stories have been told in many African frictional novels like 'Famished Road' (Okri, 1993), 'Koku Baboni' (Onadipe, 1965) and 'Dizzy Angle' (Osifo, 1985). This normally causes untold hardship and pain to the family. *Abiku* children are believed not to live beyond their fifth birthday, and children who die on important days like their wedding days or after graduating from college are also sometimes considered *abiku*. Strategies to make them stay include naming children Kukomo (he will not die again) or Akpoyoma (the world is good).

The Hausa and Fulani of northern Nigeria prefer delivering babies at home rather than in the hospital because men often oppose having their wives exposed to male doctors. The Hausa women of northern Nigeria believe that the mother and her baby should be not be exposed to cold after delivery which can cause serious illness, which will rot her insides and cause her husband not to desire her any more. Mothers and their babies are kept in heated rooms and the mother must bathe twice daily in hot water especially applied to her genital area. Because of this, women often develop scalds and burns on different parts of their bodies, so that they are often times unable to breastfeed.

Chapter One: Introduction

A Hausa baby is traditionally named on the seventh day upon which his/her head is shaved. Traditional tribal marks are made on him/her and his epiglottis is removed so as not to cause trouble in later life, all this is performed by the local barber. It is believed that if the epiglottis is not removed the child will grow thin and the swelling in his throat will make him unable to speak clearly. For the first three days after delivery the baby feeds on cow or goat milk rather than his mother's breast milk. Goat milk is preferred because the Hausa who are Muslim like to imitate Prophet Mohammed who allegedly drank goat milk as a baby.

Marriage practices, which include polygamy, wife inheritance and child brides, often undermine the nutrition and health of women. Reproductive patterns such as a women's age when she first has sexual intercourse, her age during first pregnancy, birth spacing practices, religious affiliation, religiosity and exposure to media have complex health implications. Many women in developing countries marry early and have children in their teenage years when they are not yet physically mature and have limited access to antenatal and obstetric care (Shawky and Milaat, 2000).

Women who marry early have been found to experience increased risk of miscarriages, stillbirths and infant deaths not only during their first pregnancy but throughout subsequent childbearing. There is a practice common to the Hausa and Fulani women of northern Nigeria in which they are not supposed to show any sign of pain when giving birth, they are expected to bear the pain of childbirth silently. Women who encounter complications are therefore frequently left undetected, detected only once the problem has become critical, or is detected too late (Alti-Muazu, 1985).

1.4.3 PLURAL HEALTH SEEKING

Many countries in the world have plural health care systems (WHO, 1978) and people adopt plural health seeking behaviour (Janzen, 1978; Dambisya and Tindimwebwa 2003; Stekelenburg *et al*, 2005), using home based indigenous and biomedical health care simultaneously or sequentially.

According to Beiersman *et al* (2007), in a study carried out in rural Burkina Faso, childhood fevers are often treated with a mixture of traditional and modern methods that are generally handled by mothers at home (Feyisetan *et al*, 1997; Uzochukwu *et al*, 2008). Self treatment using both traditional and modern healthcare methods in treating different childhood illnesses is common practice in Africa (Salako *et al*, 2001). The use of the ancient forms of home based treatments for different ailments continues despite the expansion of biomedicine.

In most societies, mild illnesses are treated with some home remedies or are treated with over-the-counter (OTC) drugs at home. Help from practitioners is sought for diagnosis and prescription of medication for cases that are thought to be extreme. In a study by Dillip *et al* (2009) carried out in Tanzania, 71.1% of children with convulsions (*degedege*) were taken to health facilities in a timely manner because convulsions were perceived to be more serious than malaria (*homa*), for which only 46% of children were taken to the hospital. In another study in South Africa, 82.8% of mothers will use traditional remedies for childhood diseases (Dambisya and Tindimwebwa, 2000; Dillip *et al*, 2009). Similarly, 50% of students in higher education

Chapter One: Introduction

in Nigeria thought that terminal illnesses are best treated by traditional healers (Kahili, 2004).

Janzen (1978) argues that modern medicine focuses on the sick person and leaves “the social context of his illness in pathological chaos” (Janzen, 1978:9). Helman (2000) states that health systems should not be studied in isolation but alongside the social, religious, political and economic aspects of a society. Traditional medicine is thought to treat illness holistically taking into account relations with other people, the natural environment and supernatural forces (Helman, 2000; Stekelenburg *et al*, 2005).

Kleinman (1980) has identified three overlapping and interconnected sectors of health care, the popular, folk and professional. The popular sector is the lay non-professional first recognition of the illness for which caring is then initiated. People that are sick normally follow hierarchies of resort where they initially try to take care of themselves or their children based on their own knowledge, beliefs and experiences of the illness using patent medicines or homemade remedies before they seek outside help. The main players are mothers, grandmothers and other related women. Health and advice is then sought from significant others informally. Janzen (1978) has referred to this construction as the therapy management group. In India, home remedies are perceived to be convenient, safe, cheap and effective and are popular for treating common illness (Bhopal, 1986).

The folk sector occupies the intermediate between the popular and the professional sector including different traditional healers. The approach is holistic and may involve the family in healing rites. Healing takes place at home or at the premises of the traditional health practitioner. There is growing regulation of Traditional Health

Chapter One: Introduction

Practitioners in Africa particularly in South Africa and Uganda and which I cover in Chapter 2. The professional sector is the field of biomedicine and includes medical doctors, nurses, and midwives. This field of expertise is regulated and some alternative and complementary therapy can sometimes appear within the professional sector such as acupuncture, chiropractic and osteopathy.

Janzen (1978) identifies a group of relatives as the primary care givers of emotional, spiritual, financial and moral support to the sufferer as a therapy management group. They also help to make decisions and arrange the financing and travel for therapeutic consultations. He discusses the role of therapy management groups in household health care in Zaire made up of both maternal and paternal kinsmen and friends of the sufferer who give emotional, spiritual financial and moral support to the sufferer. Although, according to Franckel *et al* (2009), collective home management encourages home-based care, can limit good treatment compliance and delays health seeking from health facilities.

Cocks and Dola (2000) critique the concept of medical pluralism and argue that some health practitioners cannot be conveniently categorized. They talk about the *amayeza* stores in South Africa which sell both herbal remedies and over-the-counter-pharmaceutical medicines and are frequently visited by individuals who use them for self treatment for themselves and their children (popular sector) and by folk healers who come to buy things to be used for their clientele. They also highlighted the over emphasis on later stages of referral system, instead of the earlier stage of health seeking which is generally through self medication. This is an arena of overlap between the popular sector and the folk sectors according to Kleinman's model.

Chapter One: Introduction

The health belief model takes into account the attitudes and beliefs of people, while proposing that these are important determinants to consider in health seeking behaviour. This is thought to vary according to individuals' feelings of susceptibility, vulnerability and the severity of the illness (Charles, *et al*, 2008). Good (1994) argues that this model gives a 'narrow and empiricist theory of culture as health beliefs'. He explains that while the model gives reasons why some people choose to seek health care and others do not, it fails to include people with the least control over their lives. It does this by ignoring the process and dynamics involved during the management of chronic illnesses, especially in the tertiary health care setting, because of its definition of culture as the 'instrumental beliefs of individuals' (Good 1994:43).

Broom *et al* (2009) have also argued that medical pluralism, while a reflection of cultural knowledge, is also linked to forms of inequality, social suffering and structural problems around health delivery. In their study of the inequalities of medical pluralism of cancer patients in India, the researchers draw on their accounts from elites to argue that some customs and traditions are oppressive, and negatively impact on the status of Indian women, the poor and elderly (Charles *et al*, 2008). Women in India with cancer tend to seek traditional, complementary and alternative medicine and tend to only come in late stages to the clinic because they are shy, reluctant to share their pain and the lack of access to a female doctor. Jegede (2005) added that lower class people in rural areas of Nigeria patronise traditional health practitioners because most physicians are concentrated in urban areas. Farmer (2001) also linked health seeking behaviour to the cost of health care, limitations caused by poverty and harsh economic conditions, under the concept of structural violence.

Chapter One: Introduction

Nigeria is medically pluralistic. This pluralism includes different types of traditional healers and the biomedical health sector. In a study carried out by Salako *et al*, (2001) in a rural village in Nigeria, self help using both biomedical and local herbal home remedies was found to be the norm for mothers seeking care for children. In another study carried out in Nigeria, for the treatment of diarrhoea, herbal treatment was provided at home followed by remedies from drug stores or before traditional healers were visited (Iyun 2000). Abdulraheem and Parakoyi (2009) also reported that more mothers in rural Nigeria used self –help home remedies in episodes of childhood illnesses while the use of health facility remained very low.

In rural areas, access to health centres is minimal because people have to walk long distances, health centres are not adequately staffed and there are erratic drug supplies (Iyun, 2000; Salako *et al*, 2001; Cooper and Ensor, 2004). The importance of traditional healers as caregivers in Nigeria and the need to incorporate them into disease control and management has been noted by Akpede *et al* (2001) and Okeke *et al*, (2005).

Patent medicine shops are widely utilized having been described as accessible and informal places to receive information about health. Mothers have the flexibility of being able to send someone, and there is the added advantage of paying on credit (Adetunji, 1991). While some argue that self treatment is potentially dangerous because of the risks of incorrect dosage and delays in seeking help (Foster, 1995), others encourage the use of self medication which they believe will do more good than harm especially in the treatment of childhood malaria.

Sometimes neither drug vendors nor consumers know the correct dosage and duration of treatment. There have been reports of drugs being ineffective and out of date

Chapter One: Introduction

and Nigeria has been battling with drug counterfeiting over many years (Harding, 2006). Rural women have been found to be more likely to use leftover drugs and will delay going to a health facility (Uzochukwu *et al* 2006). Nyamongo and Nyamongo (2006) noted that many will only seek a health facility after several days of self treatment without success.

1.5 SUMMARY

This chapter has reviewed literature from the disciplines of both anthropology and epidemiology relevant to caring for sick children in rural Nigeria. Anthropology has a body of scholarship on health seeking behaviour, structural violence, and ideas about causation, indigenous and lay knowledge, and patterns of caring in household. Anthropology as a discipline can extend understandings of the complexity of the social and cultural context of caregivers and gives a context to understanding certain actions. Epidemiology provides understandings of patterns of illness and health in populations.

In this study the analysis of child morbidity and mortality data in particular from the Nigerian Demographic Health Survey data and explanations of health inequality and the role of community and household factors at different levels are important. This study uses Krieger's (2005) levels and pathways of household and community factors in explaining how health determinants affect the caregivers, and uses Fotso and Kuate-Defo's framework (2005) to draw on the materialist and behavioural cultural explanations of health inequalities.

This research study aims to examine the factors at the household and community levels affecting child morbidity and mortality in a village in the North Central region of

Chapter One: Introduction

Nigeria by interfacing epidemiology and anthropology. The standpoint of this research study is that there is scholarship in epidemiology and within anthropology on structural violence, health seeking behaviour and plural health seeking but that there is little scholarship that combines or interfaces the two disciplines. Both approaches, though valuable are limited.

The next chapter describes the Nigerian setting and sets out details on the demography, history, economics and primary health care of Nigeria.

CHAPTER TWO: THE SETTING

2.1 INTRODUCTION

This chapter provides an overview of the history and demography of Nigeria, the structure of its federal, state, local government and health system; and the village setting in which this study took place.

2.2 PRE-COLONIAL NIGERIA

Before British colonialism, the area that is now considered Nigeria was divided into various kingdoms and empires. The early states included the Yoruba Kingdoms, the Edo kingdoms of Benin, the Hausa cities and Nupe. The Yoruba kingdom of Oyo ruled in the south-western part of the country between the 12th and 16th centuries. Around the same time, the Edo kingdom of Benin ruled what is now called Benin City, following a name change by the Portuguese in the 15th century. The Nri kingdom, a sub-group of the Igbo and the oldest known kingdom in Nigeria, ruled between 1043 and 1911.

In the thirteenth century, the Kanem-Bornu Empire positioned around Lake Chad extended its reach into Kano. Around the 19th century, the Sokoto caliphate was established following a holy war led by Usman dan Fodio in the north-west of Nigeria. The caliphate consisted of thirty emirates and the capital district of Sokoto. These kingdoms and empires all displayed sophisticated levels of culture and organization. The earliest known civilization in Africa-Nok culture - thought to have flourished between the fourth century BC and the second century AD was found in these regions.

Chapter Two: The Setting

From the 16th century onwards these areas were greatly affected by the slave trade when Britain established itself as the dominant power (FRD, 2008).

2.3 POLITICAL HISTORY OF NIGERIA

In the 19th century, the British colonial administration created the boundaries of present day Nigeria taking little account of indigenous demarcations regarding geophysical or social frontiers. While the southern border is bounded by the Atlantic Ocean, the western, northern and eastern borders are arbitrary. Nigeria is made up of hundreds of ethnic groups which sometimes straddled these boundaries (Falola and Heaton, 2008, CIA, 2001). The British occupation of Nigeria were triggered by commercial interests in the slave trade around 1849 in Nigeria's eastern parts, mainly Benin and Biafra (Forde, 1951).

Nigeria came into existence as a nation on 1 January 1914 through the amalgamation of the north and south protectorates. The southern provinces were later divided into the eastern and western provinces in 1939. The predominantly Muslim Hausa-Fulani lived in the northern provinces, the Christian and Muslim Yoruba in the southern provinces and the mainly Christian Ibo in the eastern provinces. Nigeria was governed by the British as a colony for over 50 years, prior to its establishment as a federation of these three regions in 1954, and remained so until its independence in 1960. The federation consisted of the North, South and Western regions with the Federal Territory at Lagos State (Burns, 1969). This study took place amongst the Yoruba the north central region who are mainly Muslim.

2.4 GOVERNANCE

During the last two centuries there have been wars, ethnic conflicts and numerous instances of violence in Nigeria. Military coups and wars have been staged between the main ethnic groups (Panter-Brick, 1970). Ethnic issues are often utilised by politicians to create divisions which might enhance their electoral support. Those in power frequently favour certain areas over others with better schools or economic policies. For example, the Nigerian River Basin Authority initially established in Kwara state was moved to Niger state when a man from Niger state won the presidency. There are numerous examples of roads leading to ministers' houses and their villages being tarred whilst other routes remain as dirt roads (Panter-Brick, 1970).

According to Akinboye and Anifowose (1999:244) at its independence, Nigeria inherited a 'weak socio-political structure, a defective and unbalanced federation, and intensified ethnic consciousness and rivalries'. Abubakar Tafawa Belewa, a northerner, became the first prime minister of Nigeria after the country gained independence in 1960. In 1966, Tafawa Belewa was killed in an Igbo-led coup, which toppled the northern government. The first military rule thus came into being headed by Major General Aguiyi Ironsi, but was toppled only a few months later by a threatened north. In the counter-coup Ironsi was assassinated and replaced by a northern head of state in an operation which saw over 200 people, mainly Igbos killed.

These events led to the only civil war in Nigeria's history, and came as a result of the declaration of the 'Republic of Biafra' by the Igbos who wished to secede from Nigeria to form Biafra. Nigeria refused to grant Biafra independence protecting its access to the Niger delta oil reserves. The Nigerian troops armed with ammunition

Chapter Two: The Setting

provided by the British and the Russian governments (Forsyth, 1969; Ojukwu, 1969) fought the three eastern Igbo states. The war lasted between 1967 and 1970 and brought about massive loss of lives and the destruction of property on Igbo land. Global attention was called to the destruction carried out by the Nigerian troops and the ensuing famine in Biafra until a truce was agreed (Akinboye and Anifowose, 2002: 249).

Since 1960, governance in Nigeria has been marked by military coups and leadership shifts. Nigeria experienced a series of authoritarian military regimes in the 24 years following independence, until the first civilian transfer of power in 2003. These events have hampered the growth and development of the country. Democracy has been linked to the recognition of Nigeria's plurality of multiethnic groups (Enemuo, 1999). Nigeria has thus only experienced democracy for a relatively short period.

2.5 GEOGRAPHY

2.5.1 COUNTRY PROFILE

Nigeria lies between 4°16' and 13° 53' north latitude and between 2° 40' and 14° 41' east longitudes. Nigeria covers an area of 923,768 square kilometres with an estimated 4,049 kilometre long land boundary. The country is located in the West African sub region and is bordered by Cameroon to the east, the Benin Republic to the west, the Niger Republic to the North, the Chad Republic borders its north-eastern part and the 800 kilometres long southern coastline is bordered by the Atlantic Ocean. The far South has a tropical rainforest climate, while the north is practically desert with a rainfall of less than 20 inches per year. Between the south and the north lies mostly

Chapter Two: The Setting

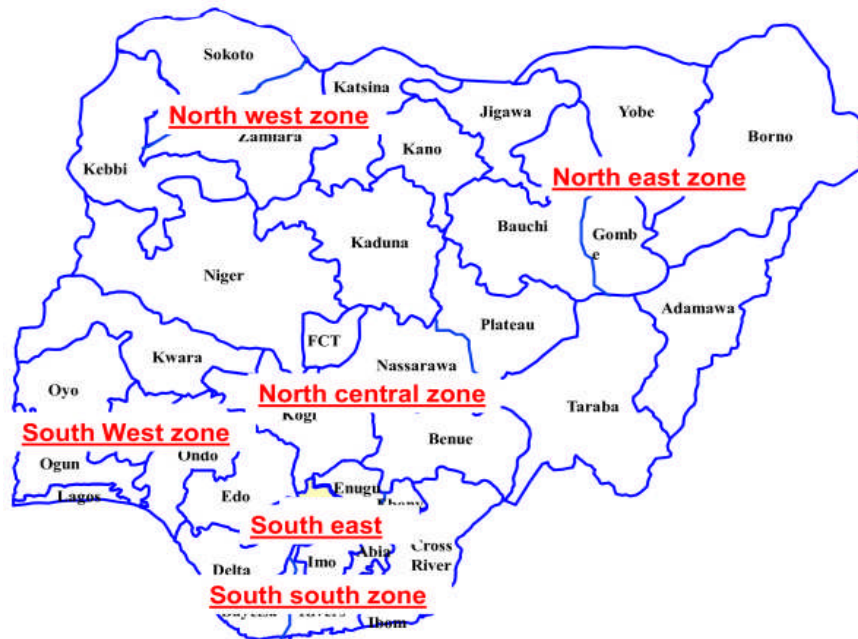
savannah. The Niger and Benue River valleys are the most expansive topographical region in Nigeria. Coastal plains are found in both the south-west and the south-east.

There are two seasons governed by two dominant winds. The dry season lasts between October and May, except in the north where it normally occurs between December and January. The dry season is characterised by a dry north-easterly wind with a thick haze composed of dust particles from the Sahara. It is usually cold in the nights and early mornings but extremely hot in the afternoons. The north experiences these extremes with greater intensity than the south. The rain-bearing south-westerly wind brings with it the rainy season which lasts from April until October in the south, and is characterised by heavy rainfall accompanied by lightning and thunder. This is felt in the north between June and September (Burns 1969; FMOH, 2005; NDHS 2008).

Nigeria (Figure 1) is the largest country in Sub-Saharan Africa and the 10th most densely populated country in the world. Nigeria had an estimated population of about 144.7 million in 2006 with an annual population growth of 2.02% (World Bank, 2009, CIA 2009). The country is a Federal Republic consisting of 36 states and the Federal Capital Territory (FCT).

Chapter Two: The Setting

Figure: 2.1: Map of Nigeria 36 states and the 6 geopolitical Zones



The states and the Federal Capital Territory (FCT) are further divided into 774 Local Government Areas (LGA) (CIA, 2009, UPEFA, 2008). The States are grouped on the basis of ethnic homogeneity or geographical proximity, into six geopolitical zones, which are, North East, North West, North Central, South West, South East and South South. The zones differ in size, population, ecological characteristics, language, culture, settlement patterns, economic opportunities and historical background. This thesis is based on fieldwork in the North central zone.

Nigeria is multicultural, multiethnic and a multi-religious society. It is composed of over 350 ethnic groups. The most populous and politically influential groups are the Hausa and Fulani (29 per-cent) who live in the north, the Yoruba (22%) in the south-west and the Igbo (18%) in the south-east, with 45% of Muslims live in north; 45% of Christians live in the south and 10% of the population hold indigenous beliefs (FMOH 2005). Schwarz (1965) argues that when ethnic groups have geographical boundaries as

Chapter Two: The Setting

is mostly the case in Nigeria, communal friction is reduced, in contrast to areas like India, where two ethnic groups with two different religions for example, may share the same space. On the other hand, an exclusive and bounded ethnic situation could slow the development of mutual understanding. This multiplicity of groups also contributes to competition for natural resources, and a complex mix of cultural practices.

2.6 ECONOMY

Nigeria is the world's 10th largest oil producer and the 8th largest amongst the Organization of Petroleum Exporting Countries (DFID, 2009). In addition to the oil, Nigeria also has the largest natural gas reserve in Africa, but despite the wealth of human and natural resources, is still ranked amongst the 13th poorest country in the world (WHO, 2005).

In the first part of the 20th century, Nigeria was an important third world exporter of agricultural products, mainly groundnuts, palm oil, cassava, rice, cocoa and palm produce grown by independent small-scale farmers, which drove commercial advancement felt even in the rural economy. This provided employment for about 75% of the population and was the livelihood for about 90% of the population. This changed over the years with more dependence on petroleum (Akpabio and Akpan, 2001). The overthrow of the government in 1966 and the Biafran war marked a period of crisis and a change from the peasant based political economy to the petroleum era. In 1973, Nigeria was producing an average of two million barrels of petroleum a day and in January, 2010, Nigeria had an estimated 37.2 billion barrels of proven oil reserves. The high earnings from petroleum intensified regional conflicts and federal government

Chapter Two: The Setting

control over the oil industry (Leonard, 2006). The oil industry is located in the Niger delta where it has been a source of conflict. It has experienced pipeline vandalism, kidnappings and militant takeovers of oil facilities.

In the mid 1970s, earnings from oil surpassed those of agriculture. Since then the country has had a mixed public and private sector economy but national revenue has been derived mostly from crude oil. The oil sector provides 30% of Nigeria's GDP, 95% of foreign exchange earnings and 80% of budget revenue. Earnings from oil, unlike agriculture, entered the economy through state spending which was concentrated on the major cities. The move from a reliance on agriculture to oil was also due to urbanization, coupled with people in the rural areas increasingly engaging in work based on trade and construction. This has given rise to problems of food production (Ander and Beckman, 1985; Leonard, 2006)

Nigeria's Gross National product (GNP) stands at 310 US dollars per capita. This figure is even lower in rural areas. It is well below the Sub-Saharan average of 450 US dollars. In the period between 2001 and 2006 the gross domestic product (GDP) grew by an average of 6% (UNICEF, 2007).

The Nigerian economy is marred by political instability, corruption, weak institutions and poor macroeconomic management (NPI, 1999). The labour force in Nigeria works mainly in agriculture (70%), industry (10%) and services (20%) (CIA, 2009). This is because the wealth is not distributed equally. Its human development is ranked 158th out of 182 countries and is geographically positioned amongst countries with medium human development (UNDP, 2009). Social indicators and its political and

Chapter Two: The Setting

economic development are hampered by the failure to diversify away from oil and to distribute wealth equitably.

2.6.1 STRUCTURAL ADJUSTMENT PROGRAMME (SAP)

Structural Adjustment Programmes (SAP) were economic policies developed by the World Bank and the International Monetary Fund (IMF) for developing countries in exchange for loans and rescheduling of their debts. To be granted new loans these countries had to adopt SAPs which encouraged export led growth, privatisation and a free market. These measures were meant to help these countries pay their debts and reduce inflation. SAP was supposed to develop opportunities for growth that would help to alleviate poverty (WHO, 2009; Global Health Studies 2001). Recently, the same lending organizations have asked low income countries to develop Poverty Reduction Strategy Papers (PRSPs) as a condition for debt relief, but many have argued that they merely represent a repeat of SAP conditions, camouflaged under a new name (Lurie, *et al* 1995; IMF, 2010).

Nigeria became involved in SAP as a result of the collapse of the economy, when an inflated public expenditure eventually exceeded revenue, following the oil boom. Nigeria recorded negative growth between 1980 and 1983, which paved the way for the adoption of SAP in 1986. While it was initially assumed to be a short term recovery plan, it was extended in 1988. One of the aims included reducing imports and Nigeria's dependence on oil (Ake, 1996).

To achieve these aims, stringent actions were carried out. Capital expenditure was reduced and public sector salaries were frozen. The foreign borrowing of the state

Chapter Two: The Setting

and federal government was also curbed and bank interest rates, in the form of loans to private industry, were lowered to encourage privatisation. SAP and poverty reduction strategy papers (PRSPS), required countries to devalue their currency against the dollar and to remove price controls and state subsidies. The devaluation of the currency made it cheaper for foreigners to buy goods.

Before Nigeria adopted SAPs in 1986, one US dollar was equivalent to 77 kobo (1Naira=100 kobo). Following SAP the Naira stood at 112 to the dollar, while today that figure stands at 150 Naira (Adegunrin, 2003). Ogbimi (2001) argues that SAPs caused inflation because it increased the proportion of local currency used to buy local goods and imports. Riots, which led to numerous arrests and killings, occurred as a result of the conditions imposed by SAPs in Jamaica, Russia, Niger, Benin and Algeria. In Nigeria between 1986 and 1989 hundreds were killed as a result of peaceful protests against SAPs. The riots involved the unemployed, students, traders and other disadvantaged people (Ihonvbere, 1993).

The government of Nigeria banned the importation of rice, wheat and maize, which encouraged farmers to increase local food production. During this time, different cassava varieties were improved and promoted by the government. Cassava was hailed as a crop which was easy to grow on any type of soil (Babalaye, 1996). On the other hand, the ban on the importation of food and increasing cost of locally grown food due to the removal of subsidies affected the health and nutritional status of the population. Families had to seek alternative, cheaper or unprocessed food which required longer preparation time. This included root based carbohydrates like cassava at the expense of protein, which meant that children from disadvantaged households were more susceptible to illness (Lado, 1992).

Chapter Two: The Setting

According to Igbedioh (1993), SAPs led to a reduction in food consumption and resulted in increased malnutrition. He reports that in 1987, there was a reduced energy and protein intake of 27% and 33% for Borno and Yobe respectively. Similarly, Imam (1994) states that since SAPs began, the proportion of infants with low birth weights increased by 10% and the proportion of malnourished under-fives increased by 14%. Ake (1996) asserts that while agriculture and manufacturing thrived in Nigeria under SAPs, it failed to result in a more diversified economy.

SAP encouraged cuts in government expenditure and spending which resulted in a reduction in education, health and social care budgets and the removal of food subsidies. Because of the reduction in government spending, living conditions deteriorated affecting the water supply, electricity, health services and social welfare. The deep cuts in health expenditure affected the provision and quality of health care services at a time people had less money to spend on acquiring it (WHO 2009).

Health budgets were reduced resulting in suspended health projects and abandoned construction sites. Nigeria also suffered from a brain drain of health professionals emigrating to Europe and the Middle East. This affected the quality of health care provision making people lose confidence in government medical institutions (Uneke, *et al*, 2008)

This absence of trained health workers became apparent as understaffed dispensaries and clinics routinely meant long queues. Furthermore, drug supplies became erratic and patients were expected to buy their own drugs, dressing materials and medication required for minor operations. Consequently, a larger percentage of Nigerians self medicated and visited traditional health practitioners (Ihonvbere, 1993).

Chapter Two: The Setting

Iyun (1994) reported a 48% decline in outpatient clinic attendance by children in the University College Hospital Ibadan (UCH) between 1982 and 1986, with a similar decline in children and women's admissions. Diseases like yellow fever, typhoid fever and guinea worm surged. The health of vulnerable people in Nigeria was thought to have worsened due to SAPs. Likewise, in Tanzania, spending on health and education fell by 40% in five years, and user fees prevented poor people in rural areas and pregnant women from accessing health care (Lurie, *et al* 1995).

According to Imam, (1994), the architects of the SAP, saw the crisis being caused by internal factors in Nigeria, but Nigerians have described the crisis as 'SAP really sapping us'. Nigerian economists also described SAPs as a depreciation widening the gap between the rich and the poor. The World Bank however argued that this period of painful macro-economic adjustment in many developing countries was unavoidable and necessary to reap the benefits and gains of SAPs. International organizations like UNICEF also criticized SAPs for its effect on poor people, especially children.

2.7 DEMOGRAPHIC PROFILE

According to WHO (2008), life expectancy in Nigeria for males and females stands at 48 years and 49 years respectively. Life expectancy increased from 44 years, in the 1970s to 51 in 2002 and back to 47 in 2007, which is generally lower than the African region average (Leonard 2006; UNICEF 2010). These figures show that life expectancy in Nigeria is unstable and the fact they are low reflects a weak economic, social and health infrastructure. A low life expectancy has negative consequences for the productivity of the work force, which in turn affects the education sector since

Chapter Two: The Setting

students to teachers ratios increase, leading to high illiteracy. Adult literacy in 1996 was recorded at 51% (males 62% and female 31%), which further discouraged foreign investors.

In Nigeria 20% of the population is made up of children under the age of five (FMOH, 2005). The population dynamics in Nigeria show profound rural-urban inequalities with wide regional disparities. The Nigerian population is mostly rural, with 63.7% of the population living in rural areas. In 2002, only 38% had access to adequate sanitation (30% in rural areas), a feature that has a profound effect on child morbidity and mortality (Ochiawunwa, 2002).

The critical population indices are:

- High growth rate of about 2.4%, which is affected by high fertility.
- Young population of which over 42.5% are 14 years old and below
(UNICEF, 2010; UN2010)

When a larger percentage of the population is made up of younger people, high dependency ratios result as the proportion of people in the work force shrink in relation to the number of those who are dependents. This causes a strain on the work force. Children may be forced to start work at an earlier age, instead of spending time in education. This leads to a vicious cycle of poverty which is difficult to break.

2.8 POVERTY AND INEQUALITY

Poverty in Nigeria was first measured in 1980, when 27.2 % of the population, or 18 million people, were classified as poor. The gap between the poor and the rich is wider today, with marked inequality in the distribution of income. Such inequality was mostly felt in the health sector. The Nigerian poverty rate is close to 70.8% or 90 million people (which are to say that two out of three Nigerians live below the extreme poverty line of one US dollar per day (USAID, 2002). The percentage of the population living below the poverty rate of two US dollars per day stands at 92.4% (Ahmed, 2007). According to Aigbokhan, (2000) the northern part of Nigeria constitutes the bulk of the poverty problem.

The Gini index or co-efficient measures the inequality of income distribution and consumption. In urban Nigeria, the Gini index is higher at 55.4% than the rural 51.9%. When compared with 53 other nations in African only Uganda and Zambia have higher poverty rates than Nigeria. The Gini index for Nigeria is 50.6% which is one of the worst in Africa, better only than South African (57.8%) when compared with the ten largest economies in Africa. This means that South Africa is a more unequal society and the gap between the poor and the rich is much higher in comparison to Nigeria which according to Wilkinson and Pickett (2009) gives rise to a whole range of social problems

Although, on the other hand, the poverty gap is lower for South Africa (12.6%) compared to Nigeria (59.5 %). This means that poverty is much deeper in Nigeria with Nigeria having poorer population than South Africa (Ahmed, 2007).

2.9 HEALTH STATUS OF NIGERIA

Life expectancy in recent years has been affected by the spread of HIV/AIDS. Without the epidemic, life expectancy in Nigeria would be 57. It is estimated that 5.4% of the adult population are living with AIDS (UNODC, 2007). According to the NDHS 2003, 29% of children under the age of five are underweight while 30% have reported stunting. The north central and north east regions have the most low birth weight infants (less than 2.5kg) at 10% and 13% respectively.

In 2007, the budgetary allocations were 10.6% for education, 7.1% for health and 6.8% for environment and water resources. Over the years, budgetary allocations for health have been low, resulting in an inability to maintain existing health facilities in the country in accordance with population growth. The low health budget has also resulted in low access to services and quality of care (FMOH, 2005).

Table 2.1 Demographic profile of Nigeria

Life Expectancy men/women (2008)	48 years
Infant Mortality Rate (2008)	96 per 1,000 live births
Under-five Mortality Rate (2008)	186 per 1,000 live births
Maternal Mortality Rate	800 per 100,000 people
Neonatal mortality rate (2004)	47 per 1000 live births
Underweight (2003-2008)	14%
One year olds immunised against DPT3 (2008)	54%
One year olds immunised against measles (2008)	62%
One year olds immunised against OPV3 (2008)	61%
Total Fertility Rate (2008)	5.3%
Adult Literacy Rate (2003-2008)	72%
Enrolment Rate for Primacy Schools gross (2003-2008)	
Boys	104%
Girls	87%
People living with AIDS 15-49 (2007)	3.1%
People with access to clean water (2006)	
Rural	30%
Urban	65%
Use of adequate sanitation facilities	
Rural	35%
Urban	25%

Source: UNICEF (2010)

2.9.1 UNDER-FIVE MORTALITY AND MORBIDITY IN NIGERIA

One child in five in Nigeria dies before their fifth birthday. A child born in Nigeria is 30 times more likely to die before the age five than one born in an industrialised country (UNICEF, 2005). Nigeria ranks as the country with the eighth highest child mortality rate in the world (United Nations, 2009). Millions of children in Nigeria die annually from preventable diseases. According to Ochiawunwa (2002), Nigeria is one of the countries in Africa that has been least successful in achieving improvements in child survival during the past four decades. There are huge variations in child mortality rates in different parts of the country, notably urban and rural areas and in the north and south.

Women especially in their reproductive years, and under-five years old are the most vulnerable group. Less than half of the population have access to clean safe drinking water and adequate sanitation. Mortality and morbidity in children has been linked to infections and diseases which are preventable (Bartlett *et al*, 2003).

Thousands of deaths of those under the age of five are prevented by immunization yearly but preventable diseases remain the leading cause of childhood mortality in Nigeria, with an estimated three million deaths each year (WHO, 2007, UNICEF, 2008). These preventable infectious diseases include measles, poliomyelitis, whooping cough (pertussis), tetanus, diphtheria, and tuberculosis. Vaccine preventable diseases (VPD) have been implicated in the deaths of more than 20% of children under age of five. International comparative data shows that Nigeria's immunisation coverage is among the lowest in the world, especially in northern Nigeria where immunization is less than 10% (PATH, 2010). Leading causes of childhood mortality and morbidity in

Chapter Two: The Setting

Nigeria include neonatal causes, malaria, measles, diarrhoea, malnutrition and acute respiratory infection (ARI).

Table 2.2: Causes of death among under five children

Causes	Percentage (%)
Neonatal causes	26.1
Malaria	24.1
Pneumonia	20.1
Diarrhoeal Diseases	15.7
Measles	6.3
HIV/AIDS	5.0
Injuries	2.0
Other causes	0.8

Source: WHO (2006).

This table shows that in 2006, children in Nigeria died of neonatal causes, malaria, respiratory infectious and diarrhoeal diseases. HIV/AIDS and measles were less common causes of death in 2006. Malnutrition is a major underlying cause of over half of under-five deaths in Nigeria (Unicef, 2009). 29% of children in Nigeria are thought to be malnourished with that figure being largely made up of children living in rural areas. Children who are malnourished tend to have a lower resistance to infection and are more likely to die from common infections than children who eat a balanced diet (UNICEF, 2006). The majority of children in Nigeria's rural areas are fed more

Chapter Two: The Setting

cereal and root based carbohydrates than protein rich food (Leonard, 2006). AIDS may be another underlying cause of death, as children will be less resistant to infection.

Mortality in newborns contributes to about half of infant mortality (FMOH 2006). In recent years because of poor immunisation coverage there have been periodic epidemics of polio, whooping cough and other childhood diseases in the northern states. Immunisation coverage has been found to be as low as 3.8% in some cases and may be even lower (Ejembe *et al* 2003). The country faces many challenges in reducing the transmission of the wild polio virus. The integration of the immunization services into the National Primary Health Care Delivery System is expected to strengthen routine immunization (UNICEF, 2006). The use of insecticide treated mosquitoes nets is low especially in the northern region.

The 2005 seroprevalence survey by the Federal Ministry of health shows that HIV/AIDs prevalence declined from 5% in 2003 to 4.4% in 2005, driven by a drop in prevalence in the 15-19 age groups, though higher rates prevail in the north central states. Less than 5% of women have access to services which prevent mother to child transmission (PMTCT) in some parts of Nigeria. Access is still low and about 240, 000 babies are born with HIV and there about 930,000 AIDs orphan children (UNICEF, 2007).

The 2007 Multiple Indicator Cluster Survey (MICS3) reported that half the population has access to safe water nationally, but this dropped to as low as 18% in the rural northern areas. The provision of water and sanitation systems suffers from weak structural planning at all levels of government. This in turn has affected child morbidity and mortality in the country.

2.10 HEALTH SERVICES IN NIGERIA

2.10.1 HISTORY OF HEALTH SERVICES

During the colonial period, the religious missions played a major role in the early development of modern health care facilities in Nigeria. The Christian missionaries and the British colonialists imported western health system. The British colonial government provided medical services but was elitist in delivery providing mainly for Europeans and their African employees (Good 1991). It was also mainly curative rather than preventative of infectious diseases. The services were located in major cities along the costal trading centres of the country excluding the northern part of the country. The Christian missions provided services which were open to everyone, using medical services as a way to attract people to their faith (Alubo, 1990).

The health care system provided by the British kept a healthy work force. A lop-sided pattern of health distribution was also common in other countries like Tanzania, Zimbabwe, Zambia and India. In Zambia the population received health care services, but was unequally distributed so that Europeans were favoured and Asians were favoured above 'coloured' and Africans (Mwensa, 1989).

Following independence in 1960, Nigeria continued with an elitist approach to health delivery. Far from favouring equity, the politicians and the professional elite in the country merely mimicked the colonialist's system. Medical health services were provided first to expatriates, then the Nigerian civil servants and finally to the general public.

Chapter Two: The Setting

The Ministry of Health was established to coordinate health services throughout the country. More funds were allocated for health facilities in the major cities than for rural areas centres. There were also strong discrepancies between the distribution of health facilities in the southern and northern areas of the country, which are still in existence today (CIA, 2008). Ityavyar (1988) blames the unequal regional distribution of health care facilities on the long missionary presence in southern Nigeria before extending to the north and on class interest which shaped the provision of health resources unequally over particular areas and groups.

The problem of the unequal geographic distribution of medical personnel and facilities among various regions and the inadequacy of facilities in the rural areas has persisted. There are more hospitals in urban than in rural areas despite a large proportion of the population residing in rural areas. In Kano State, 9 out of the its 17 hospitals are located in Kano City, with a population of 0.8 million. The remaining eight hospitals are scattered around the rural areas of the state and serve 7.7 million people (Ityavyar, 1988). The majority of trained doctors prefer working in urban areas which means that the presence of doctors remains scarce in rural areas (Uneke *et al*, 2008).

In 1960, Nigeria had only one medical school. Today it has 12 medical schools and 15 teaching hospitals and graduates 1500 physicians yearly. Health care units have increased from 2817 in 1960 to 11,983 (NHP, 2005). Nigeria also suffers from brain drain in terms of health personnel migrating abroad. For example between 2001 and 2002, 432 nurses legally emigrated to work in Britain (Uneke, *et al*, 2008).

Chapter Two: The Setting

During the 1980s, the country underwent an economic depression due to fuel shortages, currency devaluation and structural adjustment. The public health services like other sectors in the country suffered. The private owned health facilities enjoyed a boom since medical personnel, drugs and medical equipment were diverted to the private sector as government hospitals worsened. Over the years, attempts have been made to make health free to certain categories of people, including children younger than 18, adults over 65 years and the physically disabled, but these efforts have never been materialised by the governing council.

Jegade (2005) argues that during the colonial and post colonial period philanthropic foreign organizations were used by Western powers to make it look as though they were helping 'backward' countries. He stresses that medicine was considered a human investment that would pay for itself by increasing human capital and thus increases the productivity of the Nigerian labour force. This in turn meant cheaper and more raw materials for European export. He argues that this led to the training of managerial and professional segments of Nigerian society to adopt the values and world views of industrialised nations which resulted in the abuse of power and exploitation of vulnerable people especially women, children and the poor.

2.10.2 NIGERIA'S CURRENT HEALTH SYSTEM

In Nigeria, the private sector and the three levels of government-federal, state and local- are jointly responsible for the provision of healthcare services and receive their allocations directly from the federal budget. The Federal Ministry of Health has the statutory responsibility for the formation of national health policies, implementation of

Chapter Two: The Setting

national health programmes, effective coordination, and the evaluation and monitoring of health policies (Ochiawura 2002). In 1990, some federal agencies were created to aid health delivery in the country including the National Agency for Food and Drug Administration and Control (NAFDAC), the National Primary Health Care Development Agency (NPHCDA), and the National Programme for Immunization (NPI). New ones included were The National Action Committee on AIDS and the National Health Insurance Scheme (NHIS).

Health expenditure in Nigeria is largely borne by the private sector, which accounts for 72% of expenditure in contrast to the public sector, which accounts for 28% (Peterson and Obileye, 2002). The Federal Government provides the policy system through which health services in Nigeria operate. There are the three levels of health care, primary health care, secondary health care and tertiary health care.

Primary health care is provided by the local government with the support of state Ministries of Health and within the overall National Health Policy. Service delivery is organised by district (ward) with seven to ten districts per local government area. The target group are usually villagers who are mainly farmers and traders. The Federal Ministry of Health through the national Primary Health Care (PHC) developmental agency develops policies and supervises the operations of PHC centres (Onwujekwe *et al*, 2004). Private sector practitioners also provide health care at this level. The level of health is mostly accessed by the poor and has been identified as the weakest in the health sector (World Bank, 2010).

Secondary health care is provided by the state government and consists of specialized services for patients referred from the primary health care through out-

Chapter Two: The Setting

patient and in-patient services of general hospitals for general medical, surgical, paediatric care and community health services. Within states, secondary health care is available at the district, divisional and zonal levels (Peterson and Obileye, 2002). Services such as laboratory, diagnostic, blood banks, rehabilitation and physiotherapy are also provided. Some state governments also provide tertiary care through state-owned teaching hospitals. At the state level, multiple bodies can be involved in human resource management. These include the local government, the state PHC agency and the Local Government Service Commission. This system leads to unclear and duplicated responsibilities.

Tertiary health care is provided by the National Federal Government through federal medical centres, teaching hospitals and other specialist hospitals. They provide care for specific diseases conditions e.g orthopaedic. However, the Federal Government of Nigeria through the Federal Ministry of Health also delivers the immunisation programme (NIP/UNICEF, 1995).

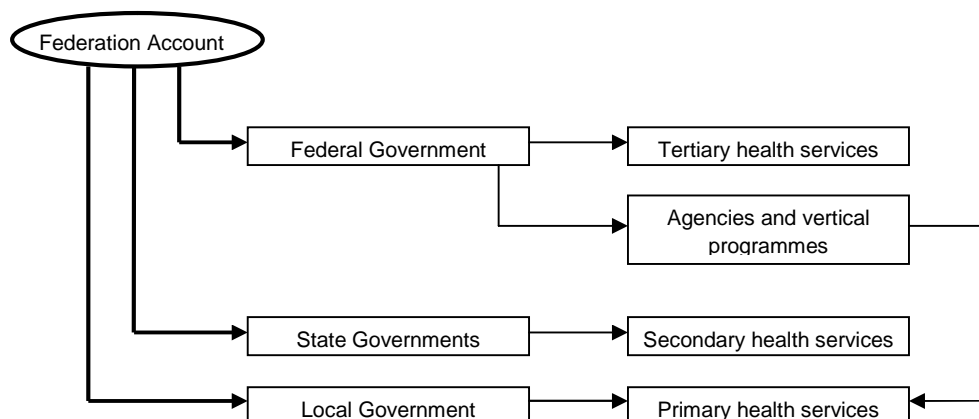
Primary health care is funded through user fees (out-of-pocket payment) and is the most common form of private and public care. User fees are the single largest source of funds for the health services in Nigeria (FMOH, 2005). Nigeria has one of the highest levels of user fees in Africa at 65% (PATHS 2010). Global budgets are provided by the federal government to primary health centres and are complemented by the user fees. According to Jegede (2005), the Nigerian health system copied that of the American health system, user fee approach. In contrast to the social welfare approach in Britain, the health service in Nigeria is a capitalist venture. As such, health services in Nigeria mainly provide for those who can afford it. User fees payments are known to be the

Chapter Two: The Setting

major hindrance to the utilization of health care services (Lurie et al 1995; Iyun 1994; PATHS, 2010)

The National Health Insurance Scheme (NHIS) is a new insurance strategy in Nigeria and is complemented by private insurance. The NHIS currently covers federal government public servants but leaves out those working in other sectors, which significantly disadvantages rural dwellers. The government introduced NHIS as an alternate source of funding for the increasingly costly health care system in Nigeria (Sanusi and Awe, 2009). The government intends to expand the NHIS to cover other non-formal sectors using the Community Based Health Insurance (CBHI) scheme. This should help to reduce user fees and improve cost recovery (Onwujekwe *et al* 2010). It is thought that it could be the best model for non-formal and rural sectors where income is unstable. Other payment strategies commonly used in villages for private care (traditional) involve payment-in-kind and deferred payment, particularly in patent medicine stores (Onwujekwe, 2005; Adetunji, 1991).

Figure 2.2: The flow of government funding to Nigeria's health system



Source: NPI 2005

Chapter Two: The Setting

Figure 2.2 shows the flow of funding from the Federation Account through to federal, state and local government. The federal government distributes funds to tertiary health services like teaching hospitals and to federal agencies like National Agency for Food and Drug Administration and Control (NAFDAC) and the National Programme for Immunization (NPI). The state government distributes funds to general hospitals. Local government provides funds to primary health centres. In 1999, there were 16 programmes, 11 agencies and departments and 14 different policies and strategies to address particular issues at the federal level.

Other providers of health care are private, faith based services and health care facilities. Private health providers are heterogeneous and they range from patent medicines vendors, pharmacies, dental and medical clinics up to tertiary hospitals. While most of these providers are registered there are also unregistered clinics, drugs shops and numerous drug sellers. Most of the private owned health facilities are profit driven except those which are faith based and other non-governmental organization. The Christian Association of Nigeria (CHAN) is the umbrella organization for church-sponsored health care programmes. It has around 400 registered member institutions throughout Nigeria that provide services through some 3,500 health facilities, ranging from hospitals and PHC programmes to outreach programmes (CHAN, 2004).

In Eungu State in Nigeria, it is known that the mission provided the majority of health care services. Health delivery in the public sector is obstructed by bureaucracy but the cost of using private health services is high and only a small fraction of the population can afford it. People are not satisfied with either private or public health services (FMOH, 2005).

Chapter Two: The Setting

Nigeria has made efforts towards attaining the Millennium Development Goals (MDGs). The 2006 MDGs report states that Nigeria may reach targets related to universal primary education, environmental sustainability, combating HIV and fostering a global partnership for development. However, progress has been slow towards eradicating extreme poverty. Nigeria is committed to the MDGs, and has made such goals the basis of the National Economic Empowerment and Developmental Strategy (NEEDs), which was set up by the President.

The three levels of government have problems with their different roles which frequently overlap. This has made the management of the health sector difficult and has slowed the development of an effective public health care system (Adetokunbo, 2008; FMOH, 2005). Despite each LGA having a primary care co-ordinator, communication and co-ordination between the different levels of service provision is poorly developed and little data is available for planning purposes and management (DFID, 2005). Many of the health facilities in the public sector are poorly equipped, irregularly maintained and receive only erratic supplies. There is a shortage of well trained medical specialists and the system suffers from an uneven distribution of health personnel (PATHS, 2010).

The Directorate of Food, Road and Rural infrastructure (DFRFRI) showed in 1987 that Nigeria had 100,000 villages being served by 10,711 health establishments at the primary health care level (Owumi and Jegede, 1991). This ratio is even more pronounced today, as many have been closed down owing to a lack of funding. Only 66% of Nigerians have been found to have access to health care services, 85% of whom are urban dwellers and 62% of whom live in rural areas. This stands in contrast to China

Chapter Two: The Setting

where urban accessibility to health care services stands at 100% and rural access at 88%.

There is no uniform system of traditional medicine in Nigeria although it is widely practiced. According to the National Health Policy local health authorities are encouraged to seek the collaboration of the traditional practitioners where applicable in promoting their health programmes. They are also to be trained to improve their skill and cooperation. Very little progress has been made in practice (NHP, 2005).

2.11 TRADITIONAL HEALTH PRACTITIONERS

A traditional healer is a person who is recognized by the community in which he or she lives as a competent provider of health care. Using methods based on their social, cultural and religious environment, they may utilise a range of substances derived from both organic and inorganic source. Practitioners make use of the knowledge, attitudes and beliefs prevalent in the community regarding physical, mental and social well-being and the causation of diseases and disability (WHO, 1978). In Kleinman's definition of arenas of care, traditional healers fall within the 'folk sector'.

Traditional healers live amongst the people they treat and share many of the basic concepts about health and illness, how they are caused and methods of treatment (Helman, 2001; Nyamwaya, 1987). It has been estimated that over 80% of the population in Sub-Saharan Africa use the services of traditional healers. Their approach is thought to be holistic, culturally acceptable and takes all aspects of patients lives into consideration. This includes a client's relations with other people, the natural environment and supernatural forces as well as physical and emotional symptoms (Odebiyi, 1989; Stekelenburg, 2005). The holistic nature of traditional health care has

Chapter Two: The Setting

led to it being described as health care that meets the needs of the people, for the people and by the people.

Traditional healers are often the first point of call in terms of seeking out health care and they play an important role in care giving. They are usually more readily available than biomedical health care (Akepe, *et al*, 2001) and more acceptable (Ademuwagun, 1997). Sometimes, however, their care and instructions can be harmful although well meant. Patients, for example, with certain illnesses which are thought to be cured only by traditional healers are not taken to health centres. In a study carried out in Burkina Faso, children with convulsions (degedege) are forbidden from being taken to the hospital because it is believed that the disease is caused by an evil bird which hospital treatment will not cure it (Beiersmann *et al*, 2007; Mwenesi *et al*, 1996). People tend to construct explanations based on beliefs embedded in their social construction of illness causation.

Yoruba traditional healers are also thought to be holistic in their methods because they are concerned with healing the physical ailments of patients in addition to ensuring patients spiritual healing (Taye, 2009). In Nigeria, traditional healers believe that certain diseases are caused by natural triggers within the environment whilst others may be caused by gods or the breaking of taboos. Dysentery is believed to be caused by dirt or a faulty diet, consequently food that is believed to induce stomach irritation will be forbidden. Smallpox and measles are believed to be caused by the angry god of 'Soponna'; as such food items associated with that god will be used for worship (Odebiyi, 1989). Diseases can also be attributed to the breaking of social taboos. The Igbos of Nigeria believed that if the ancestors are not accorded appropriate burial and occasional sacrifice they can bring ill health and misfortune (Oke 1982). Diarrhoea and

Chapter Two: The Setting

dehydration are popularly thought to be symptoms of folk illnesses and are popularly treated as such. These are diseases that are thought to be caused by hexing or the breaking of taboos and need to be treated by herbalists, faith healers and diviners.

Traditional medicine encompasses various ways of healing using medicinal plants, animal products and minerals. In Nigeria, the Yorubas believe that illnesses and injuries are attributed to human agencies and supernatural agencies. It is believed that a disease can be caused by poisoning a person's food or by the poison being sent by supernatural means (Durodola, 1986). Most human agencies as causes of diseases also carry some element of the supernatural. Examples include illnesses caused by witchcraft, taboo violations, rivalry and jealousy. Illnesses and diseases thus have spiritual and physical dimensions that require treatment. The former may include the use of charms, prayers, sacrifice, incantations and divination, while the latter may involve the use of leaves, barks, roots or animal parts. Training is normally given within families, or through apprenticeships which can last between one year to twenty five years. In a study carried out by Kahili (2004), she reports that traditional healers were not too happy about those using their knowledge to do evil, and would like them to be weeded out.

2.11.1 TRADITIONAL BIRTH ATTENDANTS (TBA)

Traditional birth attendants (TBA) are mostly middle aged women or older, with a wealth of experience of pregnancy and childbirth. They know how to diagnose and confirm pregnancy, and how to determine the position of the foetus. About 60% of births worldwide are thought to be delivered by TBAs (Tella, 1992). This figure is

Chapter Two: The Setting

thought to be higher in rural areas and lower in urban areas. In Africa, the delivery is usually accompanied by the use of herbal mixtures and incantations (UN, 1995).

According to Jancloes (1984), although some women have had to go from TBAs back to the hospital in the case of complications at childbirth, the majority of women especially in rural areas still prefer to use TBAs because they are accessible, familiar and comforting. Rituals are sometimes performed and several precautions taken to ensure that both mother and child are protected. Precautions include making incisions on the baby, and giving the baby an amulet to wear either as a waist band or bracelet for protection.

In some cases when a woman is having difficulty delivering a baby in the Yoruba land, the TBA will try to aid the delivery of the baby by giving the mother a pestle covered in palm oil to lick or alternatively may put the husband's hat or cap on the mother's head to facilitate delivery (personal communication). TBAs are an important link too for women and girls in the community. According to Kuteyi-Abioye *et al* (2001), in a study carried out in Nigeria, 50% of the clients interviewed had used a TBA for all their deliveries and 49% would recommend a TBA to other women.

2.11.2 HERBALISTS

Herbalists mainly use medicinal herbs or parts of plants such as roots, stems, leaves, bark, flowers and seeds. Sometimes they use parts of animals or a whole animal and may employ divination in difficult cases. In Nigeria there are both male and female herbalists (Okeke, *et al*, 2005). According to Mclean (1969), incantations of praise names (oriki) are recited when collecting plant ingredients, a practice believed to make

Chapter Two: The Setting

them more effective. Herbalism is sometimes considered to be close to modern medicine, with herbalists being likened to general practitioners (Maclean, 1969).

Similarly, Adesina (2009) argues herbalists in Nigeria function as pharmacists, nurses and doctors all in one. Herbs are used to ‘counter’ illness. Indeed herbs form the basis of many biomedical medicines eg aspirin and digitalis (Stekelenburg *et al* 2005). Preparation can take different forms. Some come as powders which can be swallowed and taken with food or drink. Others need to be soaked in water or alcohol or kneaded and pounded with native soap to be used for bathing. Some preparations come in the form of pastes or ointment, whilst others can be used as part of an enema (Gottlieb, 2004).

Traditional health practitioners combine knowledge of ordinary pharmaceutical properties of herbs and shared cultural views of disease in the society, with modern skills and techniques in preserving and processing them (Khalil, 2004). Herbalists in Nigeria have been advised to register their herbal preparations with the Nigerian Agency for Food and Drug Administration and Control (NAFDAC). One such herbal product is popularly advertised on the television as YEMKEM International. It is hygienically packaged, and is sold both in tablets and syrup forms with accompanying labels to show the herbal’s ingredients and recommended dosages.

2.11.3 BONE SETTERS

Bone setters are knowledgeable in the art of bone setting in the traditional way. They look after injured bones as they set, knit together and heal. Some bonesetters traditionally break the leg of a chicken, and treat it alongside the patient. They claim that the patient’s bone will be fully healed by the time the chicken is able to use its leg

Chapter Two: The Setting

normally (Tella, 1992). Natural plants and leaves are often used. A hot application of peppers is used to reduce inflammation, while bamboo is used to immobilise the affected limbs, and banana stem fibre is used as a bandage.

Deformities and abnormally shaped limbs following the work of a setter are rare, but it is unclear how widespread the use of setters is. According to Omololu *et al* (2008), 85% of patients with fractures in Nigeria present to bonesetters before going to hospital. In contrast in a study carried out in the north central region of Nigeria, over 70% of the people would rather go through orthodox methods of treating bone fracture, and only 9.9% would prefer going to a bonesetter. This study shows that in this region of Nigeria bonesetters are not readily visited (Alonge *et al*, 2008)

2.11.4 TRADITIONAL SURGEONS

Traditional surgeons carry out simple surgical operations like female and male circumcision. They are also known for the cutting of tribal marks, removal of whitlow, piercing of ears and leg amputation.

2.11.5 TRADITIONAL PHARMACISTS

Traditional pharmacists are usually women and are found in most Yoruba markets selling various herbal remedies and concoctions. They sell leaves, barks, fruits and various parts of mammals, birds, reptiles and molluscs usually in dried forms. They also sell inorganic substances such as potash and sulphur which form components of different remedies. These women have the knowledge and prepare herbal remedies like (*agbo giri*) for convulsion or (*agbo iba*) for malaria. They can prepare it on request or sell the ingredients, giving information about preparation and dosage (Oyebola, 1980).

2.11.6 FAITH HEALERS

Faith healers operate from temples or churches or candles shops. They deal with illnesses that are believed to be caused by hexing or divine punishments. They use holy water and prayer session to cure patients. In a study carried out in South Africa, 62% of participants took their children to faith healers or prophets and reported experiencing good results, believing their faith had worked (Preez, 2009). Many pregnant women also deliver in churches, where church midwives help during delivery.

2.11.7 TRADITIONAL PSYCHIATRIST

Traditional psychiatrists care for mania. Treatment for people who are violent commonly involves a restriction or chaining of the patient to iron or wooden shackles. Treatment is usually very long (Adesina, 2009).

2.11.8 DIVINERS

Diviners are considered to be superior to other traditional practitioners because of their knowledge of the supernatural and spirit world (Peace, 1989). They specialize in the diagnosis of illness through divination. The craft is usually passed through families, though part of becoming a diviner depends on a visit by a spirit who teaches practitioners their skill. Similarities may be drawn to psychotherapists in as much as treatment sometimes involves searching a patient's web of personal relations for disturbances (Mclean, 1969). The Yoruba call them 'babalawo' (priest of the ifa), and they divine by throwing cowries or kola nuts and communicate with the oracle spirit (*ifa*) to ascertain the causes of illness or misfortune. In Nigeria, they are usually men but in South Africa it is common for them to be women (*isangomas*).

Chapter Two: The Setting

Yoruba mothers are known to take their children to diviners for supernatural protection. Following a child birth *ifa* is consulted to find out if the child will be successful and how to ensure its safety. This could involve taking different herbal infusions or wearing of different bands (Falola and Olu, 1994).

According to Okeke *et al*, (2005), 70% to 80% of the Nigerian population depend mainly on traditional healers for their ailments. Because of this, Akpede *et al*, (2001) asserted that they play an important role in health care delivery. On the other hand Dambisya and Tindimwebwa (2003), in their study carried out in South Africa found that most admissions and deaths of neonates and infants before the age six months was due to herbal intoxication.

Similarly in another study in Uganda by Accorsi *et al*, (2003) the practice of *ebino* and *tea-tea* performed mostly by traditional healers (77.6%) left 28 children dead, 13 of the deaths occurred within 48 hours of admission. During a four week period, children who attended the clinic were examined for missing primary canine teeth (*ebino*) and cuts in the chest (*tea-tea*). *Ebino* is the traditional method of extracting the primary canine to stop children from having diarrhoea and vomiting believed to be associated with teething. This operation is usually carried out with an unclean instrument and performed when the child is between five to seven months old and increases their chances of contracting their first attack of malaria, pneumonia or enteritis. This further compromises their already weakened body. Likewise *tea-tea* also has similar effects. Cuts are made on the chest of the child when the child has difficulty in breathing due to respiratory infection, anaemia or malaria.

Chapter Two: The Setting

According to Green (1985) in his study in Swaziland, traditional healers were found to refer cases to health centres for further treatment. This is in contrast to the study carried out in Nigeria where traditional healers have been found not to refer patients to health facilities because they believe in the efficacy of their herbal remedies (Okeke *et al*, 2005).

In Nigeria, the Traditional Medicine Board has been integrated with the biomedical health structure at the state level under the Ministry of Health and Traditional Medicine Board to monitor the activities of practitioners. How this will integrate with the health care delivery system has still not been explained.

Attempts have been made in numerous countries to incorporate various aspects of traditional medicine into official health care systems. In Ghana, traditional birth attendants and indigenous healers have been used to promote health education. In Sierra Leone where 70% of births take place with a traditional birth attendant, the government has trained these women in antenatal care and delivery. Similar training has taken place in Sudan and Swaziland (WHO, 1995)

Between 1984-1986, the Lagos State Board of Traditional Medicine trained traditional herbalists in the community distribution of contraceptives and in the prevention and promotion of various aspects of primary health care. This indicated some level of collaboration between the bio medical health system and the traditional practitioners though some would argue that this has been a very slow process. In South Africa, there has been a move to regulate traditional medicine as part of the formal health care system. A Traditional Practitioners Act was set up in South Africa, to

Chapter Two: The Setting

provide a regulatory framework to ensure the safety, quality and efficacy of traditional health care services.

2.12 WOMEN IN NIGERIA

During the pre-colonial era, many of Africa's famous rulers and great warriors were women. These women include the Inkpi of Igala, Queen Mother of the Ashanti (Ghana), the Edo (Benin Nigeria) and the Daura of the Hausa. Yoruba society is mainly patrilineal, and while women did not normally become the head of a lineage they still held complementary roles to men. While Yoruba women were not associated with political power like men they had channels of direct participation in the process (Awe, 1977). The Iyalode 'mothers in charge of external affairs' as these women were called, historically exercised economic and political power in the pre-colonial Nigeria. They engaged in discussions and decisions making processes in their respective towns.

In the pre-colonial era, women in Sub-Saharan Africa, especially Yoruba women, held important and influential roles like queen mothers and queen sisters unlike their counterparts in other parts of Africa. There were occasional female warriors who were also involved in trade, farming and craft production (Sudarkasa, 1986). Alafin of Oyo had officials termed Royal Mothers and Royal Priestesses in his palace who exerted a strong influence over him through their symbolic proximity to *Sango*, the god of thunder and the official religious cult of the kingdom.

Female husbands existed then as a practice which involved a female 'marrying' a wife or wives, who expanded the household by bearing children by having lovers. Most of the women in these types of arrangements had been through bad experiences from previous marriages. This institution gave women favourable positions for acquiring wealth and authority (Amadiume, 1987; Ekejiuba, 2005).

Chapter Two: The Setting

In indigenous Nigerian societies, especially amongst the Yoruba, a woman was supposed to provide for her family, which necessitated the need of financial independence (Rojas 1990; Onayemi, 2007). These women were able to achieve great status because their work was considered complementary to that of men's, which meant that through this support system, they were able to gain both economic and financial status.

The roles and status of women changed drastically when Nigeria became a colony. The colonialists considered men to be superior to women so they expected African men to do the same and have some degree of control over their women. They thought a woman with financial freedom would not respect her husband and his family. As Western values gained ground, gradually power was usurped from these women who lost their traditional rights. Women were relegated to the background of public life. Religion was also used to control women. Legislation was enacted which dictated and restricted their lifestyles including their sexuality and fertility.

Consequently, domestic duties were devolved to women, combining the roles of wife, mother and housekeeper. Women had the responsibility of taking care of the children. Nowadays, women are the managers of the home and their many chores include providing food, water and education. The responsibility of caring for their children falls to them, and their capacity to manage illnesses and the health of their children determines if a child will live or die (Leslie, *et al*, 1991).

Women are known to grow 80% of the total crops grown in Africa. In Nigeria, women play a dominant role in agriculture, making up 60-80% of the agricultural labour force and produce two-thirds of its food crops (World Bank, 2009). On average

Chapter Two: The Setting

rural women work four to eight more hours per day than rural men and they often sell cooked food and snacks on the streets with their children. Robson (2006) argues that these women use this as a form of securing monetary payments from the men for their normal role of cooking.

Women continue to be disadvantaged in other areas like education due to social, cultural and economic biases in the African environment. According to the 2003 NDHS, only 44% of women in Nigeria are literate compared to 67% of men. Boys are more educated than girls who are given away in marriage at a very young age. The school dropout rates are thus higher for girls than boys. Nigerian women have no legal rights and do not own the land they cultivate, have little control over family finances and only a paltry role in decision making as it is ordinarily dominated by older men (SIGI, 2009).

2.13 STUDY AREA WITHIN NIGERIA

2.13.1 Northern Nigeria

Nigeria is divided into six geo political zones and the three northern zones are the North East, North West and North Central. There are 20 northern states, 7 in the North Central and 13 States in North East and North West. It has been estimated that 53% of the population of Nigeria live in this area. Generally, the health status of people living in the northern parts of the country is worse than the health status of people living in the southern regions.

While the northern regions have significant differences culturally, ethnically, linguistically and in terms of gender relations, other shared factors make them more closely aligned than other regions of the country. These factors include the prevalence

Chapter Two: The Setting

of Islam, the dominance of Hausa as a means of communication, low population density and the predominance of rural settlements within a wider context of rural poverty (USAID 2010). Sharia legal codes have been introduced in ten of the core northern states which has led to civil unrest in these parts. In July of 2009, the militant fundamentalist group Boko Harim killed over 150 people and destroyed properties in Borno State, spreading violence to other northern states. The group was opposed to the adoption of Western values and wanted to impose strict Islamic law. Following clashes with the Nigerian army, the total number of people killed increased to 600. They have been referred to as the Nigerian Taliban (Mc Connell, 2009; Njaduara, 2009; Boyle, 2009)

Poverty in the north of the country is worse than in the south. Nomads in northern Nigeria seldom settle and the educated population is small in comparison to other parts of the country. The south is more urban and has higher levels of education. The northwest zone's highest poverty rates stand at 77% which is 44% higher than in the south east zone. Poverty rates in the north east and north central are 70% and 65% respectively, which are higher than rates in the south.

2.13.2 Northern Context of Child Mortality

The gap between the north, especially the core north and the rest of the country has widened significantly. Child and infant mortality rates are higher in Nigeria's northern parts than in its southern parts. The 2003 NDHS reports that under-five mortality in the north stands at 269 per 1000 births, while the southern rate at 103 per 1000. The 2007 UNICEF Multiple Indicator Cluster Survey (MICS) reported infant mortality at 64/1000 live births and 101 /1000 live births in the south west and north

Chapter Two: The Setting

west zones respectively. The northern zone also lies within the spinal meningitis half of Africa and cyclic outbreaks are common occurrences (Ochiawura 2002).

Malnutrition is another leading cause of mortality in the northern region. The rate of low birth weights and childhood malnutrition is highest in the northern states. The greatest incidences of stunting, wasting and underweight children are found in this region. Access to and utilization of child health services is very limited. Immunization coverage is low for all childhood diseases especially for polio.

It was from this region in Nigeria that the polio virus re-infected surrounding countries in Africa that used to be polio free. Immunization was halted in the region in 2003 for about a year because of rumours that the vaccine sterilized Muslim girls (UNICEF 2004, Renne, 2006). These figures posed the highest risk to the end-2004 target for the global eradication of polio (UNICEF, 2004). Another big outbreak of polio occurred in 2008 and was described as putting world polio eradication at risk.

2.14 DONORS AND PARTNERS

The Nigerian government enjoys the goodwill of many international donors and partners in the area of maternal and child health. For example it was reported in one of the Nigerian daily papers that in 2007 UNICEF gave a grant of 940 million naira (\$80million) in support of child survival programmes in Nigeria (Onwuka, 2008). There was a decline in public funding between 1980 and 1990, during which time the health sector became highly dependent on donor funding and development partners such as the WHO, the World Bank, African Development, USAID, UNICEF, and the Department for international Development (DFID).

Chapter Two: The Setting

Other partners that contribute to child survival in Nigeria include the Interagency Coordinating Committee (ICC) for the polio eradication initiative and routine immunization with Rotary International and the Canadian and Japanese government. Other sources of funding include the Bill and Melinda Gates Foundation and the Global Alliance on Vaccine and Immunization (GAVI).

2.15 DESCRIPTION OF STUDY AREA: STATE PROFILE

2.15.1 HISTORY

This study was carried out in a village in Kwara State in North Central Nigeria. In the pre-colonial times, Ilorin the state capital was an Oyo provincial town which came under the rule of the Fulani rulers in 1820 and as a result became part of Northern Nigeria. Kwara State has a population of about 1.5million (1991 census) and officially came into existence on the 27th of May, 1967. The creation of the state occurred when the then Military Head of the State Government broke up the Federation of Nigeria's four regions into 12 States. At inception the state was known as central west state, but it was later changed to "Kwara", a named derived from the local name of the River Niger in some parts of the state. The state is located in the North Central geo-political zone of Nigeria, which is made up of five states namely, Kwara State, Kogi State, Nasarawa State, Niger State and Benue State. Due to its geographic location Kwara State is referred to as the "gateway" between the north and south of the Country (KWG, 2010).

The state was carved out of the former Ilorin and Kabba Provinces in the defunct Northern Region of Nigeria. It has become smaller since its inception when the Idah/Dekina parts of the state were merged with a part of former Benue/Plateau State. In 1991, five LGAs formed part of Kogi State while the Borgu Local Government Area

Chapter Two: The Setting

was merged with Niger State. The state capital Ilorin lies 306 kilometres northeast of Lagos and 500 kilometres south west of Abuja (Nigeria's capital). The State shares boundaries with Ekiti, Oyo, Osun, Kogi and Niger State with a population of about 1.5 million and is made up of four main groups namely Yoruba, Nupe, Fulani and Baruba. There are 16 Local Government Areas in the state.

2.15.2 GEOGRAPHY

The land form is mainly made up of undulating hills, valleys and plains which are traversed by the Niger River and its tributaries. There are two main seasons: dry and wet with an intervening cold and dry (*harmattan*) period from December to January. The wet season lasts between March and October. The natural vegetation consists broadly of rain forest and wooded savannah and grassland. The annual rainfall ranges between 1,000-1500 mms, and maximum temperatures range between 30C and 35C, which is suitable for a variety of food crops like yams, beans, maize, rice, sugarcane, vegetables and fruits. In some parts of the state the vegetation is suited for rearing livestock.

2.15.3 LOCAL GOVERNMENT AREA

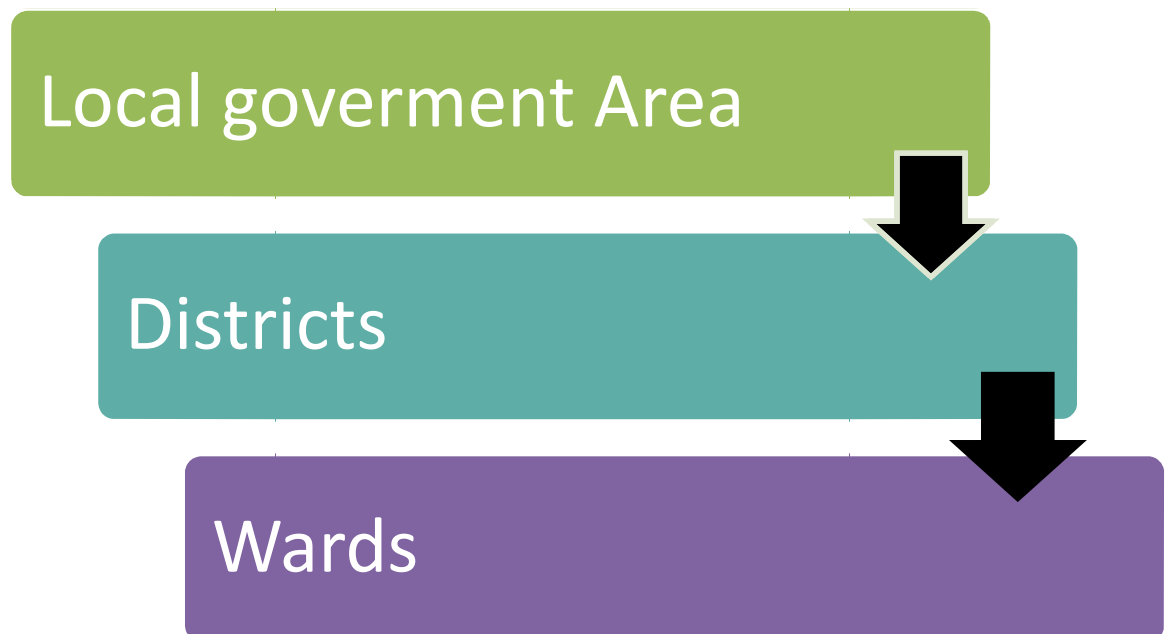
Y village in which the research took place can be found in Q Local Government Area which was established in 1976. It is about 400 sq kilometres in area with a population of about 206,042 (2005 Census) with 106,056 registered males and 99,986 females. This Local Government Area was formed from the defunct Igomina and Ekiti division of Kwara State as a result of the 1976 local government reforms. It is about 72 kilometres from the state capital. The Local Government Area is believed to be the largest and one of the oldest in the country.

Chapter Two: The Setting

There are 9 Districts and 18 geo political wards in the Local Government Area. The village where the study took place is in Idofian district. Idofian district is subdivided into two wards, Idofian I and Idofian II.

Geographically, the Local Government has 400 towns with numerous scattered villages. It is believed that people living in Q migrated from Ile-Ife and Oyo, the cradle of Yoruba land. They are mainly Yoruba subsistence farmers and traders. People in this area are predominately Muslim but they are also polytheistic.

Figure 2.3: Local Government division



2.16 LOCAL GOVERNMENT HEALTH CARE DELIVERY

LGAs are charged with the delivery of most local public services along with the State government. They are entitled to statutory revenue allocation from both the state and the national federal government for the discharge of their duties (World Bank, 2002). These three tiers of government are responsible for various aspects of health care provision.

In 2000, the health system in Nigeria was rated at 187th out of the 191 member nations (Kannegiesser, 2009). The revised National Health Policy identified the LGAs as the main implementer of primary health care policies and programmes (Adeniyi *et al*, 2001). The federal Ministry of Health is responsible for formulating policies for monitoring and evaluation while the state government is responsible for providing logistical support to the LGAs. The LGAs are responsible for the provision of health care at the primary level with the support of the state Ministries of Health, within the national health policy (Gupta *et al*, 2003). According to the World Bank (2010) there is no single agency or level in charge of financing, managing, supervising, building and maintaining facilities, which therefore creates gaps and duplications in provision. In some states the local government needs clearance from the state government to spend above a certain threshold.

A study of the Ife local government showed that primary health care (PHC) is meant to be accessible to individuals and families in the community, but the role of the community was in practice often ignored and policies was frequently not fully implemented. Furthermore, the premise of PHC was never really understood and the

Chapter Two: The Setting

referral system from primary to tertiary care was ineffective with no clear definition of roles (Adetokunbo, 2008).

Although, the local government has the greatest responsibility, the funding it receives is less than the state receives, where the burden of disease is less (Dare, 2008). Health care delivery at the LGA is headed by a Health Supervisor, while the PHC is headed by the PHC co-ordinator and assisted by a deputy co-ordinator. The PHC co-ordinator reports to the LGA secretary. The three levels of operation of PHC in LGAs are at the village, district and the local government levels (Khemani, 2005).

The primary health care system and facilities which serve the local communities are organised, managed and planned by the village health committees at the village level. Facilities at the village level include the health posts and primary health centres. A health post is staffed by a junior paramedic or attendant guards, an assistant and community extension workers and is supplied with most basic amenities used to treat minor ailments and provide first aid. Primary health care centres are larger with more staff and amenities. Each primary health centre is headed by a Chief Health Officer (CHO), who works with the community health extension workers (CHEW), nurses, midwives and a visiting doctor. There are two-way referrals from the Federal Teaching Hospital through to the health posts.

The Ward Health System (WHS) was introduced in 2000, to ensure that that health services coincide with political wards.

Table 2.3: Public sector health system service level

Facility	Administrative level	Level of Care	Catchments population
Specialized/teaching hospital	Federal	Tertiary	-
Federal hospital	Federal	Tertiary	-
General hospital	State	Secondary	500,000
Comprehensive primary health centre	LGA	Primary	50,000-100,000
Primary health centre	Ward	Primary	10,000-20,000
Health clinic/health post	Community	Primary	500-3,500

Source NPH 2005

In practise the health posts recorded in the table, which are also called dispensaries, no longer exist in most states and have replaced with the Basic health centres. Officially, there is supposed to be one primary health centre in each ward, although one ward can have several PHC centres based on settlement areas, population or existing facilities. Comprehensive health centres are meant to take referrals from all PHC centres in the same LGA. They offer limited surgical services, although in practice they function as general state hospitals.

Table 2.4: Local Government Area health facilities

Facilities	LGA	Village
Comprehensive health centre	1	-
Maternity centre	1	1
Primary health centre	2	-
Basic health centre	35	1
Health post	21	-
Mobile clinic	1	-

Source: Local Government Area

In the village in which this study is based there was only one basic health centre. Other facilities were absent although the health centre served as a maternity centre. The comprehensive health centre, of which the maternity centre is a part, is located in the headquarters of the local government area. Primary health centres are located in two of the districts. Health posts were dispensaries that used to be located in smaller villages with smaller population but they no longer exist. The mobile clinics too, no longer exist.

The referral system in operation in Nigeria is a two-way affair. Patients are referred from the lower to the higher facilities and from private to public health services. Higher public health service providers often view referrals from the private health services providers, especially the non-governmental services, with disapproval (FMOG, 2005). This might be because the non-governmental private service providers work mainly with the poor and therefore are not able to access the public health providers because of a lack of funds.

Chapter Two: The Setting

In a study carried out in Ilorin, Akande (2004) found that most referrals came from private hospitals. People by pass the lower levels of health care systems and go to the teaching hospitals because they lack confidence in the other levels of health care services and because referrals are not clearly defined. This has led to congestion of out-patients, longer waiting times and the misuse of highly trained professionals.

2.17 THE VILLAGE

The village in this particular study site was in a rural area. From the projection of a 1991 census, the population of the village as at 2009 should be 5559 (male), and 5193 (female); total population is 10,752 in 2009. It is an hour's drive from the main city. Most houses in the village are built with mud or clay and have thatched roofs built using traditional methods. A few houses are built with modern blocks such as the headman's house and the primary health centre. Kitchens are located outside the mud walls and built with thatched roofs and mud. The houses are usually without toilets, bathrooms or drainage. The bathrooms are constructed outside with aluminium sheets and other materials.

Older men are mostly farmers and younger men hunters. Women are predominantly housewives, farmers and traders with other duties including processing cassava into *gari* or cassava flower (*lafun*), and making soya bean cakes and black soap. As traders they may have a small kiosk in the front of the house (see appendix), selling food to passers by especially school children, whilst others are market women making and selling *gari*. Some women sell soya bean cakes in front of their houses. There is a major *gari* making industry located at the centre of the village, where women

Chapter Two: The Setting

congregate early in the morning to make *gari*. The main fuel for cooking is firewood. The processing of cassava tubers into *gari* takes place four to eight days after harvesting. After the cassava tubers are peeled, grated and squeezed in sacks, they are left to ferment for three to seven days. The process helps to reduce and detoxify its high cyanide content. It is then fried until crisp

The source of water is mainly from wells, with each neighbourhood sharing a well. Other sources of water supply are bore holes and a spring (Appendix 1). The only tarred road in the village is the main road that passes through the village and connects the village with the city and other areas. Electricity in the village is erratic. Villagers may go for days without electricity as the only transformer is unreliable. There are about three rubbish sites around the village and a strong smell of cassava residue and waste accumulation hangs around the area

People live in large compounds. Upon marriage women move into their husband's compounds and live with their mothers-in-law, their husband's brothers and their wives. Some compounds also have daughter's mothers living with their daughters in their husband's compounds. Before giving birth young women sometimes move back into their parent's house or are sent to live with older relatives who have experience in caring for children. Because of the proximity of the village to the city, some people rent houses (called Face Me I Face You) with many unrelated families living in the same house. It is cheaper than travelling to the city for work.

The community has two health centres; Abiye private maternity was the first to be established in the village and it caters for pregnant women in and around the village,

Chapter Two: The Setting

the Basic Health Centre was initially a community effort before it was taken over by the Local Government.

There is little public transport and walking is the most common form of daily transport for most villagers. The market in the village, a popular and busy affair, takes place every five days, when people bring produce from their farms for sale, with people also coming from neighbouring villages. Women sell produce such as yams, beans cassava, gari, maize, and vegetables like tomato, okra and pepper.

Dividing their time between child care, subsistence farming and selling of foodstuffs, women fetch water and wood, and are responsible for looking after their husband's needs.

2.18 YORUBA POLYTHEISTIC RELIGION

The Yoruba people believe in the existence of the Supreme Being. The Supreme Being is believed to be responsible for the creation and maintenance of heaven and earth. He is mentioned in songs, proverbs and comes into day to day language. For example it is common to wish '*mo fi olorun sin o*', meaning 'May God go with you'. The Supreme Being is referred to in a number of ways, Ololumare (the origin of all that is), Eledaa (the creator) or Olorun (owner of heaven). Oludumare is seen as to have the final answer to all problems. Whatever problem he decides not to solve is therefore to be understood as having been sent on purpose (*Amuwa olorun*) and must be borne (Afolabi, 1966).

Awolalu (1979) argues that it is impossible for an indigenous Yoruba man to be an atheist. In popular Yoruba belief, God is too great to deal with directly, therefore hierarchies have been set up. Yoruba people often see the world as theocratic, the

Chapter Two: The Setting

Supreme Being, being the head, with deities acting as intermediaries between the Supreme Being and man. It is believed that deities or divinities are brought into being by the Supreme Being to act as servants. Yoruba religion is unique in that it is a combination of polytheism with the belief in one Supreme Being, as well as in deities who are believed to be responsible to the Supreme Being (Olodumare).

According to Peel (1968), the Supreme Being is not bothered with the world and there is no point in worshipping him. Idowu (2007) however argues that one of the attributes of the Supreme Being depicts as the saviour who comes to the aid of the helpless '*ogbigba ti ngba alailara*'. This means that the Supreme Being is interested in the affairs of mankind and will step in to intervene when there is trouble. The Supreme Being has been thought to be the same as the Christian God which allows for syncretism.

Some of the deities are primordial and are believed to have been with the Supreme Being before the creation of the earth of human beings and currently reside with the Supreme Being in heaven (*orun*). Others are ones that actually lived on earth (*aye*) in the past but disappeared to live with the Supreme Being in heaven. During their lifetime they could have been kings, queens or heroes (deified ancestor). All the deities are referred to as lesser gods (*Orisa*) of which there are many. The Yoruba attach importance to names and commonly honour these *Orisas*. The Yoruba are thought to have about four hundred and one *Orisas*. Families often have a deity particular to them which they may honour by using their names for their children or using it as family names which are still evident today. For example, names like Shangoyomi, (Shango delivered me) represents a family that worships Shango or Faleke (Ifa conquered) for a family that worships Orunmila. Shrines of these deities can be seen around Yoruba

Chapter Two: The Setting

land. In 1917 Pinnock said that the Yoruba people have the names of the Supreme Being and the lesser gods constantly on their lips so that one might suppose they are a 'religious race', adding that religion to the Yoruba people is an obsession.

Obatala or Orisa, is the arch-divinity of the Yoruba. This deity is believed to have been given the job of modelling human beings by the Supreme Being. He is believed to give children to mothers and to mould the shape of children in their mothers' womb. He is noted for his purity - food offered to him is usually cooked in shea-butter but never in palm oil.

Both Oduduwa and Obatala were thought to be involved in the creation, but Obatala was the older of the two. Oduduwa is the ancestor of the Yoruba's and worshiped as a male progenitor. Oduduwa was thought originally to come from somewhere to the east probably Mecca, whilst other myths saw it as a woman, the wife of Obatala. Esu is believed to be the special relations officer between heaven and earth, who is capable of doing both good and evil. Before other deities are worshiped the first morsel of meal is dedicated to it. Ogun is seen as both a deified ancestor and a primordial deity. Ogun is associated with clearing the ways or removing barriers, and is believed to be the divinity of iron and war. All those that use any form of iron in their trade are thought to worship Ogun including for example barbers, goldsmith, hunters, lorry drivers and butchers. Offerings of dogs and palm oil are used, also human beings were used. Human beings were used before human sacrifice was abolished (Burns, 1969).

Deified ancestors include Sango who was a king in Oyo. His worshipers do not eat ram and he is thought to be the god of thunder and lightning. Others are *Orisa-oko*,

Chapter Two: The Setting

goddess of farmland and agriculture and *Shopona* the god of smallpox, also referred to as *ile gbona* (hot earth). This is because epidemics of small pox are thought to occur during the dry season when it is hot and there is very little rainfall. Victims of smallpox are buried at the bank of rivers or thrown into a sacred forest designated for the purpose. Although, this deity does not prevent smallpox epidemics, it gives the Yoruba something to blame for deaths caused by smallpox (Panter-Brick, 1970).

Orunmila another primordial deity is believed to be able to plead with Olodumare on behalf of man to avert unpleasant circumstances. Believed to be gifted with knowledge and wisdom it is acknowledged to be the oracle divinity among the Yoruba. The oracle is divined through *Ifa*. Orunmila is believed to be next in line to Olodumare. Orunmila through *Ifa* is believed to be the one who interpreters the wishes of Olodumare through *Ifa* to mankind. *Ifa* is the most popular deity for divining among the Yoruba (Afolabi, 1966; Taye, 2009)

To divine, a Babalawo (priest), spreads divining powder on a divining board and brings out the *ikin* (sacred nuts), places them on the mat and taps on the tray to invoke the oracle spirit. This method is used in curing, alleviating and preventing diseases as well as restoring and preserving health. He makes use of herbs, tree barks, roots, animals, birds and bones during the process. When out collecting herbs, it is common for him not talk to anyone until he gets the herbs home. In that way the herbs are treated as sacred and as the possessors of mysterious powers (Forde, 1951).

Incantations sometimes accompany medicinal preparation and herbal concoctions (*agbo*), and can be carried in rings, waistbands, amulets, incisions and girdles. A great deal of power is attributed to these herbal preparations. After the

Chapter Two: The Setting

preparation, it is believed to be charged with power. Applications vary from the wearing of an amulet or ring to applying preparations using a black soap used for bathing, to incisions on body parts followed by incantations. The Yoruba believe that words spoken with charms have mysterious power. There are certain associated taboos which affect the efficiency and potency of treatment. The *babalowo* when preparing the medicine has to abstain from sexual intercourse and menstruating women have been known to make some medicine lose its potency (Adekson, 2003; Awolalu, 1979).

The Yoruba worship numerous animals which are identified with dead ancestors and are thus deemed to be harmless. Animals worshipped include monkeys, vultures, pythons and crocodiles. These animals must not be killed or eaten by the worshippers. Sometimes these animals can be seen around the dwelling of their worshippers. Children born into such households play with these animals without getting hurt. Twins are worshiped in Yoruba land, in contrast to other parts of Nigeria or West Africa where they are killed. They are worshipped either on an individual basis or by their mother and her family (Koster, 2003). A deity is designated for the worship of twins which is believed to be charged with the responsibility of taking care of twins. Interestingly, Yoruba people have more reported incidences of 'twin' births recorded than in any other tribe in the world. According to Koster (2003), Yoruba religion has been found to be able to assimilate other religion's doctrines because it is open and syncretistic.

Islam and Christianity are two religions that are popularly practiced by the Yoruba. Islam was spread during the mid 19th century by Hausa traders, spreading from the northern part of Nigeria. The *mallam* were wandering preachers who performed divinations, prepared medicine and spoke Arabic. Since then, the population of Muslims

Chapter Two: The Setting

has grown and the *mallams* still exist but are now localised (Koster, 2003; Peel, 1968). The *Afaas or mallams* are devout Muslims who engage in healing, they make sacrifices and use herbal remedies extensively. The practice is synergistic combining elements of Yoruba traditional religion with the orthodox dogma. They are very similar to the *babalawo* and differ in the instrument of divination - sand and board - and in their chosen language - Arabic.

Christianity came to the Yoruba around the same time as Islam during the 19th century. Christianly unlike Islam has different denominations, the orthodox mission included Catholic, Methodist, Baptist and Anglican and is thought to be very conservative compared to the Pentecostal churches or African Independent churches. There are many churches under this umbrella with new ones frequently springing up. The most popular church is the Yoruba aladura (owner of prayer). These churches include Cherubim and Seraphim, the church of the Lord, the Christ Apostolic, the Celestial Church of Christ and others (Oyebola, 1980).

Methods of healing include visioning and forceful prayers, the use of concrete symbols such as holy water, candles, holy oil and soaps into which special prayers have been said. This is sometimes combined with fasting as a form of therapy. Many Yoruba Christians and Muslims have been found to combine one of these religions with the Yoruba traditional religion though this practice is prohibited by Christianity and Islam. Only dogmatic Christians look down and hate the Yoruba traditional religion labelling it as evil and satanic.

2.19 YORUBA PEOPLE

The Yoruba are located in the tropical rain forest and guinea savannah zones of West Africa concentrating mainly in south-western Nigeria. Smaller groups are located in south-eastern Benin (formerly Dahomey) Togo and Ghana. Major subgroups in Nigeria include the Egba, Egbado, Ekiti, Igbomina, Ijebu, Ijesa, Ife, Kabba, Yagba Ondo, Owo and Oyo. Over 25 million people speak the Yoruba language making it one of the largest ethnic groups in Nigeria. Yoruba is a tonal language with three lexically distinctive tone levels: high, mid and low (Laniran and Clement, 2003). They are believed to be the largest cultural group in West Africa with a common history of political traditions.

The Yoruba people have one of the most highly developed crafts traditions in Africa that date back to the middle ages. They are believed to have migrated from the north-east in the 7th and 10th centuries. Yoruba myths traced their origin to Ile-Ife as their ancestral home while other myths pointed to Mecca or Egypt with the founding father believed to be Oduduwa. During the pre-colonial era in the 1780s, the Yoruba kingdom was made up of Oyo, Egba, Ketu and Jebu, and its political capital was Old Oyo. The *Alaafin* of Oyo was extremely powerful and ruled a kingdom larger than any northern emirate except the Sokoto and Kano. It was brought down by the Fulani of Ilorin in 1835. Many people fled to the south leading to the establishment of other states like Ilesa and Ibadan, a major Yoruba city (Lloyd, 1967).

Christian missionaries and other Europeans entered the country through Lagos, a Yoruba town and a major port in Nigeria. As such the Yoruba people were exposed to a greater degree of Westernization than any other group in Nigeria (Coleman, 1971). On

Chapter Two: The Setting

the other hand, during the slave era, the Yoruba ethnic group suffered more greatly at the hands of slave traders and were an important source of sale through Allada (Reid, 2004).

Yoruba people live in towns and villages in enclosed compounds usually made up of patrilineal groups sharing shrines, deities, praise songs, tribal marks and taboos. Most houses are traditional square buildings, with a traditional central compound and a back yard. Kings were selected from royal ancestry lineages and the markets were usually located close to a king's palace.

Marriage between blood relatives is not allowed among the Yoruba and marriages in the past were traditionally arranged. In the present day, marriages are not arranged but still influenced greatly by both families. Enquires are made discreetly regarding heredity diseases, debt, dishonesty and families with any of these traits in too great an amount are avoided. The *Ifa* oracle is often consulted in decision-making. While most first marriages follow this pattern, men are usually allowed to choose their second wife as polygamy is widely practiced. Men typically marry between the age of 25 and 30 and women between 17 and 25; this is in contrast to the Hausas who marry their girls in their early teenage years. The Yoruba place a large emphasis on a woman being a virgin before marriage. During the betrothal period the husband is required to provide both physical and financial support to the girl's family. The final presentation is called *liana* when the woman moves into her husband house's after the husband has provided more items and paid the bride price. With the advent of Islam and Christianity a ring, and either a Bible or Quran was added (Eades, 1980).

Chapter Two: The Setting

The Yoruba place a great deal of importance on a woman's fertility as such a woman who does not have a child is looked down upon and is seen to be less than a woman. She is treated like an outcast and considered not to be worth her bride price. The husband of a woman who is considered to be barren can traditionally and legitimately divorce her (Koster, 2003). Having children in Yoruba is equated to having a successful life. Children are also thought to bring happiness, status and economic security in old age. The importance attached to children is depicted in many of popular Yoruba sayings and proverbs. For example, children are the clothes of men *Omo l' aso eda* - this means children are the most valuable possession of a man and children like clothes, are what a man shows to the world. *Olomo lo ni aye*; this means that people that have children own the world.

Yoruba people in the northern part of Nigeria are mainly farmers. The farms are usually located far from their homes as the lands closer to the villages and towns has been exhausted, and they typically spend more days on the farm than in the town. Yam, maize and guinea corn are the staples; they also grow cassava, locust beans, millet, banana, cotton, sweet potatoes and onions. Crop rotation is practised.

Rural to urban migration is prevalent in the Ilorin region. It is common to see more older women and men in the village and few young adults especially men, as the latter tend to travel to Lagos or other major towns in search of better opportunities. This increasing emigration of youths has been said to be detrimental to the growth of agriculture in the region.

Religion does not tend to create inter-ethnic division among the Yoruba in the same way that it does among the Muslim Hausa. While conflicts are common between

Chapter Two: The Setting

Muslim Hausa and Christian Yoruba such conflicts do not occur within the Yoruba ethnic group. Yoruba will identify themselves as being Yoruba first before their religion.

2.20 THE POSITION OF WOMEN IN YORUBA

Yoruba women's life is centred on their families. Much has been said about their economic power but their economic responsibilities stem from their kin based responsibilities as mothers, wives and daughters. The patrilineal compounds into which a woman moves upon marriage and usually remains after her husband's death, houses the patriarch, his sons and their wives, as well as unmarried or divorced daughters. Family meetings and consultations remain common (Pearce, 1994). It has been argued that the conventional theoretical approach to the study of Yoruba social organization has not accounted for the constantly evolving aspect of Yoruba society (Eades, 1980).

For example, when women marry within the same town, they are able to maintain close ties with their own compounds and sometimes claim inheritance rights. They may also decide to move back to their compound after their husband's death and take their children with them. The children therefore grow up in their matrilineal home and may remain there. In addition, a view of patrilineages and matrilineages, it has been argued tends not to capture other forms of marriages that exist (Richard, 1971; Eades, 1980).

Within the patrilineage members are distinguished by their status to which the Yorubas remain very sensitive. Status distinctions include age and seniority. Men and boys prostrate and females kneel to their elders irrespective of their sex. There are no words in Yoruba for sister or brother, but '*egbon*', (elder sibling) and '*aburo*' (junior

Chapter Two: The Setting

sibling (Oyewumi, 1997). In patrilineages, women as sisters and daughters do not hold formal leadership positions but they do take part in lineage discussions and have more influence the older they get. Patrilineally related families form a large household or extended family called an *ile* (house). A larger aggregate of this, a body of houses or compounds is called *agbo ile* where a common head is recognised. These aggregations of families need not be from the same patrilineage and could sometimes also include strangers. This compound can be established away from the traditional patrilineal centre in larger towns. Relative's *ibaton* can be traced based on their patrilineage and distinguished by names, food taboos and occasionally facial scarification and deity worship (Peel, 1968; Forde 1951).

A woman who marries into a Yoruba patrilineage is expected to give birth to sons to ensure the future of the group. A woman's status in her own compound is defined by age, but her seniority in her husband house is defined by the order of marriage. Her position improves as she bears more children and ages, developing deeper relationships with older members of the patrilineage. She gains assistance from other wives *iyawo* which means she may be able to delegate housework in the compound to enable her to engage in other economic activities like trading. Compared with other tribes in Nigeria, Yoruba women have the best opportunities in terms of participating in other economic activities (Babatunde, 1985).

Nowadays, Yoruba women work outside the home to meet the responsibility placed on them as wives, mother, sisters and daughters. Yoruba women are expected to meet certain responsibilities similar to men like providing material, emotional and sometimes spiritual support to their brothers and sisters and other kin members. Trading

Chapter Two: The Setting

allows a woman to provide for her children, contribute to her lineages and maintain some financial independence from her husband.

While some researchers thought that Yoruba women were disadvantaged and oppressed by motherhood and patriarchy, Ekejiuba (2005) argues that her childhood experience of growing up in rural Nigeria contradicted this. She saw women as initiators of economic and developmental process.

2.21 SUMMARY

This chapter set out the wider setting of this thesis geographically, historically and socially. Nigeria is a country of ethnic and religious diversity, economic and social inequalities, with a past of political instability. The Yoruba village setting is rural, poor and Muslim and similar to many villages in the North central region. The following chapter addresses the methodology and the methods used in this thesis.

CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION

This chapter sets out the methodological approach and the research methods used in this thesis. This study explores the experiences, perceptions and the beliefs held by mothers and caregivers in relation to child mortality in Y, a rural Nigerian village. The study uses secondary analysis of quantitative data and primary qualitative data gathered through rapid ethnographic assessment using non-participant observation, interviews and some participatory techniques during a stay of eight months, between January and August of 2008. It was felt that qualitative methodology was appropriate because experiences and perceptions of mothers and caregivers are interpretative and based on an understanding of human behaviour in a social and material context. This study therefore draws from anthropology and epidemiology, and therefore uses a research involving mixed methods.

Qualitative research consists of an interpretive, naturalistic approach to the world (Denzin and Lincoln, 2003) for the purpose of gaining an understanding and description of emergent concepts and theories. It also provides a holistic view through knowledge which is gained through interpretivism which claims that “natural science methods are not appropriate for social investigation because the social world is not governed by regularities that hold law-like properties” (Snape and Spencer, 2003:23). An interpretive methods stands in contrast to positivism which suggests that knowledge can be acquired through carrying out independent, objective and value free social research (Snape and Spencer, 2003). Positivism is largely associated with quantitative research which investigates the social world through ‘scientific method’ making use of

hypothesis testing. The processes of sampling and generalization present in qualitative research tend to be inductive compared to deductive processes in quantitative research (Spicer, 2004; Mason, 2002; Bryman 2004).

Questionnaires present a certain degree of ease with which to collect data providing unambiguous and easy to count answers. On the other hand the pre-coded response choices that questionnaires present may not be fully comprehensive, and as some possible answers are left out, respondents may be left to choose answers that are either not suitable or not adequately representative of their views (Bowling, 2002; Sarantakos, 1998). Although large samples can be obtained in qualitative methodology, more emphasis is placed on smaller samples that can yield rich quantitative data. The following study does not involve a large sample size, but quantitative data on the region was used to inform its findings (Seale, 2004; Snape and Spencer, 2003; Pole and Lampard 2002).

3.2 QUALITATIVE RESEARCH METHODS

The choice of the research methods is influenced by the resources available and time within which the research questions could be answered. Patton (2002) explained that the methods to be selected for a study will largely depend on the research questions, the information needed to answer the question, the financial and human resources available and the extent to which the people in the community are accessible. The approach adopted in this study made it possible for mothers and caregivers to relate their experiences of child rearing and child mortality in their own way.

Chapter Three: Methodology

This research utilizes rapid ethnographic assessment (Beebe, 1995, Needle *et al* 2008, Bentley *et al* 1988,) involving a combination of methods such as focus group interviews, semi structured interviews and some participatory methods. It represents a refinement of the way social scientists have traditionally collected qualitative data in the field, which is ordinarily very time consuming. As Bernard (1995) puts it, one is simply going in and getting on with the job of data collection without spending months developing rapport. Beebe (1995) stresses the need to develop a preliminary understanding of the situation from the insider's perspective. This he said would lead to the understanding of how the local inhabitants of the culture being studied experience problems.

Gaining an insider's view is central to this study that is largely based on the 'emic' viewpoint of the participants. The 'emic' viewpoint focuses on looking at things through the lens of local voices, which is learned from members of the society (Beebe, 1995). This is in contrast to the etic perspective which focuses primarily on studying the society and drawing meaning through an external researcher's interpretation. Eliciting the insider's perspective, according to Beebe (2002) will make a project which uses ethnographic assessment more productive and will help answer a number of research questions effectively. A holistic balance between the two perspectives should give the study more validity. This research design makes it possible for less time to be spent in the field than a more traditional ethnographic study lasting a year or more (Hughes *et al*, 1995). It draws attention to a focused scope of information but in a holistic manner for the purpose of obtaining data to assist in problem solving and evaluation (Utarini *et al* 2001). In this design there is generally less ethnographic data and more reliance on interviews.

Chapter Three: Methodology

Anthropologists with long-term experience in health care research and planning have noted the need for a rapid process of gathering data which will help to resolve programmatic time and budgetary constraints (Bentley, *et al*, 1988). In a study carried out by Needle *et al* (2008) on HIV in South Africa, using rapid ethnographic assessment, he and his colleagues explained that it allowed for prompt collection of locally relevant data on specific beliefs, practices, relationships and other factors that influenced HIV among particular groups.

Rapid appraisal was initially used as a tool for rural development in agricultural farming in developing countries (Utarini *et al*, 1982, Beebe, 1995). Since then it has been applied in various other fields. Rapid ethnographic assessment just like other techniques of rapid appraisal in other fields is not a substitute to the long term research methods but rapid appraisal based on qualitative field work provides a good starting point from which to discover relationships within the system (Beebe, 1995). Although there is a limited amount of ethnographic involved in rapid ethnography, it employs a wide range of qualitative methods (Utarini *et al*, 2001).

Ethnographic fieldwork is used by anthropologists and sociologists and it involves the researcher's immersion in the people's daily lives for an extended period of time (Hammersley and Paul 2007). The ethnographic researcher is said to obtain an insider's view of a society to understand the other people's own world view, instead of an outsider's perspective (Taylor, 2002). They seek to study people in their natural environment, aiming to document the world in terms of the meaning and behaviour of the people they are studying (Walsh, 1998). Bernard (1995) describes it as a form of data gathering that describes a culture. The researcher conducting the project does so within the meaning in which he or she is already entangled. Some aspects of life of the

Chapter Three: Methodology

people being studied are investigated. It is expected that the initial interests and questions that motivated the research will be refined and transformed as the research progresses iteratively in the interpretative tradition.

This study uses a mixture of methods including focus group interviews and semi-structured interviews. Observation and open ended histories of the final illnesses of children who have died were also carried out, and were supplemented by the use of some participatory techniques such as transect walks through the village and participatory diagramming during group discussions. Snowballing was also used as a sampling method. Pope and May (1999) suggest that researchers often employ more than one method to collect data in order to obtain a valid, holistic and systematic picture when using an interpretative approach. The different methods result in triangulation to increase the validity and reliability of the study (Bernard, 1995).

Table 3.1: Qualitative Data Set

Methods	Number	Total Number of Women
Semi-structured group interview	9	63
Household interviews	12	27
Verbal account of child mortalities	7	15
Health care providers	3	3
Headman	1	1
Ethnographic Field work Observation in village clinic	72 days 15 sessions	7 month period
TOTAL	32 interviews	109 people

3.3 NEGOCIATING THE FIELD

3.3.1 ETHICS AND ACCESS

Ethics approval was given by the School of Health at Social Studies of the University of Warwick through the ethics procedure. Further approval was given by the Department of Planning, Research and Statistics of the Ministry of Health in Nigeria. The researcher visited the University in the State to find out if there were any ethical committees and was told there were none.

The choice of village was influenced by the close proximity to the main road for easy access and convenience. The village is about one hour's drive from the city, located in the biggest local government area in the state. The village is also a neutral site for me as I did not know anybody in the village prior to this study.

In the village, I was accompanied by health workers from the health centre to visit the two headmen (*Baales*) at different occasions during the course of the fieldwork and they were informed about the study.

Before commencing fieldwork an initial introduction was made by an intermediary key informant - a public health officer - who had the experience of working with women in village settings. After her introduction, I introduced myself and told the women what the study was about and explained the information sheet to them. I took time to do this slowly and allowed time for questions. I introduced myself as a researcher and stressed the fact that I was there to learn from them.

This approach chimes with Burgess (1982) who asserted in his work that a number of advantages could be gained from offering explanations since it might lead to discussions that could then be used as feedback. I explained about confidentiality and

Chapter Three: Methodology

anonymity. One of the health providers, the Alagbo woman, insisted that I use her actual name, however actual names will not be used in this thesis. I sought informed consent from the women before interviews commenced. I went around helping them fill in the form although some of them declined. Some of them did not feel comfortable about written informed consent forms but they gave their verbal consent and I reassured them that this was acceptable. I told them they did not have to answer any questions they did not want to, and that they could stop me at any time if they needed more clarification, and that they could withdraw at any time. After the discussions, I also gave opportunities for women to ask questions; this sometimes led to more discussion.

Interviews were tape recorded and transcripts were kept in a secured locked place. Furthermore actual names and addresses were held in confidence and were not revealed. Abbreviations or synonyms were used for confidentiality (Murphy, 1998). Because I realised that relating child mortality experiences could be traumatic for some women, I had earlier organised family networks through the key informant that could reach out to these women. In the end, I did not need this because although the women who were interviewed were sad, they were keen to talk about their experiences. Patton (1990) in his research on child abuse stated that most mothers appreciated the fact that they had the opportunity to tell their stories and share their feelings with a neutral, but interested listener.

3.3.2 ACCESSING THE FIELD

My application to be allowed to carry on fieldwork and data collection involved a great deal of bureaucracy, protocols and conditions. I visited the Ministry of Health in the State with my letter of introduction from the university, to inform them about my research, to seek permission and to find out if there was an ethical committee I could meet with. They said they do not give letters for research conducted in the state, and there was no ethical committee. I insisted I needed one because it was necessary for my research, they told me I had to see the Commissioner of Health for the State. It took a long time before I could see her due to the protocols and bureaucracy I had to follow. In the end, I had to team up with someone who said they would call her when the commissioner was around and I had to quickly come over. I saw her eventually after about two months and was duly referred to the Director of Planning, Research and Statistics. Before I got the letter the Director of Planning, Research and Statistics requested that I submitted a summary of the proposal which I did. Eventually it took me another four weeks to get the letter.

From there I went to X which is the headquarters of Q Local Government Area in which Y Village is located. It was from there that I was taken to the Y community health centre and introduced to the officers in charge of the Y village health centre. All this took me about six weeks.

The community is divided because of the presence of two headmen (*Baales*), claiming different parts of the village, one recognised (Y) and the other unrecognised (N). This is common to most villages in Nigeria. But it's only Y that is officially recognised by the state. The headman of Y is older and more traditional and has always lived in the community. The headman N is younger and is hardly around in the

Chapter Three: Methodology

community. The main thing that divided these two parts of the village is a major tarred road. This created a division between the people of the community with some discord and enmity between them. It was necessary for me to come from a very neutral point so as not to isolate myself from either part. The health centre seemed to be a neutral site from which to have access to women from both sides of the villages.

I gained access to the village health centre through the Ministry of Health of the State. The health workers who work in the health centre have managed over some years to break the divide which I was able to step into. Immunization is one thing that brings all the women in the community together, even women from surrounding villages. I was able to use this to access the community. I met with women after they had undergone immunization and carried out participatory diagramming and focus group discussions. During group discussions women not only related their experiences but also those of their sisters, sisters-in-law and neighbours experiences of child mortality. Yoruba culture is very tightly knit and neighbours are close because they often share houses together and help take care of each other's children.

The man in charge of taking me around the village was someone well known and respected by the community who had lived in the village all his life. He became a key informant. He is also one of the health educators employed by the village health centre. He is quite elderly and in his sixties and with him I was able to access places I would not have otherwise. For example, during the transect work he took me to the village spring water, and he told me that there were some parts designated for males only, but he took me there, and when a man saw me there he explained to the man that I was with him.

Chapter Three: Methodology

While on transect walks round the village, he answered many of my questions and showed me key places around the village. One day when he was not around, and another health worker - this time a village woman - took me around, there was a difference in the reception I noticed from people. This may have been because she was a young married woman who had a lower social status and a limited amount of freedom. The officer in charge of the village health centre mentioned while I was interviewing her on my last day that she was very careful about who she chose to be my guide around the village. She chose a man who was from the village, someone who was highly respected in the community. Again the age of the key informant played a strong role in the way he was treated. Age is an important marker in Yoruba, with the older ages usually commanding the most respect and being the most powerful within local society. The presence of the male key informant might have affected the way the women answered questions but the fact that he was also a health educator may have meant he was more accepted by women.

Another key informant was the public health nurse whom I had known before from the Ministry in the state who followed me on the first day to the Y health centre. She was an insider having worked as a public health officer in similar village settings before. She made the initial introduction to the women before the focus group started. I believed this helped my study in that it made the women feel more at ease with me and encouraged them to talk more freely.

As I was nearing the completion of the fieldwork, I paid another visit to the Ministry of Health. I discussed with the Director of Planning, Research and Statistics, if I could get statistics or data relating to child mortality in the state, particularly to Y village and some other relevant data. He told me they did not hold anything like that but

Chapter Three: Methodology

he referred me to the National Population Commission and back to X local Government Area. I went to these two places and did not get the information or data I needed. X Local Government Area was about a two hour's drive away. I met with the Public health officer and she referred me to someone who was not around when I got there and I had to wait for two hours before the woman turned up. I was actually put in a difficult position here because, when I went to the person she sent me to, I was told by the lady she did not have what I was looking for. When I went back to tell the public health officer, a fight almost ensued, with the officer shouting at the woman and telling her she should have the data, in response to which the woman came back and shouted at me.

I went again to the comprehensive primary health centre in Y at the suggestion of the Primary health officer. When I got there, there was nobody to attend to me, and the document I was supposed to collect from them could not be found. In the end I requested to see their daily clinic records, and had a look at the number of incidences of childhood illness that were brought to the health centre to have a fair idea of the prevalence of childhood illness in that area.

Even if I had been able to acquire the data I wanted from the daily clinic records, it would not have been wholly accurate as the mortality and morbidity rate would have no denominator. Recorded incidences would only account for figures reported by the health officer which would not account for cases that were not reported at the health centre. I would not have obtained the correct health statistics of child mortality and morbidity in the headquarters of the Local Government Area. The DHS on the other hand which is based on a stratified cluster sampling of areas and on a larger scale, might have been able to give a better representation of the morbidity and mortality rates because of the presence of a denominator.

During my visit to the National Population Commission I met one of their officers who was in the field collecting data for the 2008 Nigeria demographic health survey which was in progress. They could not help me with the data I wanted. I asked for the 2003 Demographic Health Surveys, which they did not have.

Interestingly, however, I meet one of the field workers attached to the cluster where Village Y was included and he told me that people do not register their child mortality so it was difficult to compute. He said when he goes around the village with the NDHS questionnaires for mothers to fill in, they look at him suspiciously and they do not answer the question he asks, and in the end he has to go to the only private clinic in Y village, where he gets some registered deaths and from there he extrapolates for the whole year. This means that in the end what is reported is either understated or overstated. He told me that the village health centre told him that they do not record mortality rates which were exactly what I was told. He felt they might not be telling the truth for fear, if they admitted they had high numbers of child mortality cases it would give an impression that they are not doing a good job.

3.5 DATA SET

The field work took place during an eight months period in 2008 between January to August. This involved three days a week in the village and the data set is summarised below. I would go there by car being given a ride by my parents and I would come home using public transport. I would go around ten in the morning and come back around two in the afternoon. I sometimes went earlier and stayed later. I chose these times because the mothers would have finished most of their housework by

Chapter Three: Methodology

these times and if they had gone to the farm they would be back. During the period of fieldwork, there were two fuel shortages which lasted for two weeks which affected my travel to the village. In addition, during the fieldwork I had malaria twice and could not go to the field for about two weeks, but I tried to make up for it when I got better.

The data consisted of three types of interviews and some ethnographic observation recorded in detailed field notes

Table 3.2: Characteristics of Data set

Methods	No of interviews	Interviews	No per interview	Age of women	Parity	No of live children	Attributes
Semistructured group interviews-Focus groups	9	Interview					
		1	8	25-38	1-5	21	Food sellers
		2	5	18-36	1-3	9	Gari making women
		3	6	23-41	1-5	14	Tailors
		4	5	22-27	1-3	8	Farmers
		5	8	27-39	1-6	24	Market women
		6	4	22-27	0-3	5	School teacher
		7	9	23-35	2-6	33	
		8	8	25-36	2-5	24	
9	10	21-38	1-4	25			
Total		9	63				
Household interviews		1	1	48	4	4	Grandmother
		2	2	33-35	5	5	Food seller
		3	1	29	4	3	Village photographer
		4	1	36	3	3	
		5	2	29-33	6	6	Food seller
		6	2		5	3	Husband/wife
		7	1	31	3	3	Food seller
		8	4	22-28	0-4	4	Daughter/mother/grandmother
		9					
			6	25-30/elderly	0-3	3	
		10	1	25			Mother/neighbor
11	1	41		1			

Chapter Three: Methodology

Verbal accounts of mortalities			12	5	24-33	5	5	School teacher Food seller Market women tailor Rubber seller Pettyseller/nei ghbour Rice sellers
			13	4	26-30	5	5	
			14	1	28	17	13	
			15	1	30	2	1	
			16	2	18-45	3	2	
			17	3	22-34	12	2	
			18	1	43	7	6	
			19	3		4	3	
						2-6	4	
			19	42				
Health Providers interviews	3		1	Officer in charge of village Y Health educator (key informant) Healer(Alagbo woman)				
			1					
Headman	1	1		Baale				
Ethnographic field work and walks			3 to 2 days a week (24 weeks)		7 months period			
	32 interviews		109(people)					

3.6 SAMPLING

Sampling is a very important strategic element of qualitative research. It gives a direct indicator of whether generalization is possible and how it might be made (Mason, 2002). It is also an economic necessity for scientific research. The validity of sampling in qualitative research depends largely on choosing appropriate participants rather than on the number or size of the sample (Pope and May, 1999). Both Burgess (1982) and

Chapter Three: Methodology

Padgett (1998) explain that sampling is carried out by site, people, event and time, because all these affect the kind of data which will be obtained. Sampling methods in social research include probability and non-probability sampling.

In probability sampling, elements in a population are chosen randomly which gives an equal chance of being selected, hence the generalisability of the findings. It aims to produce a statistically representative sample. This kind of sample is appropriate when the aim of the study is to test hypotheses empirically. This sampling method however is very time consuming and is not possible if a list of the study population is not available (Ritchie *et al*, 2003; Bell, 2005).

Qualitative research uses non-probability samples for selecting the study population. It is not always practicable and realistic to use probability sampling in social research. Unlike probability sampling which is concerned about whether or not a sample is big enough, non-probability sampling is more concerned in looking at categories from which data can be generated to help develop theory. Selection in this sampling is based on the features of the population. It allows the selection of information-rich cases for a more in-depth study of the phenomena of interest (Cohen *et al*, 2003, Patton 1990).

Non-probability methods involve several techniques. Purposive sampling involves choosing participants based on a particular feature or characteristic, which will enable a detailed exploration and understanding of central themes and questions the researcher, wants to study (Ritchie *et al*, 2003). Quota sampling ensures that participants with similar characteristics are selected. A snowball technique is used to establish contact with people with similar experiences. Haphazard sampling is used for exploratory research to get a feel of what is going on (Pole and Lampard, 2002).

Chapter Three: Methodology

This study makes use of purposive sampling. Women of child bearing age from Y village and neighbouring villages were met in the health centre. House interviews were also conducted with women that did not attend the village health centre. Belk *et al* (1988 cited in Bernard, 1995) argue that purposive sampling is suitable for naturalistic inquiry to understand naturally occurring phenomena in their naturally occurring states (Patton, 1990). This suits the design of this study.

To interview women who do not come to the health centre, I conducted house interviews in homes on both sides of the village. Household interviews were only carried out in Y village whereas the interviews conducted in the health centre include women from 11 villages around Y village. Visiting people's homes also helped me familiarize myself with the village and the villagers. Important places were pointed out to me and I was able to make observations as I went around on transect walks, which also made me known in the village. After some time of being around in the village there was a certain degree of 'snowballing'. People told their neighbours about me and during the household interviews, mothers and caregivers referred me to households that had experienced child illness and mortality.

Snowballing is a form of sampling in which the researcher makes initial contact with a small group relevant to her research and uses their social networks to make contact with others like them in a particular regard (Bryman, 2001). This is an especially valuable way to locate a sample when a population list is unavailable, or when the population is dispersed, and when it is small or hidden (Ritchie *et al* 2003). In this case I was looking for people with particular experience-mothers whose children had died or been ill.

The main disadvantage of snowballing is the possibility of interviewing people in the same network which may create a bias. To counteract this problem, the sampling of this study did not depend entirely on snowballing. When conducting household interviews across the whole village, I discovered households that had experienced child morbidity and mortality.

Emerging issues identified iteratively as the fieldwork progressed helped me to identify people I needed to interview for data. For example, from my initial interviews with caregivers and mothers' they frequently mentioned getting treatment for their children from, the "Alagbo women" (Herbs women/diviners), so it was obvious that it was necessary to visit them and collect more information about them.

3.7 METHODS

3.7.1 SEMI-STRUCTURED INTERVIEWS

Interviews are one of the most commonly recognised forms of qualitative research methods (Mason, 2002). Pole and Lampard (2002) put it as a socially constructed event which results in a collection of information about particular people at a particular time in a particular place. Patton (1990) suggests that interviews enable the researcher to find out what is on the participant's mind. It is also an interactional exchange of dialogues between the interviewer and the interviewee. Semi-structured interviews tend to combine structure with flexibility (Legard *et al*, 2003).

This study uses semi-structured interviews to generate data from mothers, caregivers and also healthcare professionals. Interviews explore childrearing practices, beliefs and understandings of morbidity and mortality in children through the

Chapter Three: Methodology

experience of these women in Y Village. In total 32 interviews were carried out, in which 109 people were involved (Table 3.5).

A topic guide was used and interviews were conducted face-to-face between the interviewer and participants. I probed freely, seeking both clarification and elaboration on answers which developed into dialogues with interviewees. I used different probes and techniques to deepen responses and depth of answer in terms of penetration, exploration and explanation (Legard *et al*, 2003). Such techniques are used to create qualitative depth, allowing participants to draw upon ideas and meanings with which they are familiar (May, 1997).

The women I interviewed told their stories in narrative form. Narratives are important components in research because they allow meaning and experience to be constructed, which is an essential human activity (Riessman, 1994). The stories are based on their personal experiences. This helps to certify particular studies, as it shows peoples intentions, experiences and behaviours (Beresford, 1997). Additionally, through the individual stories of mothers and caregivers information and views on cultural beliefs, accessibility to health centres and care-seeking behaviours of the mothers and other factors that influence child mortality were examined.

3.7.2 FOCUS GROUP INTERVIEWS

Focus group discussions were conducted with mothers who brought their children in for immunisation in the village's primary health centre. Focus groups have the potential to make use of group dynamics to stimulate discussion, gain insights and generate ideas in order to pursue a topic in greater depth (Bowling, 2002). Focus group also offer the researcher the opportunity to study the ways in which individuals collectively make sense of a phenomenon and construct meaning around it.

Nine focus group discussions with 63 women in total (see table 3.5), took place in the health centre after children had been vaccinated. Interaction between participants is central to the generation of data (Pole and Lampard 2002; Finch and Lewis 2003). In focus groups, people can examine their own views within a group through a series of open ended questions in ways that would be more difficult to achieve in an individual interview. Such a strategy helps to develop a deeper understanding of survival strategies and coping mechanisms in relation to how children are cared for. Participants attitudes, feelings, beliefs, experience and reactions can be explored in a way which would not be possible using other methods (Gibbs, 1997; Tonkiss, 2004). A more natural environment can be presented than that of an individual interview because participants are influencing and being influenced by others—just like in life (Krueger and Casey, 2000).

A balance must be struck so that any particular group will not be too small for interactive study or too large to provide diversity of perceptions (May1997; Krueger, 1994). A minimum of five and maximum of ten mothers were present in each group discussion for optimum diversity. Participants presented their own views and experiences, while listening to other people. Such a format allowed a discussion on the

Chapter Three: Methodology

perceived norms surrounding the issues of child rearing and mortality. May (1997) explains that group interviews can provide important insights into both social relationships in general and the examination of processes and social dynamics in particular. An interview guide is used to ensure that main topics are covered (Pole and Lampard 2002; Gibbs, 1997).

These discussions were recorded for later transcription after requesting permission from the women. I encouraged, probed, managed and maintained a focused discussion, whilst functioning as the facilitator and note taker. Photographs were also taken and more detailed notes were written up after each interview. Lewis and Finch (2003) suggest that spontaneity arises from the participants social context, making participants reveal more of their frame of reference on the subject being studied. This method is less expensive to conduct and yields insights quickly when time is limited (Greenbaum, 2000; Bernard, 1994).

The drawback of focus group discussions is that the interviewer has less control over the discussion. It is more difficult to plan them in advance, and particular issues of anonymity and confidentiality arise in group settings (Tonkiss 2004; Gibbs, 1997). Some members may also dominate the discussion which might discourage others from expressing their own view. Group discussions are also more difficult to transcribe than individual interviews (Pole and Lampard 2002). When focus group discussion is combined with several methods it helps to validate other findings- a process known as triangulation. In a study carried out by Nkwi (1996, cited in Barnard, 1994) on perceptions of family planning, group discussions carried out duplicated results gathered by other methods used in the study. This method is also appropriate in dealing with sensitive issues, as group discussion allows taboo topics to be confronted, mutual

Chapter Three: Methodology

support may also be provided when these issues are discussed (Kitzinger,1994). This method was adopted for this study because it allowed sensitive topics such as child mortality to be discussed whilst the participants gained support from each other whilst discussing the topic.

The focus group discussion was based in the village health centre to access the women in the village. The village health centre serves Y village and 11 surrounding villages in the areas. I was able to gain access to women I would not have otherwise been able to speak to. The women were asked if they would like to participate in a discussion, for which most of them were happy to stay behind for. This scheduling was possible because the women mostly took time off their daily work to attend the health centre, making it easier for them to stay behind after immunizing their children.

When immunization fell on market days, most of the women were usually reluctant to stay for the discussion as they had to get to the market. The turnout on market days for immunization was very low, so the village health centre tried as much as possible not to let immunization days fall on market days. Market days occur every five days and immunization on the first Thursday of the month.

Getting the women together through other means would have been difficult in this environment due to divisions within the village (see *Accessing The Field*) which meant that people on each side tended not to do things together. The health centre, on the other hand, was one of the few things that would bring the women together as it centred around health delivery.

For the discussions, the women were led into another room which I had arranged in advance. There was a problem with benches as they were usually insufficient even

Chapter Three: Methodology

for the women that came in for immunization and were borrowed from a primary school located near the health centre. When we were short on benches, and not all the women could secure a bench seat, I sat on a mat with the rest of the women. Sitting on mats is very traditional in Yoruba culture and I believed giving up the benches to these women and sitting on the mat helped me gain some acceptance.

Before the start of discussions, I would mingle with the women in the immunization health centre rooms. I helped carry babies, complimented mothers on their babies, chatted with them and took photos of their babies. The mothers liked this because they all wanted me to take photos of their babies. After taking the photos, I would show the pictures to the mothers, and this helped establish some ease. After discussion the women were provided with biscuits and soft drinks to show appreciation for their participation.

3.7.3 HOUSEHOLD INTERVIEWS

Twelve household interviews were carried out. Household interviews gave me the opportunity to reach women who did not attend the health centre. I went from door to door finding homes with women and caregivers. In most of the homes I visited, I would see children playing in front of the house or groups of women taking a rest in front of their homes. Both sides of the village were covered. There were no refusals since most of the women were relaxing when I approached them because of the times in which I visited. Most of the household interviews were one-on-one but some of the household interviews were in pairs or triads. Sometimes while a woman was being interviewed her husband, if present, joined and contributed to the discussion. At other times mothers, grandmothers, great-grandmothers and even neighbours joined in the

Chapter Three: Methodology

discussion. Group discussions of these types are similar to the kind of interactions people might have in everyday life (Green and Thorogood, 2004).

These discussions gave interviewees and members of their family time to talk. Household interviews can provide an informal relaxed environment in which participants feel more secure, sheltered from, the possible intensity of an individual interview or intimidation of an unfamiliar large group (Walsh, 1998). Beckerleg *et al* (1997), in her study of the Bedouin Arabs, noted that mothers are difficult to interview alone because a suspicion of outsiders might lead to inhibited discussion whereas a natural interviews present an environment in which women can freely express themselves more freely. This was also the case in my research. Natural group discussions tend to be more natural than other research interview conditions (Kitzinger, 1994).

In my research some of the household interviews I carried out with larger groups were more informal as participants seemed more relaxed and talked freely. They also used proverbs to give a deeper understanding and meaning, I also think they felt more secure because they were in the privacy of their own home. They reminded each other of different incidents that occurred in the family and related the stories and experiences of child mortality that occurred in the family. For example a woman was telling me how she had lost children when her teenaged daughter, who was her last born joined in the discussion and mentioned two children even before the mother finished talking.

3.7.4 PARTICIPANT AND NON-PARTICIPANT OBSERVATION

Observation is an everyday activity. It allows for the investigation of phenomena in their natural setting, and gives the opportunity to record and analyse behaviours and interaction as they occur in the physical and social world (Pole and Lampard (2002); Bernard, 1994). Atkinson and Hammersely (1988), suggest that all social research is a form of participant observation as the social world cannot be studied without being a part of it.

Observation relies on the researcher's capacity to interpret situations as they unfold around her (Pole and Lampard 2002). There are two main types of observation: participant observation and non-participant observation. A participant observer will take part in the situation being studied while a non-participant will not take part in the situation being studied (Smith, 1997). This distinction however, is not always clear-cut. Observation is complicated by the fact that it has both structured and unstructured approaches. Quantitative research tends to be highly structured, which depends on pre-decided- usually very detailed- observation schedules. Qualitative research observation is less structured in nature. Here the researcher does not use predetermined categories, rather behaviours, actions and events are observed as they naturally occur (Punch, 1998).

Participant observation is the foundation of social anthropology and on which ethnography is based. It differs from non-participant observation in that the role of the researcher changes from detached observer to participant observer in particular situations (Punch, 1998). This has given rise to the question of the role of the researcher in observation. There is a distinction among participatory observation, which means joining in the routine daily life and associated activities, and non-participatory

Chapter Three: Methodology

observation, and a mixture of the two. In general, observation involves becoming part of the daily social landscape, so that people accept the presence of the researcher and therefore behaviours are less altered. The approach is premised on the idea that it became possible not just to hear what people say, but also to see what they do. This circumspection is not always possible through interview. Some anthropologists however, choose to maintain a greater degree of distance for concerns over objectivity (Barnard, 1995).

One of the ways a researcher collects data is through participating in the daily lives of the subjects being studied within which thick description of social interaction is produced within the natural environment (Geertz, 1973). Thick descriptions are detailed accounts of the iterative process carried out during the course of research. It enables an outsider to understand and record the behaviour of individuals and groups in the context in which they are taking place. According to Geertz, (1973: 10), an ethnographer pursues a “more automatized procedure of data collection many of which are knotted into each other”.

Hammersely and Atkinson (1995) have identified four naturalist roles of the researcher which are complete participant, complete observer, participant as observer and observer as participant. A complete participant has the advantage of easily gaining access to the field but the materials she gathers may be limited. On the other extreme, a complete observer, observes people in a way which avoids social interactions and therefore reduces reactivity (Walsh, 1998), raising questions firstly about what can be observed, and secondly the extent to which it is possible to question the participant. It has been argued that adopting either of these roles alone could make it very difficult to generate and test accounts in a rigorous manner (Hammersely and Atkinson, 2007;

Chapter Three: Methodology

Walsh, 1998). On the whole, fieldwork now involves both observation and participation to varying degrees in a community.

For this study, I observed several activities in the health centre including immunizations and also observed immunizations and women's interactions with health workers. I participated when I carried babies in for injections during immunization and chatted with the women at the centre. I spoke with 'gari' women and helped to turn the 'gari' on the fire. As I walked around the village I spoke with women making soya bean cakes and black soap. I learnt from them how to make the soya bean cake, gari and black soap and I visited the popular village market and bought some foodstuff. I visited the village spring and observed various activities like children bathing, women fetching water and clothes washing. I drank one of the herbs (agbo) used for treating malaria. I also visited the two headmen's compounds.

3.7.5 PARTICIPATORY RESEARCH TECHNIQUES

Participatory research enables participants to share their perceptions of a problem, to find common ground and to engage a variety of people in identifying and testing possible solutions out (Laws *et al*, 2003). By taking part in the process of research, local community members gain more control over their health (Bentley *et al*, 2003). Participatory research helps community members gain greater influence in the research and actively involve the people who best understand the community. The key to participatory research is power, empowerment and participation (Martin, 1996). Some participatory research techniques were employed in this research to elicit the informed views of villagers, however, the approach in general was not that of participatory emancipatory research.

Chapter Three: Methodology

Participatory transect walks were accompanied walks that I took around different areas of the village with a key informant, so I was able to observe and ask for explanations of everything seen along the transect. I also went on transect walks with health workers and other health educators. Some important places visited included the popular village market that occurs every five days, the spring where some of the villagers get their water, the four bore hole locations in the village, and the two headmen's (*baale's*) palaces. In addition I visited different homes during household interviews and the only private clinic- " Abiye"- (meaning birth and survive, or to live) in the village which has been in existence for over thirty years and is very popular in the area. The participatory transect walk around the village also helped me to familiarize myself with the village setting.

These methods of visual representation in participatory research have been described as powerful ways to work with those whose voices are rarely heard. In this study the women in Y village were given a forum in which to talk about their children's health, giving voice to the ways they see it and what measures they think are required to improve the situation. Participatory research also provides a reference point for discussions during focus group and later analysis (Cornwall, 1996).

3.7.6 VERBAL ACCOUNTS OF CHILD DEATHS

VA is a collection of information from relatives of deceased persons to establish the probable causes of death in specific cases, in countries where reliable routine death registration are absent (Kahn, *et al* 2000; Coldham *et al*, 2000). VA has been used, for example, in South Africa in the Agincourt health surveillance site (Kahn, *et al*, 2000). It is based on the assumption that most causes of death can be distinguished and easily recognised by their signs and symptoms, and thus can often be structured and conducted retrospectively on a death having been reported or registered. This is usually followed by an in-depth and open ended account of the illness that led to the death as related by the deceased mothers and other caregivers. This technique has been developed by WHO (WHO, 2007). This opened-ended verbal account of illness that led to death was adapted in this study.

In this study, accounts of illness which led to under-five child mortality were related by mothers and other caregivers and neighbours. While verbal autopsy elicits accounts of biomedical causes, verbal narratives can be used as an explanation of the failure of a given health system that may have lead to a particular death, and therefore might be used as a way of proposing solutions (Bolaji *et al*, 2007). This study does not conduct a verbal autopsy using the standardised forms but rather more emphasis was placed on steps taken in the period of sickness which preceded death. This approach was chosen for its potential to inform what can be done at an individual level and household level to improve local interventions aimed at reducing child mortality and morbidity in Y village.

A method which uses opened-ended verbal accounts has been described as the best way to gain rapport with respondents, as they are given the opportunity to express

themselves fully (WHO, 2007). Other information like body language and the tone of voice of the respondent is also taken into account.

In this study, information about the affected children are collected. This included the symptoms the child experienced, what medication the child was given, where the child died and who was present when it happened. The history of final illness was also collected as well as its duration and the type of care which was sought outside the home.

Caregivers were prompted to tell their stories in their own words. I probed freely to get more description from mothers and caregivers. This helped to create a good understanding and establish trust with respondents, since this gave them the opportunity to tell their stories and express themselves fully.

3.8 DATA ANALYSIS

Data analysis in qualitative study is a process in which the researcher examines data by breaking it up into different components to identify various properties and dimensions. Different components are interpreted and concepts are derived, which are a presentation of the researcher's understanding described in experiences, interactions, words and actions of respondents (Bryman, 2008). Interpretation allows the researcher's to make sense of data. Qualitative analysis is iterative because of the repetitive interplay between data collection and analysis and it is also sometimes used as a strategy for the collection of data.

The method of data analysis used in this study is the framework approach as described by Ritchie and Spencer (1993). It was initiated in a specialist qualitative research unit based within an independent social research institute (Social and

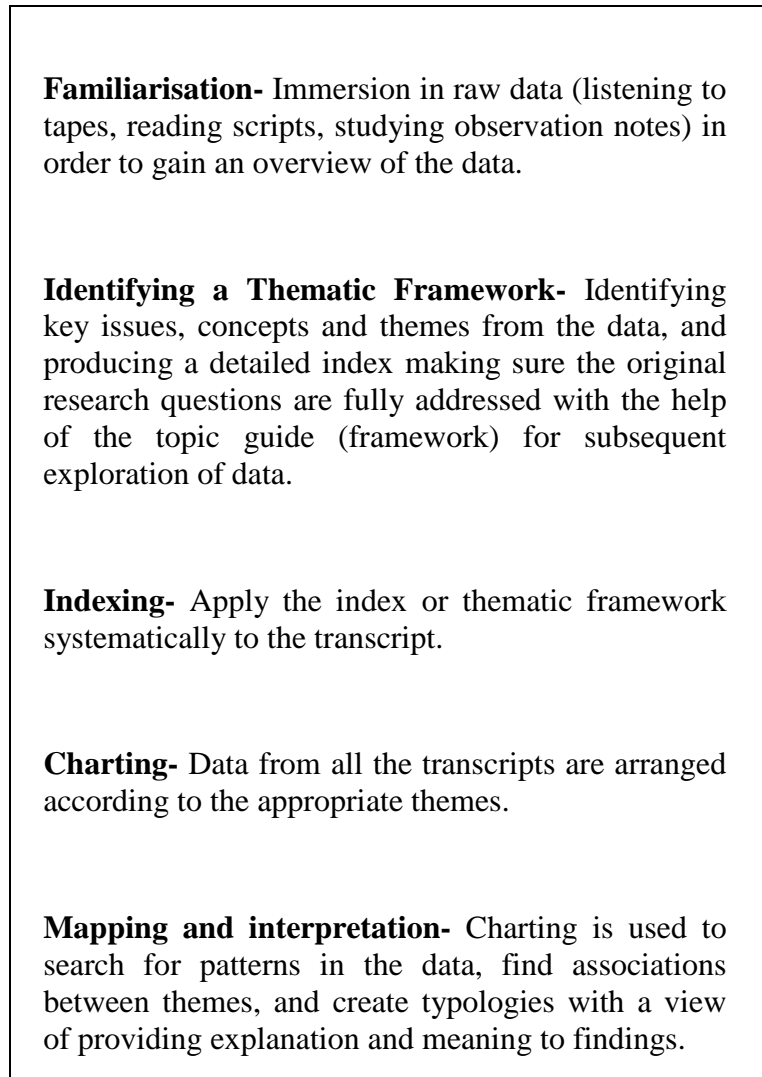
Chapter Three: Methodology

Community Planning Research (SCPR). Framework approach is a practical form of qualitative data analysis developed for use in applied health and social research (Pope *et al* 2002).

Qualitative methods are designed to meet a range of different objectives and most research attempts to address one or more of these questions. Contextual category identifies dimensions of attitudes or perceptions, people's experience, needs of the population and elements operating within a system. Diagnostics category examines factors underling particular attitudes and perceptions, why decisions or actions are taken, why particular needs arise and why services or programmes are not used. Evaluative category appraises effectiveness of what already exists looking at how objectives were achieved, the barriers and what affected successful delivery. Strategic category identifies types of services to meet needs, how systems can be improved and what actions would yield effective outcomes.

Qualitative research is sometimes carried out with some linkage to statistical inquiry to develop, illuminate, explain or qualify it. This study is a qualitative study in which analysis of NDHS was used to illuminate and explain qualitative data.

Figure 3.3: Framework approach for the analysis of Qualitative Data



Source: Ritchie and Spencer (1993)

A general read through of all the data collected along with summaries of field notes helps to obtain an overall sense of the data (Creswell 2007). Regularly listening to the interviews and transcribing the data myself, allowed me to thoroughly go through all my data in detail and pick out themes which arose. While transcribing, I was reminded of situations and contexts in which the interviews took place, which was noted down along with the transcriptions. I started coding from the field which helped me to put my

Chapter Three: Methodology

themes in perspective. I also wrote a summary immediately following each session of fieldwork. .

Coding is a key process in all approaches of qualitative data analysis and it is a dynamic and fluid process (Strauss and Corbin, 1996; Bryman, 2001). Whilst coding, events happening and interactions which are found to be conceptually similar are grouped together into categories and themes (Flick, 2006; Coffey and Atkinson, 1996). The process of coding allows the development of ideas and theories to emerge (Pole and Lampard, 2002). According to Punch (2005) coding gets data ready for subsequent analysis whilst also being in itself an important form of analysis.

In this study, field notes, recorded interviews and focus group discussion were conducted in Yoruba and were translated and transcribed into English. Words and phrases in Yoruba were constantly passed through other people to ensure accurate translation. The Nvivo software was used for the analysis of house interviews, focus group interviews and field notes. Transcripts were loaded into Nvivo qualitative analysis software (version 7) and framework approach applied to analyse data and identify key themes. Key themes were also guided by the topic guide and issues raised by the interviewees' words were compared and consistencies of comments were identified. Similar thoughts expressed were identified, coded and grouped together but additional themes also emerged (tree nodes and free nodes). I coded and indexed the transcripts according to the thematic framework. I used Nvivo to organise the data into themes, which were used to interpret the data.

3.9 INSIDER/OUTSIDER PERSPECTIVES

The positionality of the researcher affects the data collection. In view of the fact that researchers are acknowledged as active participants in the research process, it is essential to understand the position of self (Hentz, 1997). Therefore, a reflexivity is required in the research process in the pursuit of rigorous and systematic study (May, 1997) which in turn leads to the production of knowledge (Hammersley and Atkinson, 2002; Blaxter *et al*, 2006). Reflexivity was described by Shaw and Could (2001) as the process of looking inward and outward with regard to the positionality of the researcher and the research process. According to Reinharz (1997), the positionality largely shapes or obstructs the relationships that the researcher can form and hence the knowledge that can be obtained while also playing an important part in data analysis. In the case of this study I was both an insider and an outsider.

Burgess (1982) states that the structure of the group under observation, especially in terms of gender, extensively affects the form and degree of participation. However, other writers have argued that the best qualitative researchers are those that are already familiar with the phenomenon and setting under study. I am an insider because I am Yoruba and I have lived in the Yoruba part of the country for most of my life. I am therefore familiar with both the language and the culture of the people being studied. According to Green and Thorogood (2004), language helps the researcher to articulate and interpret the aims of the study. If the researcher already 'fits' into a particular environment and is familiar with its social organization, there is a level of 'in-built', face-level trust between the researcher and the researched (Roseneil, 1993). In addition, when a researcher and the participants are of the same gender and culture, communication can be easier, which can bring issues into clearer focus, and facilitate

Chapter Three: Methodology

better interpretation of the data produced (Gill and Maclean, 2002; Labaree 2002). Bernard (1994) argues that knowing the language will increase accuracy when conducting interpretation of the environment (May, 1993).

Being female and Yoruba allowed me to understand the symbolic meanings attached to things, and the way womanhood is perceived in a rural Yoruba setting. This also enabled me to avoid meaningless and irrelevant questions, and to probe sensitive areas with more ease. According to Riessman (1994), a female researcher encourages female participants to be more open as they assume they share certain assumptions and understand their experiences. Also in the Yoruba context - and as depicted in a popular Yoruba proverb which states that it takes the whole village to care for a child', Ashimolowo (2007:136) women, especially older woman, enjoy telling and transferring information on child care-rearing practices to the younger generation.

I was able to draw from the knowledge and experience of women in the community. In addition, in Yoruba homes mothers depend on their older children to help care for younger children. All women are defined in relationship to motherhood (Gordon 1990), the construction that all women are potential mothers is one which impacts on women's lives and identities in various ways (Standing, 1998). Also in Sudarkasa's study of the world of women in a Yoruba community she explains that being younger and unmarried did not affect her ability to obtain information from these women as they freely discussed issues with her (Sudarkasa, 1986).

A number of factors however impacted on my involvement in the field. These included the contrasts between my personal beliefs and lifestyle and those expressed by the people with whom I was interacting. I am an outsider because I am an unmarried Christian woman, without children, who comes from an urban setting, and earns a

Chapter Three: Methodology

higher income. Being unmarried at my age was considered unusual in a village where most women of my age were married with several children. In addition, Y village has a higher percentage of Muslims than Christian. I am also an outsider because I was undertaking research while studying abroad. These difference may have affected how I was perceived by participants and affected discussion that ensued although exactly how is difficult to assess.

Other ‘outsiders,’ especially men would have found it problematic to carry out fieldwork with women and it would have taken a longer time to establish trust within the community. There may be many social settings that would be inaccessible to a male researcher even if he tried to participate fully. It would have been difficult for a man to go to people’s homes and talk to women especially in cases where a husband was away. A woman on the other hand can easily do this. Golde (1986) explains that a strange woman may be less frightening than a man because her attributes of womanhood already suggest a good deal of information. I also believed this helped me reach some women I otherwise might not have been able to reach. Again, the women would not have been able to discuss issues so freely with a man, because of the way men are perceived in the Yoruba Muslim community.

According to Roseneil (1993) being an insider also has other advantages since outsiders can be easier to mislead, may get easily distracted and they may find it very difficult to probe beyond the superficial. As insider, I was in danger of been so close to the subject matter that I might have missed the sociological significance of things that might have appeared ‘normal’ (Roseneil, 1993; Barnard 1994). I took time to be gentle in my approach, attempting to maintain neutrality, whilst also trying to meet the women at their own level.

Chapter Three: Methodology

I was aware of what I wore in the predominantly Muslim community, Hammersely and Atkinson (1995) state that the appearance of the researcher can be an important factor in shaping relationships with people in the field. I was careful to dress in the traditional way suited to a rural Muslim community. I wore the traditional wear and used an *ejab* which Muslim women wear. This allowed me to blend in more easily and also helped me gain acceptance. I also used fictive kinship with the participants especially when referring to the mothers and their children (Mashiri, 1999). In Yoruba language different reverence are used when talking with seniors. The deference in plural form, used when addressing someone senior to one's self is the same deference used to show mutual respect. I used this in particular to display humility and respect towards the mothers and caregivers. These terms are very important and admired by Yorubas.

In research conducted by Oakley (1981) she reported that participants felt that the interview was a positive experience since it gave them the opportunity to talk about concerns and reflect on what they had gone through. Also, Cotterill (1992) states that while conducting research, she noticed that women found it helpful to talk to her. Flinch (1984) states that the chance for women to talk to other women about their experiences could be therapeutic and helpful, to these women, especially if they have not had other social outlet in which to express themselves. These ideas helped me during my interviews with mothers that had experienced child mortality. People often open up to people that do not know anything about them. This state of neutrality also assisted my access to the community since I did not know anybody in the village prior to my coming to the village.

The vulnerability of woman to sexual advances is nothing new. After I had finished interviewing some women in the front veranda of their house, and I was about

Chapter Three: Methodology

to leave, a man who was present during the discussion asked me ‘When are you next coming back to this place?’ All the women present laughed because they all knew he wanted me to come back and see him privately so as to initiate a relationship. I also laughed with them and told him I am still around in the village. It was important that I had avoided causing injury to men’s egos in order to maintain a good working relationship. Acker (1993) has talked about how during her study her fieldwork meetings with participants sometimes put her in a compromising position.

My key informant was a health educator attached to Y village’s health centre. He was an elderly man in his sixties, and was born in the village and had lived all his life there. He was also very respected and popular in the village, and when we walked around the village people used to stop and greet him. As he took me around the village, became my guide through the period of my stay and he explained things to me. We soon became good friends and I knew his house in the village and also met his wife. So sometimes if I arrived at the health centre and he was not there I would go to his house.

The other health workers, mainly women, often joked that my key informant was my husband. Whilst not being happy about this, I did not want jeopardize the relationship I had established with the health centre workers. On one occasion, I was asked ‘Are you key informant’s wife or child?’ (adopted). I had to be very careful of my answer and so said, “I am his child” since being his adopted daughter showed a close yet respectful relationship. We laughed it off in the end and I came to be referred to as his ‘adopted daughter’ from then on, rather than his wife. The conclusion of this episode was that I was happy to be given the opportunity to choose the description I preferred, rather than have it chosen for me. Golde (1986) explains that field gossip and rumours, insinuations of wrongdoing and overt and disguised sexual encounters initiated by men

Chapter Three: Methodology

are common scenarios in the field and they are used sometimes to control and limit the women's freedom.

Padfield and Proctor (1996) stated that the gender of a researcher is not as important as skill. Both skill and gender are relevant in a rural Muslim village of Nigeria because of how men and women are perceived. Pearson (1998) argues that a researcher does not have to be 'part of them' in order for the experience in the field to be quite 'real'. What is needed, he argues, is for the researcher to give voice to that experience.

The ability to occupy a position which was both outsider and insider helped me to maintain some form of balance, such that things were never too familiar, which might have led to my missing out on important points. At the same time an ethnographer is constantly negotiating her access, and assumes the two roles at different times.

This study draws on anthropology and epidemiology, and therefore uses mixed method. The next section presents how quantitative analysis and secondary analysis were carried out in the study.

3.10 QUANTITATIVE DATA

Secondary quantitative data can be used to provide a contextual backdrop against which to analyse qualitative data. It has been used by sociologists in a wide range of valuable secondary analysis. Pole and Lampard (2002) argue that secondary quantitative data should be seen as a resource rather than as a topic of criticism, and that their limitations should be considered alongside other limitations when the researcher is assessing their value. They have been used in critical discussions of health inequalities.

While all large surveys contain errors, additional problems may arise in respect of particular variables. Random surveys tend to underestimate populations that are difficult to locate. A researcher's interests dictate what type of data will be collected (May, 1993; Pole and Lampard, 2002), but they are useful in describing the demographic characteristics of a large population.

The 2008 Nigerian Demographic Health Survey (DHS) showed that the region where this study took place had the fifth highest under-five mortality rate in Nigeria. Demographic Health Surveys are conducted every five years and are nationally representative household surveys that provide a wide range of monitoring and impact evaluation indicators in the area of population, health and nutrition (NPC, 2009). They involve a large-scale sample size of between 5000 to 30,000 households and 3 core questionnaires filled out by men and women in the age brackets of 15-59 and 15-45 years respectively. In 2008 33,385 women aged from 15 to 49 and 15, 486 men aged from 15 to 59 years were interviewed (NPC, 2009)

Chapter Three: Methodology

These surveys collect extensive information on fertility, fertility preferences, childhood mortalities, and maternal and child health indicators. A typical DHS records the full birth histories of women of reproductive age along with the survival status of each child ever born to them. As such, DHS data provide a basis for both direct and indirect estimation of child and infant mortality.

Since its inception in 1984, DHS have remained the sole reliable source of statistics for most countries, especially in Sub-Saharan Africa. Through the use of questionnaires, DHS collects information on fertility and mortality, family planning, maternity care, child feeding, vaccination, child mortality and HIV/AIDS. The questionnaires target child bearing women from the age of 15 to 49 and men from 15 to 59 years.

They provide data on demography, health and nutritional indicators, and are the primary source of reproductive and health information for Africa, Asia, Latin America and the Caribbean. DHS has been conducted in over 44 countries by the National Statistical Office in collaboration with Macro International, with funding from the United States Agency for International Development (USAID) (Borema and Sommerfelt, 1993; NPC, 2009). The DHS has been an information source base for policy development, and economic and social planning for population and health programmes.

The NDHS is a well established source of reliable population data. The primary sampling unit used as clusters by the 2008 demographic health survey was based on the subdivision of the census enumeration area (EAS) of the 2006 population census. The final survey sample consisted of 886 clusters drawn from 37 states. 36,298 household

Chapter Three: Methodology

were interviewed with 11,099 households in the urban areas and 22,971 in the rural areas.

The 2008 NDHS is the fourth survey conducted in Nigeria. According to Pedersen (1992), when carrying out surveys of this type, information given by mothers about past episodes of sickness experienced by their children and health care practices could present large discrepancies from reality; a third of the responses could be invalidated. This may be due to omissions or deliberate distortion. These inconsistencies could account for the huge differences in past NDHS data. Surveys have been found not to be an efficient tool in collecting subjective and attitudinal data especially with relation to illness, beliefs and behaviour.

The 2008 NDHS reported that 75 out of every 1000 infants born in Nigeria die before their first birthday while 157 out of every 1000 children die before the age of five. Under-five mortality rates are generally higher in the rural rather than the urban areas. This study was carried out in a village in the Northern central region of Nigeria. The 1999, 2003 and 2008 NDHS reported 84, 165 and 135 under-five mortality rates per 1000 live births for the North Central region respectively.

The comparison of the 2003 and 2008 surveys for this region showed a reduction in under-five mortality for this region and for other geo-political regions of the country. While the under-five mortality rate of 135 for the North central region of Nigeria is lower than the country's average child mortality rate of 157, its infant mortality at 77 per 1000 live births is higher than the country average at 75 per 1000 live birth. Although the under five mortality in the 2008 NDHS for North central Nigeria is lower compared with the country's average, this is still high for Nigeria, and

high in comparison to other with countries in Africa. The NDHS gives a back drop to the research carried out at the village level.

3.10.1 LIMITATION OF THE DEMOGRAPHIC HEALTH SURVEYS

The DHS like other large scale sample surveys is expensive to conduct. They need a large sample size to be able to carry out meaningful analysis. Using the NDHS, Kandala *et al*, (2007) found that the wealthiest households have fewer children than the second and third quintile households, which gave very small sample sizes to work on. Sometimes DHS samples are not large enough to provided accurate estimates for small geographic populations. The DHS has also been criticized for not taking the whole population into consideration. The DHS includes only non-institutional population (homes and families) and excludes institutional populations such as nursing homes, orphanages, residences for senior citizens, and hospitals (NPC, 2004).

Like other retrospective study, the DHS is faced with the problem of recall bias, but even more so with mothers with little education. In the study carried out by Boerma *et al* (1991), a comparison of DHS surveys in Peru, the Dominican Republic and Bolivia, revealed that in reporting indicators such as child mortality and nutritional status, recall errors in the DHS data were more common among mothers with no education than those with some education. In addition, the cultural differences of how some questions is viewed skews the consistency of response, hence, a range of answers was given for example to the question of whether children had had diarrhoea in the last two weeks, since a two weeks period is viewed differently in different places. Such discrepancies can lead to over or under estimation in different cases. It is therefore,

Chapter Three: Methodology

useful to remember that structured questions in surveys can be misinterpreted by respondents as such poorly made.

To take another example in the analysis of the Iranian DHS carried out by Manesh *et al* (2007), the study found that mothers with higher education reported higher morbidity even though they might be financially and socially better off compared to mothers with little education. Conversely mortality rates were positively associated with social deprivation. This contrasting analysis was also found in DHSs from other countries and it is inconsistent with extensive research that shows correlations between mother's education and better child health (Fotso and Kuate-Defo, 2005; Armar-Klimesu, et al; 2000; Boerma, 1992; Caldwell, 1979). Furthermore, the stresses experienced from caring for sick children may mean the mothers children may remember past events quite differently from mothers of healthy children (Trostle, 2005).

Sullivan (2007) carried out a study on the assessment of under-five mortality estimates using 22 countries DHSs, for which mortality rates were re-estimated and were readjusted. It was found that the main deficits were due to birth transference and the under reporting of deceased children. After adjusting for birth replacement in the 2005 Cambodian survey, under five-mortality estimates were reduced from 33% to 27%, while Ethiopia's increased from 26% to 28%. Under-reporting of deceased children in Malawi's 2004 DHS reduced estimated mortality from 29% to 18%, and for Niger the adjusted under five-mortality reduced estimates from 28% to 20%. This shows that mortality rates in DHS are often either over-estimated or underestimated, and as such might not be good representations of the country's health status. Survey interviewers have been found to be uncomfortable discussing infant and child deaths and sometimes attribute the births of deceased children to periods before those covered

by the health survey, alternatively they are sometimes treated as missing data (Curtis, 1995).

A qualitative study using interviews spends time to initially build rapport with respondents both to understand their cultures and to build some level of trust before commencing interviews. Menesh *et al*, (2007) pointed out that qualitative studies carried out along with a DHS survey provide deeper understanding of why a bias may occur and may provide explanations for underlying causes of poor health (Waitzkin, 1990; Trostle, 2006). Cultural differences may make women uncomfortable with answering some personal questions posed in the DHS questionnaires especially from people they do not know or who may be men which may make them conceal information.

An in-depth interpretative analysis helps to understand complexities. A mother's perceptions, recall and reporting of illness is likely to be influenced by cultural and social factors which could affect reporting. Since less educated, poor mothers tend to report less child illness (Bruijnzeels *et al*, 1998; Menesh *et al*, 2007) perhaps qualitative interviews will provide a better approach in reaching these women especially in a rural setting. Qualitative methods also help in understanding the social, political economic and historical context of the study population (Waitzin, 1990).

DHS data makes use of cluster sampling which statistically creates analytical problems as observational units are not independent. While cluster sampling can help keep research costs down, statistical analysis that relies on its independence is not valid. There is also the problem of over sampling of smaller domains in certain regions of the country (Kandala *et al*, 2007).

Chapter Three: Methodology

In this study, qualitative research was used to develop an impression of the way things are seen through the lens of the local people and to understand from the wider context of these impressions. Numerous opportunities for interaction and time spent with the women who visited the health centre, helped forged interest and trust, and helped me gain an insight into their lives. Data were presented from their perspective, with knowledge being provided by them.

Secondary analysis of the NDHS for the region provided a backdrop to its qualitative data, in order to combine the approaches of anthropology and epidemiology.

3.10.2 SECONDARY ANALYSIS OF THE 2008 DEMOGRAPHIC HEALTH SURVEY OF NORTH CENTRAL NIGERIA

3.10.2.1 RATIONALE

Secondary analysis was carried out using the 2008 Nigeria Demographic Health survey. Nigeria's North Central region is one of six geo-political regions and was used because the qualitative study was carried out in a village in this region. This region is more representative of the whole of Nigeria compared with other regions since two (Yoruba and Hausa) of the three main ethnic groups in Nigeria are almost equally represented in this region, and moreover there is also a better mixture of religions.

Nigeria's geo-political regions tend to have one dominant ethnic group and one dominant religion. Nigeria's North Central region also marks the middle point of the extreme north and the south. The state where the qualitative study took place is often referred to as the gateway state.

Table 3.4: 2008 NDHS tables showing ethnicity and religion figures in the region

Region	Ethnicity			
	Hausa	Igbo	Yoruba	Total
North	430	135	482	1047
Central	Religion			
	Catholic/ Christian	Islam	Traditionalist	Total
	2717	2176	90	4983

National level DHS data may fail to capture local variations. Regional analysis of the DHS is likely to give a more robust picture of the village in which the qualitative study took place since regional analysis is more representative of the broad socio-economic ecology of neighbourhood diversity and other complexities of villages than national analyses (Wirth *et al*, 2008). National analysis has been found to mask regional and state variations in childhood mortality (Kandala *et al*, 2007; Kandala *et al*, 2008). This thesis addresses this by combining regional level DHS data with qualitative village level data.

3.10.2.2 ANALYSIS

The 2008 NDHS used the sampling frame of the Population and Housing Census of Nigeria which was conducted in 2006, by the National Population Commission (NPC). Local government was divided into localities and localities into census enumeration areas (EAs). The 2008 NDHS primary sampling unit (cluster) was defined on the basis of this enumeration area. It used a stratified two stage cluster design

Chapter Three: Methodology

made up of 888 clusters (286 urban/602 rural). An average of 41 households were selected in each cluster by equal probability systematic sampling.

Variables were extracted from the 2008 NDHS, for the North Central region and analysis of variables was carried out, using cross tabulations and logistic regression analysis..

3.10.2.3 DEPENDENT VARIABLES:

The dependent variables were chosen to represent child health outcomes, child health care, household water, sanitary and cooking facilities and nutrition. Dependent variables used were collapsed into binary variables for entry into logistic regression models.

Child health outcomes were collapsed in the following ways: cough in the last 2 weeks (no/yes), fever in the last two weeks (no/yes), and diarrhoea recently (no/yes)

Child health care and place of delivery were collapsed in the following ways: diarrhoea treatment collapsed into a binary variable-no treatment and non medical treatment versus medical treatment. Fever cough treatment was collapsed into the binary variable-no treatment and non medical treatment versus medical treatment; The used of Oral rehydration therapy (ORT) for diarrhoea was collapsed into (no/yes); ever had vaccination (no/yes); had 3rd Oral Polio Vaccination (OPV3) (no/yes); had 3rd Bacillus Calmette- Guerin (BCG3), (no/yes); had 3rd measles (no/yes); had 3rd Diphtheria Pertussis and Tetanus vaccination (DPT3) (no/yes); Place of delivery collapsed into home versus government and private hospitals.

Household water and cooking facilities were collapsed as follows: Source of drinking water collapsed into a binary variable- tube well/borehole, protected well,

Chapter Three: Methodology

tanker truck, bottled water versus unprotected well, surface water, unprotected spring, river, lake, streams, rain water; cooking fuel collapsed into a binary variable electricity/gas versus kerosene and charcoal/straw/wood

Nutrition divided as follows: child fed on local foods (cassava and roots) (no/yes); child fed on eggs (no/yes); child fed on noodles/bread/grain (no/yes)

The following dependant variables were pooled together from 1999, 2003 and 2008 NDHS data set and analysis was carried out for the whole of Nigeria - consulted traditional practitioners for fever/cough treatment (no/yes); used herbal and home remedy for diarrhoea (no/yes); - This was done because the number of respondents was too small for each year and even smaller for the North Central Nigeria as well as the fact there were many missing cases. The lack of responses to the question of traditional practitioners is one example of the limitations of the DHS when dealing with sensitive topics as mentioned earlier in this chapter. It was possible to pool these data because the DHS surveys were carried out in standardised form, with the same list of socio-economic and demographic characteristics (Kandala *et al*, 2009, Kandala *et al*, 2008).

3.10.2.4 INDEPENDENT VARIABLES:

Three independent variables - place of residence, wealth and education - were selected to represent the main socio-economic determinants of child health described in the literature. These variables exert their influence on child health at the community and family/household socioeconomic levels as laid out in the Fosto and Kuate-Defo model (2005). The wealth index does not collect data on household income or expenditure but it is rather constructed from household possessions which include source of drinking water, type of toilet facilities, car, radio and flooring materials.

Chapter Three: Methodology

In tables 3.2-3.4 the data show that the sample was mainly rural in terms of place of residence (73.9%), close to half were poor (46.1%) and only 29% rated as rich. In terms of maternal education 73% had either no education or only primary education.

Table 3.5: Frequency table of type of place of residence

Residence	Frequency	Per cent	Cumulative percent
Urban	1315	26.1	26.1
Rural	3731	73.9	73.9
Total	5046	100.0	100.0

Table 3.6: Frequency table of wealth index

Wealth Index	Frequency	Per cent	Cumulative percent
Rich	1461	29.0	29.0
Middle	1259	25.0	25.0
Poor	2326	46.1	46.1
Total	5046	100.0	100.0

Table 3.7: Frequency table of maternal educational level

Education	Frequency	Per cent	Cumulative percent
No education	2225	44.1	44.1
Primary	1456	28.9	28.9
Higher	1365	27.1	27.1
Total	5046	100.0	100.0

3.10.2.5 UNIVARIATE ANALYSIS

Frequencies of relevant dependent variables were calculated and used in the results chapters to contextualise the qualitative data. Cross-tabulations of all dependant variables against the three independent variables were undertaken to test the statistical significance at 5% level of the associations. The dependent variables that make up part of the wealth index were not cross-tabulated against the wealth index. Logistic regression modelling was not carried out on those dependant variables that were not significantly associated with any of the independent variables. Univariate logistic regression was undertaken for dependant variables that were significantly associated with at least one of the independent variables in the cross tabulations in order to obtain univariate odds ratio with 95% confidence intervals.

3.10.2.6 MULTIVARIATE ANALYSIS

While cross tabulations and univariate logistic regression models only examine the association of single factors with each other, multivariate logistic regression helps to predict categorical outcomes with two or more categories. It is also a methodologically robust approach because it helps to show associations of more than one factor and enables an assessment of explanatory power and the relative weight of different factors. Multivariate logistic regression models were fitted on dependant variables that were significantly associated at the 5% level with at least two of the independent variables in univariate analysis. Only the independent variables significantly associated with dependent variables at the 5% level in univariate were entered into the multivariate models.

Three main independent variables were used - type of place of residence was coded into rural and urban areas, wealth index was coded into poor, middle and rich and education level was coded into no education, primary and higher education. Based on literature review these variables have been found to have some effect on childhood morality and morbidity.

3.11 SUMMARY

This chapter presented the research methodology used in this study. The research methodology used was based on the quantitative NHDS of the region, and rapid ethnography assessment and participatory techniques.

The qualitative ethnographic observation methods include semi-structured interviews, focus groups, and participatory techniques in the form of transect walks. Interviews were carried out with mothers and caregivers in the village health centre and

Chapter Three: Methodology

at home. Observations were carried out in the health centre of the village. Qualitative data were analysed thematically using CAQDAS Nvivo.

This chapter also presents my access to the field and my positionality. The next chapter present the research findings.

CHAPTER FOUR: LIVING CONDITIONS AND LIVELIHOODS

4.1 INTRODUCTION

This chapter is an analysis of the socio-economic context of the village in terms of living conditions and livelihoods, through a discussion of its resident's access to water, fuel and food, and how women in each household manage these resources. This chapter addresses the first part of the empirical research question - *What are the socio-economic household and community factors affecting the health of children and the health seeking behaviour of mothers and caregivers in the village?* This addresses the first theoretical research question - *How is structural violence experienced at the community and household levels and what is the scope of agency for caregivers?* The second theoretical research question is also addressed - *How does interfacing epidemiology and anthropology extend understandings of care giving?* These questions will be addressed using data from both the 2008 Nigerian Demographic Health Survey (NDHS) and qualitative data from non-participant observation in the village and health centre involving interviews with women and health workers in the village.

This chapter draws on materialist explanations of health inequalities and the theoretical frameworks concerning structural violence (Farmer, 1999; Scheper Hughes 1992) as well as their impact at the community and household levels (Futso and Kuate-Defo 2005) an explanation of which is set out in chapter 1. The following discussion emphasises how material factors impact on structural violence. Lastly, factors influencing the patterns of health centre utilization are discussed from the perspectives of both village women and health workers.

4.2 VILLAGE WATER SOURCE

Access to clean water is a vital factor in ensuring the health of a community (Suthar, 2010; Adesiyun *et al*, 1983).

Table 4.1: Water Source by Rural and Urban Areas

Water Source	Rural		Urban		P value
	Nos/Den	%	Nos/Den	%	
Water pipe yard or public tap	$\frac{104}{3597}$	2.9	$\frac{342}{1263}$	27.1	0.000
Bore hole	$\frac{420}{3597}$	11.7	$\frac{243}{1263}$	19.2	
Protected well/spring	$\frac{811}{3597}$	22.5	$\frac{404}{1263}$	32.2	
Unprotected well/spring/surface water	$\frac{2252}{3597}$	62.6	$\frac{234}{1263}$	18.5	
Bottled water	$\frac{10}{3597}$	0.3	$\frac{40}{1263}$	3.2	

Source: 2008 DHS Nigeria - North Central Region

The analysis of the 2008 NDHS showed a statistically significant relationship between the type of place of residence and the source of drinking water for North central Nigeria ($P < 0.001$). People that live in urban areas have better sources of water than people living in rural areas. More people in the urban areas (27.1%) use piped water while just 2.9 % have access to it in rural areas. People that depended on bore holes in the urban area were 19.2% while less than (11.2%) have access to bore hole in the rural area. Protected well and spring water is more common in the urban (32.2%) than the rural areas (22.5%). Only 18.5% of people in the urban areas used on unprotected well, spring and surface water which was three time less than those in the rural area (62.2%). Bottled water users in both rural and urban areas were low, 0.3% and 3.2% respectively, although higher in urban areas.

Chapter Four: Living Conditions and Livelihoods

Univariate and multivariate analysis of the 2008 DHS data was carried out using maternal education (higher, middle, primary), wealth index (rich, middle, poor) and type of residence (urban/rural) which were analysed with type of drinking water, and foods like eggs, bread and noodles. The source of drinking water was included in the construction of a wealth index from household possessions in the NDHS and was therefore not included in the multivariate analysis.

Table 4.2: Logistic Regression showing Univariate and Multivariate analysis of type of Drinking Water

Drinking water		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	6.93 (5.93,8.10)	6.06 (5.18,7.14)
Education (secondary or higher education as reference category)	No education	2.91 (2.51,3.35)	1.88 (1.61,2.19)
	Primary education	1.13 (0.92,1.29)	1.10 (0.95,1.27)

In the univariate analysis, children living in rural areas and those whose mothers have little or no education are significantly less likely to use tube wells or bore holes, protected wells, tanker water and bottled water than those living in urban areas and those whose mothers have secondary or higher education. In the multivariate model, living in a rural area and having no education remained significant at the 5% level but not as regards primary education, although the odds ratios were slightly attenuated.

Chapter Four: Living Conditions and Livelihoods

The data indicate that even after adjusting for level of education, children in rural areas are more than six times as likely to use water from unprotected wells, springs, rivers and rain or surface water as children in urban areas. The data further suggests that as mother's education levels increase, so the likelihood of using better water sources also increases.

Y village had three main sources of water supply: natural spring water, wells and boreholes.

The natural water (spring) source came from the outcrop of a rock. This source of water was very clean and the water ran all year round even during the dry season. The entrance was very steep and rough. A leaf was placed to channel the water and people collected water directly into their bowls (see photo appendix). Further downstream, women and young children came to wash clothes and bathe. There are four such places where water flows out of a rock in the village. Three were actively used.

The first one discovered by the villagers was no longer in use. I was told that in the past people worshipped the water but that more recently this had stopped. They reported that the water grew so angry at the lack of worship, that the source became blocked with dirt so that people could no longer use it. Even when debris and dirt was removed, the source would become obstructed after only a few weeks. On seeking out alternative sources, the villagers found three more. Only men bathe at one site and no women are allowed to fetch water or bathe there. I was taken to visit this spring and noticed the terrain was even rougher than at the other sources.

There are many dug wells around the village, which are typically shared by one or two compounds and are very accessible. Some wells are covered, others have been abandoned or closed up once they dried up and others are locked by their owners.

Chapter Four: Living Conditions and Livelihoods

The bore holes are sited and dug by the village local government. There are four of these in the village but only two are functioning. One of the bore holes is fitted with a pump and water is directed into a big tank (*uplawal*) built by a former governor called Lawal. It has six taps and it is a common sight to see long queues of people with containers in front of bore hole taps waiting for water. The other functioning bore hole is manually pumped. Women come to wash clothes and bathe their young children. Fetching water takes time and energy and is part of women's daily work.

The village women talked about obtaining water

By the time I come back from fetching water, all my energy is spent and I do not have the strength to do any more work. (Mother of 4)(0062).

We mothers suffer a lot from water especially during the dry season (Mother, of 2)(0012).

We do not have piped borne water in this village. We have to depend on bore holes and wells for drinking water. Life would be easier for us if we could just get water in our homes rather than walking miles to get water. (Mother of 3)(0053).

Water is one of the major problems we have in this village (Mother of 3)(0046).

We need good drinking water so that when we give it to our children, it will not make them sick (Mother of 2)(0070).

Chapter Four: Living Conditions and Livelihoods

We do not have water here. We depend on well water, which is not good to give to children. Water is very important and essential (Mother of 4)(0058).

Women in the village clearly place importance on having a clean water supply. The difficulties faced in fetching water, and the time consuming nature of the job takes its toll on women's health and their children. They clearly felt that clean water was important for the health of their children.

4.2.1 BOREHOLES

There were only two functioning bore holes in the village at the time of research. During health walks around the village, I was told that the other two had been repaired many times by the community, but that they had given up when they were continually broken. My key informant implied that the people who used the borehole for making pure water to sell in sachets (a very popular product in Nigeria) were also the people who were continually damaging the bore holes.

In addition, village women were not always able to use the borehole powered by the pump due to an erratic electricity supply. This meant they were frequently only left with one borehole, and while some women preferred to use it, others said it was inaccessible physically and for other reasons. This situation meant that women had to seek alternative water sources which could have compromised the health of their children.

Chapter Four: Living Conditions and Livelihoods

As this woman said:

We don't have a borehole in this part of the village and we suffer (Mother of 3) (0064).

There was only one transformer in the village and I was told it was damaged. This woman explained how this greatly affected the supply of water from the borehole and availability of clean water for the children,

The borehole is pumped using electricity. Since yesterday there has been no electricity and no water. And when there is no water, we are forced to drink any water available whether dirty or clean. Even if we adults try not to drink dirty water, what about the younger children? (Mother of 3)(0046)

Another woman talked about how the borehole (*uplawal*) was being monopolised by some people in the village who would not allow people they did not know to fetch water.

As big as this village is, we don't have piped water; they are not even trying to get one. When we wanted to move to this village, I almost got discouraged but I was told that the village had wells and piped water. However when we got here, I found out that there was no piped water, only a bore hole tank. If you get there and you are a visitor and they don't know you, you will not be allowed to fetch water. When they chase us away, we fetch and drink any type of water we can find (Mother of 4)(0054).

4.2.2 WELL WATER

Some village women had wells in front of their houses and did not think the water supply was a problem,

I think we have surplus water in our environment (Mother of 3)(0055).

I think we have water in this place except for a woman who is dirty and not hardworking (Mother of 1)(0043).

Different women talked about the different types of well water available to them and how it gets contaminated by different types of containers and ropes used by people to fetch well water. One of the women explained that people bring dirt from their homes and pollute the well water. There are concerns about water quality.

Some of our wells have no covers, and people use different ropes in the well and it gets contaminated (Pregnant mother of 1)(0008).

We use well water in this place, we don't even know how clean it is but that's what we have been using (Mother of 3)(0072)

There are different types of wells. It is not that well water is that bad, but there are some wells that don't have covers, and some do. I will come and throw in my container into the well, others come with their own and use it to fetch water. The ropes some people use in the well are dirty, you wouldn't want to touch them or to drink the water it was used to fetch. So even if you have a clean container and I have a dirty one, it means you will go home with the dirt I introduced into the water with my container. If we had piped water, everybody would come with

Chapter Four: Living Conditions and Livelihoods

their own bowls to fetch water and my dirt would not contaminate yours (Mother of 4)(0054).

Some wells have insects and some do not have covers and we can't use them
(Mother of 4)(0037).

Well water in the village is easily polluted by a lack of covers, by people using unclean containers, by ropes and by insects and microbes. Women in the village used different methods to purify water to make it safe for drinking before giving it to their children to drink.

Before I give my children well water, I boil it and add alum (Mother of 3)(0072).

I go out to fetch water for drinking from the bore hole with jerry cans and still boil it (Mother of 2)(0012).

I boil bottled water or bore hole water and sometimes I use well water (Pregnant mother of 1)(0008).

Women talked about the frustration of having to boil water for a long time, which is expensive, and time consuming

We have to treat water and boil it before we can use it. Even the charcoal we use for this is now very expensive (mother of 2)(0064).

Mothers in the village boiled water before they drank it and they also added alum. Boiling is expensive and time consuming, and few women can afford to buy bottled water. Alum is a chemical compound used for water clarity and helps reduce water turbidity by catching fine suspended particles present in water in a gel-like

Chapter Four: Living Conditions and Livelihoods

precipitate which sinks to the bottom of the vessel. Clear water can then be decanted into another bowl. However, it is important to note that alum does not kill microbes.

Some women tried to use clean water even if it involved asking for favours.

In my neighbourhood, there is a well in front of the house and one at the back. The one in front is ours and the one at the back is always locked and I cry and beg the owner in God's name to let me fetch water for my child and he lets me. Some parents will not go to such an extent, and just give the child any water that is not good (Mother of 1)(0071).

Locked and secured well water is likely to be cleaner because it is not for public use. A grandmother talked about how she saw a woman manage water when she was out on a visit,

I went to a house where the woman went to fetch a bucket of water. Where she went to fetch the water was very far from her house. She has four children under ten and she wanted to bathe them. She put one child in a big bowl and bathed the child. When she finished she brought the child out, added alum and did some house chores, came back, decanted the water and used it to bathe another child and that was how she bathed all four of her children (Grandmother of 5)(0054).

4.2.3 SPRING WATER

Many of the villagers actually prefer to use the spring because they believe it to be the cleanest source of water and are attached to it. The health educator said,

We only drink spring water in my house. We wouldn't drink water from any other source because it [the spring water] is clean and it's what our fathers used to drink (Health educator)(0045).

I prefer to take spring water I do not like to use bore hole water (mother of 4).

In one group interview one of the women suggested that it would be good if the spring could be channelled into different homes, but while some of the women agreed some did not.

But that wouldn't be spring water, anymore, it is impossible to channel spring water into our home (Mother of 3)(0056).

Some people see the spring as something their fathers left behind and would resist change even if it will make access to water easier.

4.3 FOOD SOURCES

Most women in the village prepared different foods for sale like fermented wet cassava paste (*fufu*), soya bean cake and fermented dried cassava (*gari*). They tended to need more water and sometimes these preparations compromised the drinking water supply of the family,

I know that spring water is a much better source of water for making soya bean cake with but well water is closer to my house and that's what I use (Mother of 1)(0048)[field note, 23/01]

This woman further explained the use of water in making wet cassava paste (*fufu*) for children,

One needs a lot of water to clean the cassava before it can become clean. If there is a bore hole it will make life easier for me and the children. I cannot use water from a well that is not covered, so I normally take from the water I fetch for our home-use to wash the cassava. Like now I don't have drinking water for my family, because I have used it to make this fufu. For some people when they are making fufu they use the same water they use to soak the cassava to make the fufu. You know some people don't care, but I don't do that because I think it's not good, so I get other clean water to make the fufu.

Some people complain, especially children, that when they eat fufu they get stomach pains and diarrhoea. I believe that it is because of the water that was used to make the fufu, especially if it's the same one that was used to soak and

used later to make the fufu, or the source of water was dirty (Mother of 3)(0057).

The majority of rural dwellers in this region of Nigeria depend mainly on wells, bore holes and springs. The lack of piped clean water has a wide impact on the health of children particularly in relation to gastro intestinal diseases.

An analysis of different food substances conducted in the 2008 NDHS is presented below:

Table 4.3: Food Sources in Rural and Urban Areas given to a Child Over the Course of a Day

Food types	Rural		Urban		P value
	Nos/Den	%	Nos/Den	%	
Local food (roots and tubers) Cassava	$\frac{1022}{2868}$	35.6	$\frac{302}{998}$	30.3	0.002**
Eggs	$\frac{378}{2861}$	13.2	$\frac{225}{1000}$	22.6	0.000***
Noodles/bread/gari	$\frac{570}{1000}$	57.0	$\frac{1483}{2870}$	51.7	0.004**

***P<0.001

Source: 2008 DHS Nigeria- North Central Region

Quantitative data from the 2008 NDHS reports the type of foodstuffs, not the quantities, given to the child on the day which preceded the interview. As shown in figure 4.3, there were statistically significant differences at the 5% level between the types of food eaten by rural children as compared with urban children. Although these differences are statistically significant, the actual percentages for tubers, noodles and cassava are similar.

Children in rural areas were given potatoes and cassava more often than eggs, bread and noodles, than children in urban areas.

Table 4.4: Logistic Regression showing Univariate and Multivariate Analysis of Children Given Eggs

Gave Eggs		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	2.24 (1.87,2.68)	1.13 (0.90,1.41)
Wealth (rich as reference category)	Poor	3.57 (2.93,4.34)	2.85 (2.24,3.64)
	Middle	3.32 (2.62,4.21)	2.84 (2.19,3.70)
Education (secondary or higher education as reference category)	No education	2.40 (1.96,2.94)	1.47 (1.18,1.85)
	Primary education	1.93 (1.55,2.39)	1.34 (1.06,1.69)

In the univariate analysis, children living in rural areas, from poor and middle wealth households who had mothers with either primary or no education, were significantly less likely to eat eggs than children living in urban areas, from rich households who had mothers with secondary or higher education.

In the multivariate model, poor and middle wealth was significant at the 5% level. Odds ratio for rural education attenuated, becoming insignificant at 5% level.

Based on the odds ratio in multivariate analysis, children from poor families are less likely to be given eggs than middle household's children and middle households are less likely to be given eggs than children from rich homes. The analysis shows a social gradient in the wealth variables as well as maternal education.

Chapter Four: Living Conditions and Livelihoods

Based on the odds ratio in the multivariate analysis, children from mothers with no education are less likely to eat eggs than children of mothers with secondary or higher education.

Many women in the village said that feeding their families has become very difficult because food is now expensive. Many women in the village think this is the major problem they face.

Food is expensive, we are suffering (Mother of 5)(0062).

Food in the home is really important and is the major thing (Mother of 3)(0055).

The community in Y village is predominately Muslim and many people regularly observe fasting. One man said that after fasting, people did not have food to eat when breaking their fast,

Food is so expensive that when fasting ends people do not have the food to break fast with (Father of 3)(0010)[field note,08/03]

A woman with eight children said,

Food stuff is now so expensive I don't even know how we will manage.

For my boys I have to make five or eight cups of rice and that is not even enough for them and now the rice is so expensive. I don't even know how I will cope (Mother of 8)(0007).

Chapter Four: Living Conditions and Livelihoods

Another woman said that economic inequalities were creating an increasing gap between the upper classes and the lower classes and explained how this affected the types of food mothers could provide for their children. She explained that this was caused by the unequal distribution and allocation of resources which seemed to disappear before getting to the middle and was not filtering to the people at the bottom.

We know that people at the top do not experience this. We suffer a lot but we know some others are not suffering as we are. Like this morning some people ate bread and butter, I just drank hot pap. It is what I had to give my children.

(Mother of 3)(0055)

One mother explained that mothers coped through an over reliance on carbohydrates, and children were fed with food with a high starch content, which did not always meet children's nutritional requirements.

Some children have to eat yam porridge (amala) three times a day because there is no other alternative for them. That child will be very dull, because all he consumes is carbohydrates. There are other children who when they wake up in the morning are given bread and eggs. There will be a definite difference between these two children. Those children (the ones with bread and egg) will be healthy, do better in school and their immunity will be very high and even if they fall sick it will not be often because their bodies will fight off the illness. The other child when he comes back from school, he tells his mother, 'I am hungry' and his mother will tell him to drink gari (fermented cassava). Now gari is 100% starch and there is no nutritional value in it. It is supposed to be eaten with other foods

Chapter Four: Living Conditions and Livelihoods

- not on its own. When a child is sick and is not feeling well and the parents are asked to give the child some medication, it might not work properly because there is nothing for it to work on. Food in the home is really important and a major thing (Mother of 4)(0055).

Some people worry so much about how to feed their family and it makes them sick. They develop high blood pressure and hypertension; people worry and think too much (Mother of 3)(0055).

Some women wanted food supplements to be provided for children in the nursery schools to supplement what they were given at home.

Food supplements should be provided for children, especially those under the age of five, in the school. This would go a long way to assisting parents (Mother of 2)(0069).

Table 4.5: Logistic Regression showing Univariate and Multivariate Analysis of Bread and Noodles

Bread/Noodles/Grains		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	1.24 (1.07,1.43)	1.13 (0.95,1.35)
Wealth (rich as reference category)	Poor	1.42 (1.19,1.59)	1.47 (1.22,1.77)
	Middle	1.36 (1.17,1.58)	1.47 (1.21,1.78)
Education (secondary or higher education as reference category)	No education	0.69 (0.59,0.80)	0.66 (0.56,0.79)
	Primary education	1.23 (1.05,1.44)	1.50 (1.26,1.78)

In the univariate analysis, rural, poor and middle households ranking, and mothers having primary education were all significant at the 5% level. 'No education' is significant at the 5% level but in the opposite direction.

In multivariate analysis, poor and middle ranking households increased, and odds ratios were unchanged but were significant at 5% level. The odds ratio suggests that children from poor and middle households are less likely to eat noodles, grains and bread than rich households. The social gradient here was not very apparent, as the odds ratios for both poor and middle wealth households were similar.

In the multivariate model, rural residence was non significant at the 5% level. The odds ratio for 'no education' remained significant at the 5% level although in the opposite direction and slightly attenuated. Primary education remained significant at the 5% level and the odds ratios increased. This suggests that children with mothers with no education are more likely to eat noodles, bread and grain than children from mothers who have secondary or higher education levels. Children who have mothers with only a

primary school education are less likely to eat noodles, bread and grain than children from mothers who have secondary or higher education.

4.4 COOKING FUEL

An analysis of cooking fuel using data from the 2008 NDHS is presented below.

Table 4.6: Cooking Fuel in Rural and Urban Areas

Cooking fuel	Rural		Urban		P value
	Nos/Den	%	Nos/Den	%	
Electricity	$\frac{7}{3709}$	0.2	$\frac{81}{1301}$	6.2	0.000
Kerosene	$\frac{100}{3709}$	2.7	$\frac{313}{1301}$	24.1	
Coal/charcoal/straw	$\frac{3599}{3709}$	97.1	$\frac{907}{1301}$	69.7	

***P<0.001

Source: 2008 DHS Nigeria- North Central Region

According to the 2008 NDHS in the rural North Central region of Nigeria, 97.1% of women cooked with charcoal, straw or coal, 2.7% cooked with kerosene, and only 0.3% cooked with gas or electricity (Table4.6). The differences between those living in urban areas were statistically significant (P<0.001). An increase in the price of petrol affected the price of all goods especially food, and women were relying more on charcoal to cook rather than kerosene, which was often unaffordable.

The following statement was by a woman explaining how a chain reaction occurs when there is an increase in the price of petrol, and how it has a knock on effect on prices across the board, especially food.

We do not have petrol and kerosene; things are so expensive these days I don't know what we are going to do. Look at this cassava; I can only make fufu from it

Chapter Four: Living Conditions and Livelihoods

twice. Before I could use it about three times. Petrol and kerosene are so expensive and we know anytime petrol becomes dear it affects everything around especially food prices. Now even palm oil has increased drastically, because the people that bring it from the south now pay more to transport it here (Mother of 3)(0057).

The women in this village depended primarily on kerosene, wood and charcoal for cooking fuel. Many talked about how expensive and unavailable kerosene was.

Kerosene is so expensive, sometimes we have to go looking for firewood for cooking. Kerosene is now 35 naira and that cannot even boil rice. Even petrol is scarce; kerosene is now more expensive than petrol. Everybody needs kerosene in their house especially for their lanterns. We had to adjust, there is now a certain light that uses batteries, so that's what we use these days. The 35 naira worth of kerosene is not enough to use in the lantern at night (Mother of 3) (0055).

Kerosene is expensive and we don't have it. If we go to the only petrol station here in this village there is none. We have to travel to the city, as the electricity is not stable; the kerosene we once bought for 500 is now 600 per gallon (Mother of 2) (0072).

An analysis of electricity using data from the 2008 NDHS is presented below.

Table 4.7 Electricity in Rural and Urban Areas

Electricity	Rural		Urban		P value
	Nos/Den	%	Nos/Den	%	
	$\frac{502}{1477}$	33.9	$\frac{975}{1477}$	66.0	0.000

*****P<0.001**

Source: 2008 DHS Nigeria - North Central Region

The analysis of the 2008 NDHS showed that 66.0% of people in the urban areas had electricity in good working order compared to only 33.9% who had a stable electricity supply in rural areas. There was a significant relationship between the type of place of residence and electricity ($P < 0.001$).

Electricity affected the water supply and other aspects of village life. Most of the women thought people were discouraged from setting up companies in rural areas because there would be no steady supply of electricity to power equipment. Women also said that a lack of electricity affected industrialization, which in turn led to unemployment.

Electricity is a major problem because it affects industrialization and employment (Mother of 3)(00053).

Women talked about how there was a lack of electricity for long periods.

We have not had electricity in this house for eight days and when eventually there was light, it did not last for three hours (Mother of 3)(0043).

Women talked about how not having electricity affected children especially in the dry season when temperatures were very high.

Especially for the children at night, we have to fan them before they fall asleep, and it makes them restless and they develop heat rash (Mother of 3)(0072).

Women said that there could be no electricity for six to eight days and when it would eventually come, it would only last a few hours. When it lasted longer, people sometimes panicked, saying they would rather the light was taken now, so that they could be sure to have it in six days time. Added to this was the problem that even when there was electricity, it was at times too weak to power the water pump.

4.5 LIVELIHOODS

The main occupation in the area is subsistence farming. The village has a popular market, which takes place every five days for people to buy and sell foodstuffs. The main foods grown include yam, cassava, vegetables like okra, tomatoes, peppers, and grain like maize and millet. Wives and relatives help on the farms, with families living together in the same compound. Because this village was close to the main city (about one hour's drive) people that worked in the city could live in the village where accommodation was cheaper. They tended to live in rented houses, which they shared with other people whom they did not necessarily consider family.

Young men in the village also engage in hunting with dogs. A typical hunting trip involved leaving the village late in the evening on a bus, and not returning until early the next morning. Bush meat is sold in the market or sold along the major highway that passes through the village. Many of the young and middle aged men had migrated to the major cities like Ilorin and Lagos for work.

Chapter Four: Living Conditions and Livelihoods

Many of the women, apart from working on their land, also engaged in small business activities like selling foodstuffs and tailoring. There were many *gari* making industries around the village and the village women processed cassava into *gari* and soya beans into soya bean cake. Some of the *gari* factories were family owned and women belonging to the same family (mother in laws, daughters and daughter in-laws) often worked together. Other men were also taxi drivers in the city, bricklayers and carpenters.

Analysis from the 2008 NDHS showed that 70% of men living in the rural area of Nigeria's North Central region engaged in a form of agriculture. The qualitative data showed that men sometimes combined farming with their other day to day jobs like road-side mechanics, bricklaying, carpentry and taxi driving.

Table 4.8 Occupation of partners/husbands in rural and urban areas

Residence	Partners occupation							Total	P
	No work	Professional	Sales	Agri/farmers	Household domestic	Skilled manual	Unskilled manual		
Urban	243	39	286	245	237	198	25	1273	0.000
Rural	264	46	233	2591	238	241	39	3652	
Total	507	85	519	2836	475	439	64	4925	

This table shows agriculture is a common occupation for men in the area and that there is a greater prevalence of it in rural rather than urban areas.

Women talked about the high rates of unemployment. The market women often said that if employment were not provided, people would be unable to buy from them, which would in turn affect the women's ability to provide for themselves and their children.

I am a market woman and if people don't have jobs how will they be able to buy from people like us, if they are not paid their salaries? (Mother of 5)(0070)

Chapter Four: Living Conditions and Livelihoods

Because of the economic situation, some women had been forced to carry the responsibility of housekeeping alone, with little contribution from their husbands. This woman says her husband does not have a job and the responsibility of maintaining the home rests on her. She cooks different foods for sale to support herself and her children.

Well he does not have a job for now, so the whole load of taking care of the children rests on me. I sell fufu, rice and ogi in the market, and I use what I get from there to care for the children. The problem is that even when he has money I do not know and he does not give me any (Mother of 3)(0060).

Another woman in the same interview group added that men were not contributing enough and were not taking up responsibilities in the home, as good husbands should.

These days there are no husbands anymore. What we have are fathers of children. There are those that are lucky and marry responsible men, but if one is not lucky and falls into the wrong hands, then they're going to have to be able to take care of themselves and their children (Mother of 2)(0072).

4.6 EDUCATION

Many women in the village talked about the importance of children's education. They talked about denying themselves of things so that they could afford to educate their children.

When I was young I did not know better, I needed to buy clothes in my social group, later I knew I had to sacrifice all that for the education of my children because if they are educated and get good jobs, they will buy me clothes and

Chapter Four: Living Conditions and Livelihoods

even a car some day. I want my children to have a better life and have good professional jobs I can be proud of (Mother of 3)(0060).

I did not study so much and I used to tell myself that my children would be educated. As long as God gives me the power I will educate my children. Education is vital (Mother of 2)(0064).

Many women in the village thought the education of their children was important but were unable to send their children to school.

Our children's schools, charge us so much these days, and the children keep disturbing us, saying we were asked to bring 230 naira today. The next day they ask to be given 250 naira for different expenses. It's not easy for us at all. I have five children in primary school, and I have children in secondary school too (Mother of 7)(0056).

Nowadays nobody wants to send their children to primary school anymore, only to private nursery schools. We want the primary school to be as good as the private nursery. It is the private ones that take all the money now, in the public school the children are not trained well and the teachers are not paid well, so instead of teaching they spend their time talking and there are strikes (Mother of 4)(0070).

Some women in the village said that the cost of living had made them reduce the number of children they have and that people do not have as many children as they used to have.

Chapter Four: Living Conditions and Livelihoods

Educating children now is so expensive. In the past our fathers used to have as many children as they could because education was free then. My mother had 7-8 children, but we women nowadays can't afford to do that. Before they used to give mothers free food for their babies in the health centre, now there is nothing like that (Mother of 3)(0053).

Some people derided a popular Yoruba musician when he sang in his popular song that if you can take care of two children why have 20. They accused him of saying that people should not have children. Now who is telling who now? Hunger will teach the poor man wisdom. If you can only take care of two children why would you have 20? (Mother of 3)(0057).

This mother explained the cycle of poverty which children are born into.

If a woman knows it's only two children or even three she can take care of, she should stop having children and concentrate and care for them properly. In poverty one should not continue to have children, saying that God says one should have a lot of children from two upwards (mee in olorun wee) without caring for them. If this continues, four to five generations can live in abject poverty (Mother of 2)(0072).

This section has presented Y village's material conditions through data from the NDHS for the region and women's accounts concerning access to water, fuel and food, and their livelihood strategies. Mothers are clear that these aspects of their lives affect their children's health. Secondary analysis shows that these material conditions are linked to maternal education, levels of wealth and place of residence, all of which have significant health implications, particularly in terms of access to clean water and the

nutrition levels of the foods available to them. Human agency is evident in the type of trade they engage in, in how shortages of water are dealt with and how they deal with structural violence in their society. Livelihood strategies among rural villagers are multiple, including subsistence farming, country migrant labour and trading in order to survive.

4.7 HEALTH CARE UTILIZATION

The provision of health centres is the responsibility of the Local Government Area (LGA) with the support of the State Ministry of Health within the overall national health policy. The Primary Health Centre (PHC) targets low income people. Health care delivery at the LGA is headed by a Supervisor of Health, while primary health care is headed by a PHC co-ordinator and assisted by a deputy co-ordinator. The PHC co-ordinator reports to the LGA secretary. PHC operates at three levels within LGAs, these are the ward/village, district and the local government levels (Khemani, 2005).

The village has one basic health centre, a private maternity clinic, three traditional healer/birth attendants and five patent drug stores. There is a comprehensive primary health centre at the LGA headquarters with a visiting doctor. In principle, cases from the basic health centre should be referred there, but because the centre is about a two hour's drive from Y village, cases were referred instead to the tertiary institution in the main city which was about an hour's drive from the village. The nearest cold room is located in the same district in which Y village belongs and is a 45 minute drive away.

4.7.1 HEALTH CENTRE

The basic health centre in the village was one of 35 centres in the Q local government area. It was the only health centre in the village, serving an additional eleven villages in the surrounding area. The basic health centre was headed by one chief health nursing officer, who was supported by six other nurses and one eye clinic nurse. Others have diploma certifications and are five community extension workers (CHEW), one laboratory technician, four health centre attendants and three health educators who lived in the village. Two of the health educators were men, while the rest of the staff were all women. All the nurses lived in the city and would commute to the village to work. Only three of the nurses had their own cars, the rest used public transport to get to work.

The building was large but empty. As one entered the building, the first room was large but sparse, with only a table on one side of the room (photo 8 and 9 in appendix). Most of the glass windows were not in place and the health centre had no electricity or water. The chief officer's office was the only furnished room with a table, a chair, three couches and a window with ventilation blinds. Also present in the room was a locked cupboard where drug supplies were kept. There was only one admissions room with four beds. In addition there was no tarmac road leading up to the health centre.

On most days, the health workers were not very busy and an average of ten people would come for treatment. Sometimes people came without money, asking to be treated on credit, but were left untreated as in the past too many people had not come back with payment. Registration in the health centre costs 250 naira and treatment of any ailment costs at least 500 naira. Malaria treatment is between 600 to 700 naira. For

Chapter Four: Living Conditions and Livelihoods

pregnant women registration cost 200 naira and delivery 2000 naira, if materials were needed for the delivery, they were either brought by the woman herself or provided by the health centre with an additional 1000 naira.

The local government supplies drugs to the health centre, but supplies are irregular. To solve this problem drugs are sold at a slightly higher price to the patients so that when supplies run out the health centre is able to use the excess money to replenish stock.

4.7.2 IMMUNIZATION

Immunization is carried out in line with the National Immunization Health Policy in Nigeria, the goal of which is to reduce childhood morbidity and mortality through adequate immunisation coverage of children under 59 months old. All children under the age of one are supposed to receive protection against childhood tuberculosis, polio, diphtheria, pertussis, tetanus and measles. The policy also states that immunization is free to members of the population and is carried out by the primary health centres.

The routine immunization schedule stipulates that infants should be vaccinated with a dose of Bacillus Calmette-Guerin (BCG) vaccine at birth; three doses of Diphtheria, Pertussis and Tetanus (DPT) vaccine at 6, 10 and 14 weeks of age; at least three doses of oral Polio vaccine (OPV) at birth and at 6, 10 and 14 weeks of age; and one dose of measles vaccine at 9 months old.

Chapter Four: Living Conditions and Livelihoods

Immunization days occur on the first Thursday of every month. These are the days the health centre is most busy and an average of 40 women come for immunization. On the days leading up to immunization, health educators go around the village to invite mothers and remind them to bring their children for immunization. They also sometimes go into churches and mosques to remind mothers and caregivers about the upcoming immunization days. Immunization starts at ten in the morning, but preparations start well before. Benches are borrowed from a nearby primary school for the women. An educator collects vaccines and syringes from the cold room at the district primary health centre by motorcycle taking about 45 minutes. Immunization days start with health talks on various health issues like personal hygiene, vaccinations, breastfeeding and family planning with some songs and dancing. Then typically a nurse begins to call women forward for vaccinations, at which point new babies are also registered.

There were times during my fieldwork when a nurse had made errors and recorded patients twice for the same vaccine, causing confusion, which often took a little while to resolve. Other delays that brought about frustration included someone going to pick up vaccines but forgetting to bring syringes and needles.

Immunization is free but women had to either bring sterilised needles and syringes, or buy them at the health centre for 50 naira. The nurses frowned on women who came late for immunization since vaccines have a limited time span in which they can be left outside of the cold room. Unopened vaccines were returned to the LGA headquarters after immunization.

Chapter Four: Living Conditions and Livelihoods

Vaccines were not always available, and when there were not enough babies at the health centre, the staff would not open the batch.

I have gone many times for immunization but when I go, they tell me at the health centre that the vaccines are not available. The person in the health centre wants a large number of babies to be present before they administer the vaccines because they do not have small doses (Pregnant mother of 1)(0008).

Fees for care are a barrier both for immunization and antenatal care.

I have not vaccinated my child because I can't afford it (Mother of 1)(0007).

We are asked to pay money at the health centre but it is too expensive for us mothers. I wanted to go to the health centre for antenatal care but I couldn't go because it was too expensive for me. It would be very nice if pregnant women did not have to pay fees in the health centre. We sometimes have to pay 300 to 400 naira for immunizations (Pregnant mother of 2)(0008).

During my household interviews I came across a woman who was six months pregnant who looked ill.

I did not go to the health centre for antenatal care because I could not afford it, I go to the traditional healer (alagbo) (Pregnant woman)(0003)[field note, 21/05]

The health educator related that when patients came in and did not have the money to pay for services at the health centre, they usually asked him to stand in for them as a guarantor for payment. He used to do this but he stopped doing so because

after a few weeks there was about 5000 naira to his name, and people did not return to pay the money they owed.

4.7.3 DRUGS, ACCESSIBILITY AND EQUIPMENT

All the women talked about the irregular supply and lack of equipment in the health centre.

We need more health centres (Mother of 3)(0062).

We need more hospitals, and we don't want health centres that are not equipped, lack drugs and lack qualified nurses and doctors (Mother of 2)(0046).

I would not have to come this far, spend money and time to come here, it would make life really easy for us in our village if we had a health centre of our own instead of coming here. Sometimes the stress of coming here puts me off and I am not encouraged to bring my child (Mother of 3)(0056).

Other women complained about the lack of equipment in the village health centre.

In some clinics in the city, when you take your child for immunization they will weigh our children. There is nothing like that here (Mother of 2)(0071).

People complain about this health centre, that when they come for the drugs they need to buy, they will tell you they are still expecting the drugs (Mother of 2)(0064).

This woman believed that if health care services were free for pregnant mothers and their children, they would not go to the traditional healers (*alagbo* women).

Chapter Four: Living Conditions and Livelihoods

If things were free for us, especially for pregnant mothers and children, if this was the case, people would not visit the alagbo because they would know that they would be helped here (Mother of 2)(0056).

This woman explained that it is generally believed that health centres are not adequately equipped and lack trained personnel. This discourages people from coming unless they have no other place to go.

I heard that at this health centre materials are not always available. I have not used this health centre before and that's the reason I haven't come. People believe that a government health centre located in a village is not always equipped the way it should be (Mother of 2)(0064).

A health worker in the village health centre had a different standpoint.

Women in this village do not understand the importance of health care delivery. They believe more in their traditional methods like making and taking different herbs (agbo) and going to the alagbo women when their children are sick. We are just trying our best to make sure we are doing home visits almost every day to enlighten them and give them health education so we can have a better turn out (Health provider)(0077).

Chapter Four: Living Conditions and Livelihoods

She added,

I remember a time when we were doing house to house polio vaccinations (NID) and my supervisor complained that the immunization coverage was low for the village. I told him that some people do not want their children to be vaccinated. He thought I had done a bad job so he volunteered to follow me to one of the houses where immunization has been refused so he could talk to them. I did not want to follow him because I was scared but in the end I did. When we got there he gave a long talk about why they needed to vaccinate their children and the benefits of polio vaccination. He then asked them to bring their children out for vaccination. The father said, 'let me go and get the children'. I did not like the tone in which he said it, and I was really afraid. He suddenly rushed out with some charms wanting to harm us and my supervisor and we had to run for our lives. We heard him saying in anger 'I said I don't want my children to get vaccinated, is it by force?'

She also said that even villagers who work in the health centre would still rather go to a traditional healer.

The daughter of one of the villagers who works in the health centre was pregnant and was soon to deliver. So I reminded him to tell his daughter to come to the health centre for delivery. But some few days later I heard that the baby died at the traditional healer's (alagbo) place where the daughter went for delivery.

Chapter Four: Living Conditions and Livelihoods

Some of the women were concerned about the lack of drugs in the health centre which forced them to seek drugs in patent stores, where expired drugs were often sold by unqualified personnel.

We also have other problems with these health centres around here. They are so poorly equipped. It's so bad sometimes when you want to buy these medications that have been prescribed for you. You can't get them in the health centre and have to go to the patent store. I personally don't like buying my drugs from the patent store because most of the people that sell these drugs do not know anything about them. Besides one has to be careful not to buy expired drugs, which are still being sold to people (Mother of 3)(0046).

This father of two children added

Drugs should be made cheap and accessible to everybody especially mothers and their children. Like right now, I am in my thirties and I have serious back ache. I just went down the street to buy some medicine. The person in charge there asked to give me an injection. I said no because I do not know if he is qualified to do so. For all I know he might not even have any qualification. (Father of 2)(0003)

4.7.4 ATTITUDE OF HEALTH WORKERS

Many women talked about the attitude of the health workers especially to pregnant women. They noted that this makes them seek alternative care. This man complained about the way his pregnant wife was treated at the health centre and what he did about it.

I have not been too pleased with the way health workers attended to my pregnant wife. When she was about to give birth one of the health workers from the health centre was called in and was not sympathetic at all. It was so bad that I forbade my wife to go there again although it's close to my house. I was so upset, I went to get a vehicle and I took her to the only private hospital in the village, though it cost more money. I was happy to go to where I will be treated with honour and respect. Also, another time when my wife was pregnant and I realized she was getting pale and anaemic, I bought some blood tonic for her and gave her the injection myself (Father of 2)(0003).

When I wanted to have my last child, I was having many contractions and I knew it was about time, so I went to the health centre. When I got there, the nurse just took one look at me and sent me home saying I was not ready. On the way home, the contractions intensified and so I went to the alagbo woman and there I had my baby. I did not go back to the health centre because I knew that if I really needed help, I knew I would only receive help from the traditional healer (alagbo woman) (Mother of 3)(0003).

Chapter Four: Living Conditions and Livelihoods

This woman also complained about how she was treated

I was rushed to this health centre because I was in labour. I was left on the floor for a long time with no one attending to me and the baby was almost out before I was led to one of the beds. One of the nurses, who had been ignoring me the whole time, slapped me on the back and said 'you better not have the baby on the floor'. I was eventually led to a bed. I had my baby myself and did not get any assistance from the health worker in charge. When I go with all my stuff to the alagbo women for delivery it seems I am treated better and not insulted (Mother of 4)(0013).

There are many other cases of patients reporting a lack of respect at the health centre. One woman brought her ten month old son for immunization. When the health worker found out that the child had never been immunised, she scolded the mother for not bringing her child in sooner in front of all the other women. They also called other colleagues to come and have a look at the woman. I noticed this woman was very quiet after and did not participate much in discussion with other women (Field note).

Univariate and multivariate analysis of the 2008 DHS data for Nigeria's North Central region was carried out using maternal educational level (higher, middle, primary), wealth index (rich, middle, poor) and type of residence (urban/rural). These were analysed with place of delivery (home/ private or government hospitals).

Table 4.9: Logistic Regression showing Univariate and Multivariate Analysis of Place of Delivery

Place of delivery		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	4.25 (3.72,4.87)	1.59 (1.34,1.89)
	Poor	7.69 (6.63,8.92)	3.73 (3.10,4.48)
Wealth (rich as reference category)	Middle	2.14 (1.85,2.49)	1.69 (1.44,1.98)
	No education	10.80 (9.21,12.67)	6.61 (5.58,7.83)
Education (secondary or higher education as reference category)	Primary education	3.27 (2.82,3.67)	2.96 (2.54,3.46)

In the univariate analysis, women living in rural areas in poor and middle wealth households and those with no education or only primary education are significantly less likely than urban, rich and secondary educated women to deliver in hospital. In the multivariate model, type of place of residence, wealth index and maternal education level remained significant at the 5% level although the odds ratios attenuated. The data suggests that poor women were more likely to deliver at home than middle income women who in turn were more likely to deliver at home than high income women. The same pattern is noted for those with no education and primary education compared with those with secondary education. This trend also suggests that even when place of residence and wealth have been accounted for in the analysis non educated mothers are six times more likely to deliver at home than mothers educated to secondary level or above.

Chapter Four: Living Conditions and Livelihoods

One mother explained how different people gave her advice about where to go when she was pregnant. She was discouraged from going to the maternity ward in the teaching hospital because she would be asked to donate blood and she would have to pay more money.

I get ill when I am pregnant, so when I get sick, I go to a private hospital. After a while people advised me to go to the maternity ward in the teaching hospital. Different people were just giving me different suggestions and naming different hospitals. They told me I would be asked for a bottle of blood in the maternity. That was what discouraged me. I was already sick, and they would tell me to donate blood? I would have to tell my husband I wanted to change hospital and that he should give me 5000 naira to use for blood, I couldn't and I was discouraged and I did not go (Mother of 2)(0046).

If you want to deliver in the night, you will not find anybody here (Mother of 2)(0037).

This woman had her antenatal care in the health centre, but she went into labour at night,

I took all my antenatal care. When I went into labour during the night at about 2am, I knew that if I went to the health centre there wouldn't be anybody to attend to me. So I had my baby in my room and nothing happened to me, I called a woman, my neighbour, and she helped me (Mother of 2)(0072).

Chapter Four: Living Conditions and Livelihoods

This woman said about the health workers,

We need them to be here for both night and afternoon duties. If they were we would not be having babies in the home like we do (Mother of 3)(0072).

This woman explained she also went into labour at night,

That day, I was at home with my father in-law and my mother in-law. We even had a visitor that day and I had to deliver in my room. Where do we want to go at 2am? There was a curfew and we were asked not to go out (Mother of 2)(0071).

The health centre did not have a supply of electricity or of water. When women come in for delivery they are asked, amongst other things, to bring water to be used during their delivery.

There is no water, and if one gives birth there, or before one gives birth, you will be asked to go and fetch water that can be used for you. There is also no electricity (Mother of 3)(0037).

No light, no equipment, if you want to have your baby in this health centre you will have to bring water from your house (Mother of 3)(0069).

Chapter Four: Living Conditions and Livelihoods

The health worker said that they refer cases they cannot handle. The health centre also had a new unit where HIV/AIDS tests were carried out.

We take care of ailments like malaria, diarrhoea. We give and provide immunization services once a month to mothers. We take delivery for normal cases; I mean we do not deal with complicated cases, like deliveries that require caesarean sections, those we refer. We have a new unit for HIV/AIDS. We can now carry out an HIV test and refer HIV positive patients to where they can be better treated (Health worker)(0077).

HIV/AIDS tests are carried out on all pregnant women. If the results are positive they are not told. These women are told they need to be referred to the teaching hospital in the city, where their case can be better handled and nothing more. The officer in charge said they are not informed because the health centre could not handle it and would not be able to give the necessary support. A register is kept for all those that come for the HIV test, and HIV positive patients are recorded in red in the register. The researcher was shown this file and counted an average of three to four patients in a month.

4.7.5 HEALTH WORKERS

One health worker talked about a divide in the village which hampers health delivery and prevents more women from using the health centre.

The main cause of the low turnout of people coming to the health centre is that basically this community is divided in two and they are not on good terms with one another. Since the health centre is located closer to one side, people from the other side do not come here. So only one part actively attends the centre, and they are not ready to cooperate with us here. Sometimes we go out visiting before people can even turn up. We send our health educators out and even the nurses. When we want to give immunization we have to go to their houses one by one to inform them of the day and even on that day only very few turn up [field note 0078, 12/07].

The health worker also said that because of the ongoing feuds between the two parts of the village, the health workers are always on the alert as they do not want to be caught in the middle.

Another reason given by the health worker for the low utilization of the health centre was the women's beliefs.

They have their beliefs entrenched in traditional medicine and this will take a long time to go, if ever (Health worker)(0077).

Chapter Four: Living Conditions and Livelihoods

The health provider also mentioned instances when pregnant women with difficult deliveries are brought in and are referred to the teaching hospital in the city. However what tends to happen is that instead of heading out of the village, the hired vehicle carrying the woman turns back into the village and heads to the *alagbo* woman's place.

The health provider in the village health centre said that they do not charge the women a lot compared to what is being charged in the private clinic.

Because this is a local government health centre, our charges are very low compared to the private hospital. It is as if we are giving our services free. If we want to treat malaria we do not charge more than 400 to 500 naira together with registration card. Whereas in a private clinic it will be between 1000 to 3000 naira. We do not receive much money here just to motivate them to come but since drugs are sent to us from the local government, it's just a little we collect from them. We don't charge much, it is as if we are giving them free treatment (health worker)(0077).

The health care provider added

Here the HIV test is free but in the private hospital it's over a thousand. Also TB tests and treatment is free. So there are many things that are free here and are charged a lot for in the private hospital.

Payment is more flexible with the traditional healer (*alagbo* women).

The *alagbo* woman said about payment,

Chapter Four: Living Conditions and Livelihoods

I do not charge my patients until I have treated them and they are fine. And if they have the money, I only ask for half and will not collect the full amount until the child gets well or the mother has delivered safely. They can also pay when they have the money and also in kind, like with a chicken or a keg of oil.

She added,

Even when women are having difficulty giving birth and they have been taken to the health centre and they can not help them, they bring them back to me, and they deliver safely (Alagbo woman)(0039).

The health worker did not believe that the traditional healer (*Alagbo*) charged less than them.

They take things like a goat, food, maybe a can of red oil. Things like that are costly, but we can't do that here. We charge just 500 naira and they also need to bring all the things they need for delivery from home.

Contrary to what the village women said about the absence of health workers at night, the health provider still insisted that it is because the women would rather use traditional help.

We run two shifts here and we have people in the village who do permanent nights. We have someone mothers can call upon at night. It's the security man here that helps to call the person when they need the attention. It's because they

Chapter Four: Living Conditions and Livelihoods

believe in their local alagbo. They give excuses for not coming for delivery here (Health provider, 0077).

However, another health worker contradicted this account.

We do not do nights, you can go around the health centre, and there is no security in this health centre. That is the only room that is secured [referring to their general office]. The other ones are open rooms no doors, no windows. The little things you see around like the curtains and the window are things we are now trying to repair through community effort. We know there are thieves in the nights. If we come they will threaten our lives [field note 0078, 12/07].

The health worker added that some women come to the health centre for antenatal care but when it is time to deliver the babies, they go to the *alagbo* women. Following births, babies are brought to the health centre to be checked.

In addition, the health worker also talked about the difficult conditions they had to work in, saying they had to improvise most of the time and make the best use of the little they have. They expressed frustration.

There is no water, although I heard that they said they would dig a bore hole for the centre, until now nothing has happened. We used to go to the nearby house to fetch water from a well. That's not comfortable but we just have to manage. You know we improvise here. Almost everything we do is through improvising. If we didn't, we would not be able to do anything tangible here. There is knowledge, and personnel but no instruments to work with. We cannot provide everything unless the government provides for us. We do refer people to secondary care, but there is nonetheless much we can do but no equipment to do

Chapter Four: Living Conditions and Livelihoods

it. The room and the structure provided for us here is inadequate. We do not have more than this one ward for both male and female patients. So that's why we cannot admit people - because we can't admit men and women in one place or have someone stay for more than 12 hours, because there will be no place to put them. If we keep a woman and a man is brought in we will not be able to keep them together. We only have four beds here and we reserve one for deliveries. We have the knowledge but no equipment to work with. We cannot admit more than three people at once. I cannot keep them on the floor and I can't expect them to bring a mat - it's not convenient. If I want to hang a drip, I hang it on the wall (Health worker, 0077).

The health workers also suffered from poor conditions of service. On one occasion, a strike was being advocated by the health workers, with many of the staff getting angry and upset. During the disorder, village women who came into the health centre for care were not attended to. Their salaries had been halved by the local government. Earlier in the year most of the health providers in the health centre took loans that were regularly deducted from their salaries, which meant the pay they took home had been reduced to an amount they could not live on. They said this was only happening in their local government area.

The officer in charge was pleased by how much immunization attendance had improved in the last five years. She attributed this success to the advocacy which the staff of the health centre carried out.

Chapter Four: Living Conditions and Livelihoods

I am very happy about it. I told you that we do home visits when immunization is about to commence. Sometimes we go to churches, mosques and the market to inform the women. We go from house to house so that they will come. When they get here we give health talks on each of the immunizations they take. There has been great improvement compared to how it was before (Health worker, 0077).

The workers in the village health centre said that they hardly experienced any child deaths since they always referred cases they could not handle, but added that the situation was not easy,

Now you have been here and you have seen what is going on in the village. When you get back you can see the way and manner you can help. Maybe monetary wise or in any other way, or maybe during seminars or conferences you can discuss what you have seen here, let people know of our plight, be our voice.

4.8 DISCUSSION

This chapter explores the socio-economic context, living conditions and livelihoods of households in a rural village of the North Central region of Nigeria. The findings of this chapter address the following theoretical questions:

- *How does interfacing epidemiology and anthropology extend understandings of care giving?*
- *How is structural violence experienced at the community and household levels, and what is the scope of agency for caregivers?*

They also address the following empirical research question:

- *What are the socio-economic factors affecting the health of children and health seeking behaviour of mothers and caregivers in the village?*

By interfacing epidemiology and anthropology through an analysis of the 2008 NDHS with ethnographic fieldwork in the village, a more nuanced understanding of the living conditions and livelihoods of the villagers has been reached. The findings concerning water sources in the NDHS showed that there was a lack of clean safe water in rural villages in this area and the ethnographic data established the complex choices and decisions that households are faced with in terms of accessing water. For example, the decision to use clean water for making food to sell and to use unsafe water for domestic use.

Chapter Four: Living Conditions and Livelihoods

The NDHS data on the area's electricity supply combined with the ethnographic fieldwork established that even when there is a supply it can be jeopardised by lack of maintenance which also impinges on livelihoods since most of the trade engaged in requires some form of electricity. The NDHS showed that women and caregivers in rural villages mainly used charcoal, and that only a few used kerosene. The ethnographic data established that kerosene is expensive and inaccessible to most of the women. The NDHS showed that poor mothers with no education in the village were less likely to give their children eggs compared to urban, rich and educated mothers. They are also more likely to feed their children with cassava and other tubers, noodles and bread.

The ethnographic data complemented the NDHS data, in as far as showing that mothers and caregivers are not able to feed their children with the types of food and the quality of nutrition they want. This is because as food prices have risen so mothers and caregivers cut back on food like milk and eggs, and reduce the amount of rice they would ordinarily cook.

This chapter has also addressed how structural violence and material circumstances constrain daily living and livelihoods. The lives of the women in the village are influenced by many constraining factors. Poverty is a major constraint affecting access to health care and standards of living. Community factors, as well as access to and utilization of health care, and household factors were explored through the living conditions and livelihoods of women and caregivers, using Fotso and Kuate-Defo's (2005) framework. In addition, the Fotso and Kuate-Defo (2005) model explored the influences of socio-economic status on child health and how household and

Chapter Four: Living Conditions and Livelihoods

community levels interact in the process. The framework structured an exploration through access to and utilization of health services and child characteristics.

The livelihoods of women and caregivers in this village are shaped by structural violence as defined by Farmer (1999) and Scheper Hughes (2004), which provide an optic through which to view materialist explanations of health inequalities. Poverty affects the livelihoods of mothers and caregivers in the village and materialist explanations of health inequalities suggest that health inequalities are a result of the differential accumulation of exposures and experiences rooted in the material world (Lynch *et al*, 2000). The argument in this chapter is that the material circumstances of mothers and caregivers in the village affect the care of children.

Unequal income distribution in this area leads to negative exposures coupled with very limited resources. The materialist explanation refers to factors outside of individual control to which some sections of the population are differentially exposed (Blane *et al* 1997).

While possessions are strong markers of status in rich countries, in poorer countries, like rural Nigeria, necessities are the focus point through which to understand consumption, as many people lack access to food with a high nutrient content, clean water and shelter. Raising living standards and establishing a more equal distribution of scarce resources is vital (Wilkinson and Pikett, 2009).

A Neo-materialist approach to health inequalities might look to the subsidised public provision of infrastructure for national health care. In Y village the government provided just four bore holes of which two were functioning. One of the functioning bore holes was fitted with a pump, powered by electricity and pumped into a storage tank with about six outlets. While the rationale of the idea was a good one in that more

Chapter Four: Living Conditions and Livelihoods

people would be able to get water at the same time, the village's erratic and unpredictable supply of electricity caused constant problems. Added to this, was the problem that the only transformer in the village, was not only undependable but this source of water was monopolised by a few of the villagers. Access to safe water and electricity was constrained by infrastructure at the community level.

According to Van de Poel *et al* (2009), when there are relatively large variations - both between and within communities - in terms of access to electricity and water investments, community infrastructure can help to narrow differences in infant mortality. Y village provides an example of a form of structural violence in which caregivers and mothers are constrained due to little provision of accessible safe drinking water forcing them to seek alternative unsafe water sources. The analysis of the NDHS showed that mothers and caregivers in urban areas have better access to safe drinking water compared with their counterparts in rural areas and better access to health facilities.

The health centre provided by the government in the village is shared by eleven surrounding villages. The health centre has four beds, and no electricity or water supply, an irregular drug supply and no cold room. The absence of potable drinking water and drugs further compromises the health care which mothers and caregivers are able to provide for themselves or their children.

Direct deprivation is the situation in which people do not have enough money to pay for aspects of social participation, such as food and heat (Bertley, 2004). The resources available to an individual are related to the infrastructure, for example, health, education, transport, environmental control, availability and nature of food and

Chapter Four: Living Conditions and Livelihoods

type of housing. The material structural circumstances shape the day to day lives of those living in the village and the health of their children.

Women engage in small businesses and their husbands work on their small holdings, growing food for subsistence and for sale. Some of the produce is sold to cover other aspects of their lives. Often the income generated in this way is not enough to pay for the family's needs, and amounts of food are often compromised. In the UK people have been found to cut back on food and heat, to pay for things like holidays or presents for the family (Bush-field, 2006). This is of limited relevance to a non-Western, poor rural setting. In this village, people use the clean water collected from bore holes to make food for sale, whilst using water from wells for their home use, which is sometimes less clean than bore hole water. Ideas concerning relative poverty (Wilkinson, 1997) are of less relevance in a community living in absolute poverty, as in this setting.

According to Pearce *et al*, (2003), children who grow up in deprived circumstances may have increased risks of poor health outcomes in adulthood, irrespective of later life social circumstances. Life course models of health inequalities suggest that events and processes starting before birth and during childhood may influence both an individual's physical health and their ability to maintain health. In many ways, women remain the gateway to the health of children. In terms of child mortality and morbidity, a woman's well-being and other aspects of her life have profound effects on the survival of her offspring. Women who are already compromised because of stress and strain and who are not eating a nutritious diet may give birth to children who are more vulnerable to infectious disease. These children experience 'double jeopardy' (Scheper-Hughes 1992) due to the combination of being already

Chapter Four: Living Conditions and Livelihoods

compromised in the womb and being born into material disadvantage. In a study carried out in India, women who experienced one child death were three to four times more likely to experience another infant death compared to families which had never experienced a child death. One of the reasons suggested is short birth intervals between siblings, compounded with mothers being less well nourished in disadvantaged homes (Arulampalam and Bhalotra 2004).

Low income also influences individual's home conditions, living environment and access to health care facilities. In Nigeria, primary health care is paid for through user fees as an out-of-pocket payment. In reality, nothing is free in the village health centre although it is subsidised and - in comparison to the cost of using a private clinic - much cheaper. Immunization is said to be free but mothers have to provide their own needles and syringes, or pay for them at the health centre. Drug supplies from the local government are erratic, and the health workers have devised a system to cope with shortages by selling drugs at slightly higher prices so that they can restock drugs before new supplies come in. This system results in a regular supply of some of the most basic drugs like paracetamol, but makes drugs supplied by the health centre more expensive than they should be. There are issues of accessibility, affordability and availability in terms of rights to healthcare in this setting (Farmer, 1999).

Traditional health practitioners are cheaper and sometimes more accessible with flexible payment in cash or kind. Similar results were documented in a study conducted in the eastern part of Nigeria. Lack of drugs and medical supplies resulted in poor urban women seeking other sources of health care (Ikoh *et al*, 2008). This will be further explored in Chapters 5 and 6.

Chapter Four: Living Conditions and Livelihoods

Areas where there is high income inequality tend to experience lower levels of public and social services like transport and education. The qualitative data shows that women see the education of their children as being very important but expensive. They complained about the low standards in public schools and that private schools with higher standards are too expensive. This may mean that children leave school at an early age, either because their parents cannot afford to pay, or because they need to start earning sooner to contribute to the family income (Wilkinson and Pickett, 2009).

According to Blane *et al* (1997), a person with a poorer background with fewer qualifications and credentials is less likely to be able to claim a cleaner, safer, well-paid job. In contrast, a person well placed to successfully compete for a good job would have likely experienced other advantages earlier in their life course. Therefore the livelihoods of households in this village in rural North Central Nigeria are shaped by the material circumstances of structural violence. Mothers and caregivers have to make decisions limited by poverty and powerlessness as they struggle daily to take care of their children. Social inequality and needless social suffering are hallmarks of structural violence (Heggenhougen, 2009). Mothers and caregivers suffer structural violence due to the poor provision of accessible, safe drinking water, electricity and health care services.

Another problem expressed by caregivers is that occasionally when they go to the health centre, they are not able to obtain the necessary drugs needed for their children. Structural arrangements beyond their control frequently put them at a disadvantage. It is possible to surmise from the Nigerian demographic health survey that mothers and caregivers in urban areas enjoy better access to safe drinking water; better

Chapter Four: Living Conditions and Livelihoods

quality of health care and a steadier supply of electricity, compared to their counterparts in the rural area.

Health workers are hampered in the provision of services that they are able to render because of a lack of equipment and drugs in the health centre. They have to refer cases they would have otherwise been able to manage, adding to the burden experienced by mothers and caregivers. They have to work under difficult conditions without electricity and water, which are vital for the provision of adequate care of mothers and children. They also suffer direct structural violence when their salaries are reduced or cut short without prior warning.

Rural children live under conditions far more detrimental to their health than urban conditions. The rural-urban gap in infant mortality has been found to be due more to differences in household factors than community factors (Van de Poel *et al* 2009) but it is important to remember that household factors like water and electricity derive from a lack of community infrastructure. There is a need to target the materialist needs of those living in rural areas, to reduce health inequalities of child morbidity and mortality.

4.9 SUMMARY

This chapter has addressed the research questions set out at the beginning of this discussion by interfacing an epidemiological analysis of the NDHS with ethnographic data on how material conditions underpin structural violence and impact on the livelihoods of households in this rural Nigerian village.

The interfacing of anthropological and epidemiological data has given a more nuanced understanding of how these conditions affect daily life. The extent to which

Chapter Four: Living Conditions and Livelihoods

women can use their agency to keep their children healthy or look after them when they fall ill is a question that will be explored in the following chapters.

CHAPTER FIVE: HOW TO KEEP CHILDREN HEALTHY

5.1 INTRODUCTION

This chapter addresses the second research question ‘*How do mothers and caregivers keep their children healthy?*’, which in turn addresses the following two theoretical questions, ‘*How does interfacing epidemiology and anthropology extend understandings of care giving?*’ and ‘*How do medical and social diagnostics interface to affect the health seeking behaviour of care givers?*’ This chapter explores the various ways in which mothers and caregivers in the village prevent childhood illness in a rural setting in the North Central region of Nigeria. It explains social and medical diagnostics as they are used by caregivers, in their attempts to prevent childhood illness and keep children in good health.

Such health seeking strategies range from daily care to some over-the-counter drugs, immunization, home remedies and consultations with traditional healers. While some remedies are bought from traditional medicine traders, other forms of protection may include divinations that are carried out by traditional healers.

5.2 ENVIRONMENT AND CLEAN WATER

Mothers in Y village talked about cleanliness as a form of illness prevention, and as part of their daily routine of caring for their children. Bathing children and changing their clothes was among the most common activities mentioned. As mothers attributed some illnesses to seasons, so children were dressed accordingly. It was common to see children playing around the village naked because the weather was perceived too hot for clothing. Mothers also changed the children’s nappies regularly and washed their clothes.

Chapter Five: How to Keep Children Healthy

I make sure they bathe and they wear clean clothes (Mother of 6)(0005).

I look all over his body and make sure he is clean before I dress him (Mother of 1) (0071).

After I have bathed them, I bring them inside, towel them and apply cream to their bodies. Then I dress them, depending on the weather. The weather is so hot at the moment so we wouldn't wear sweaters but light clothing. Children in hot weather can't wear sweaters, when it's so hot, the child will just die (0055 mother of 3).

I wash the feeders I use for the children and the flask and all the things I use to make their food (Mother of 2) (0071).

Women mentioned how important it was to clean the surroundings and to use clean water for their children. Some of the mothers tried to buy bottled water for their children, and when they couldn't afford this they made sure they boiled the water and sieved it before giving it to the children.

I take care of the surroundings, sweep and make sure it is clean and tidy (Mother of 2)(0052).

We buy bottled water; people that can't afford it will boil their water and sieve it before giving it to a child to drink (Mother of 2)(0037)

We have to make sure that our environment is clean, and make sure that our drinking water and the children's drinking water is very clean. Even where they sleep should be clean (Mother of 2) (0055).

When I go out to fetch water from the bore hole, I make sure I fetch water inside jerry cans. To limit contamination, when I get back I still boil the water (Mother of 3) (0012).

Mothers thought cleanliness was important for keeping children healthy and did what they could within the constraints of their environment.

5.3 NUTRITION

Most women endeavoured to give their children what they considered good food and stated that the types of food they gave their children affected whether they stayed in good health. Some of them also shared that they were not able to give certain foods because they could not afford them.

We give food like ogi (maize porridge), tea and bread (0005 and 0010).

This woman said that she could only give her child custard, without milk, as she could not afford it.

I try to feed my children with good food, I even give custard but these days I do not add milk because I can't afford it (Mother of 1) (0007).

When my child was six months old I made sure I bought corn/millet porridge ('ogi/ jero), the one I can afford, as I did for the other one. I also buy groundnuts or fish and all the other things they used to ask us to grind together, with soybeans and all the other stuff. I make sure they are complete, I mix it and give it to my children with pap, and they take it little by little (Mother of 2)(0064).

Chapter Five: How to Keep Children Healthy

I give my children good food like eggs, beans and fish. Eggs make children smart, so I make sure they eat them as often as possible (Mother of 3) (0012).

You know there are different kinds of food, there are carbohydrates, and vitamins, and we try to mix all these so that the child can eat healthily (Mother of 3)(0046).

Indomie noodles are commonly given to children because they are very easy to cook and relatively cheap. They are often cooked without having anything added to them. I noticed a thin child who was been fed with noodles and water by his mother. Another mother asked me if it was true that children should not be fed eggs as she thought eggs made children steal. Another mother complained that her child reacted badly to beans and eggs.

I make sure my children eat good food. My child only eats rice and noodles (Indomie). He reacts to beans and he will not eat egg either (Mother of 2)(0013).

I give my child food on time, and make yam flour (amala) with good vegetables (Mother of 1).

The health educator was concerned that mothers sometimes overfed their children with starchy food,

Overfeeding a child, with starchy food like eba, is useless, it's just water, and it makes the child weak. If the child is over fed, the stomach becomes very big and hard. It can lead to diarrhoea, which is different from stooling associated with hermorriods ('jedijedi') or any form of illness, because where the food goes into

is full and overflows and the child will stool and have stomach pain and the child will have stunted growth (health educator)(0045).

These conversations suggest that women in the village know what type of food to give their children to keep them healthy but are sometimes constrained by a lack of money, which either makes them look for alternatives or compromise by feeding their children cheap, starchy food.

Analysis of data from the 2008 NDHS showed that in the North Central region of Nigeria 35.6% of people from rural areas depend on local tubers and roots (cassava) as a staple of their diet, while that figure is lower in the urban areas at 30.3%. This means that rural dwellers are more dependent on foods with a lower nutrient content than urban dwellers. The data also showed that eggs, noodles and bread were eaten more frequently by urban children than rural ones. This was also discussed in the previous chapter.

5.4 BREASTFEEDING

Breastfeeding is an important way mothers care for their children. Women in Y village believed that it helped keep their children healthy, and breastfed from up to six months to 36 months.

I breastfeed my child for six months before I introduce any solids (Mother of 3) (0037).

I breastfed for at least a year and didn't introduce solids until my child was about a year old (mother of 6) (0006).

I breastfeed my child and give very little drinking water, so that he does not drink more water than breast milk (Pregnant mother of 1) (0070).

I breastfed my children for three years (Mother of 5)(0002).

Another woman said she did not give her child drinking water only breast milk.

My mother-in-law did not allow me to give the baby anything except breast milk, not even water was given to him, but people around us complained that we should give the child water before we did (Pregnant mother of 1)(0013).

I also breastfeed my children till about 18 months because I saw that it protects them from a lot of illnesses and they do not often fall sick (Mother of 3)(0004).

5.5 THE CONCEPT OF GOD

The Yoruba are very religious and believe in the Supreme Being (*Oludumare*), who is seen as the creator (*Eledaa*), the owner of life (*Elemii*) and the overseer of man's destiny. Some mothers saw their roles as caretakers of their children, since God is the one who actually looks after them. The women emphasised the need to ask God for wisdom and guidance in taking care of children. Because of this, many women considered praying for their children a very important form of care.

We pray and ask God to protect our children (Mother2) (0012).

After I have fed my children we pray together committing the day into God's hands and ask for his protection throughout the day (Mother of 2)(0052).

I pray to God to help us take care of our children. It is God that really takes care of a child. We mothers just try our best (Mother of 2) (0064).

We pray that God should continually guide us when we take care of our children (Mother of 5) (0046).

5.6 HOLY OIL AND WATER

Women in the villages occasionally used materials with religious significance to guard their children's well being. Anointing oil or water which had either been blessed by a prophet or priest, or blessed by the mother, was sometimes put on the children in the morning to protect them and to ward off evil.

I get some olive oil, pray over it and after I have taken care of them for the day I put a little on their forehead to sanctify them and keep evil from them (Mother of 2)(0080).

The water is prayed over and I give it to the child to drink, I also sprinkle it around the house. Now I do not use this alone, I use it after I have used the medication that has been prescribed in the health centre. It helps to sanctify the house and keeps evil away (Mother of 2) (0064).

5.7 BIOMEDICAL PROTECTION

5.7.1 OVER-THE-COUNTER DRUGS

Some women gave their children some form of daily medication to prevent diseases and build their immunity. Many women said that they gave blood tonic every day and a few said they also used paracetamol.

To keep my children healthy I give them both paracetamol and blood tonic (Mother of 3)(0053).

I only use the blood tonic (Mother of 4) (0056).

5.7.2 IMMUNIZATION

Univariate and multivariate analysis of the 2008 NDHS data was carried out using maternal educational level (higher, middle, primary), wealth index (rich middle, poor) and type of residence (urban/rural) and these were analysed against children who had been given vaccinations (OPV3, measles, DPT3, BCG) and ever had vaccinations. Vaccination figures represent children who had had complete doses of the vaccines. DPT3, OPV3 and BCG all followed the same pattern and will be represented with one table.

Table 5.1: Logistic Regression showing Multivariate and Univariate Analysis of Children who have Ever Had Vaccinations.

Vaccination		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	2.15 (1.78,2.60)	1.25 (0.99,1.57)
Wealth (rich as reference category)	Poor	2.84 (2.34,3.46)	1.85 (1.45,2.35)
	Middle	1.44 (1.21,1.72)	1.23 (1.02,1.47)
Education (secondary or higher education as reference category)	No education	3.50 (2.84,4.30)	2.64 (2.12,3.29)
	Primary education	2.27 (1.90,2.70)	2.13 (1.78,2.54)

In univariate analysis, children living in rural areas, poor and middle wealth families and those who had mothers with no education or only primary education are significantly less likely to ever receive vaccinations than children living in urban areas, rich families with secondary and higher educated mothers. In the multivariate model, wealth index and level of education remain significant at the 5% level although the odds ratios were attenuated. Living in a rural area became insignificant once wealth and education were taken into account.

Children in poor families are less likely to ever receive vaccinations than children in middle income families, who in turn are less likely to ever receive vaccinations than children from high income families. The same pattern is noted for children of mothers with no education and primary education compared with those with secondary or higher education.

Table 5.2: Logistic Regression showing Univariate and Multivariate Analysis of OPV3

OPV3		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	1.56 (1.36,1.78)	1.19 (1.00,1.41)
Wealth (rich as reference category)	Poor	2.54 (2.18,2.92)	1.67 (1.39,2.01)
	Middle	1.84 (1.56,2.18)	1.39 (1.15,1.68)
Education (secondary or higher education as reference category)	No education	3.18 (2.73,3.70)	2.45 (2.08,2.89)
	Primary education	1.64 (1.39,1.94)	1.34 (1.13,1.60)

Table 5.3: Logistic Regression showing Univariate and Multivariate Analysis of DPT 3

DPT 3		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	2.69 (2.35,3.08)	1.25 (1.06,1.48)
Wealth (rich as reference category)	Poor	4.21 (3.62,4.88)	2.44 (2.03,2.94)
	Middle	1.92 (1.64,2.25)	1.62 (1.37,1.91)
Education (secondary or higher education as reference category)	No education	5.62 (4.80,6.57)	3.82 (3.22,4.52)
	Primary education	2.61 (2.23,3.04)	2.41 (2.06,2.82)

Table 5.4: Logistic Regression showing Univariate and Multivariate Analysis of BCG

BCG		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	2.97 (2.55,3.45)	1.27 (1.06,1.54)
Wealth (rich as reference category)	Poor	4.62 (3.95,5.42)	2.60 (2.13,3.17)
	Middle	1.74 (1.50,2.02)	1.44 (1.23,1.69)
Education (secondary or higher education as reference category)	No education	6.87 (5.80,8.14)	4.59 (3.83,5.50)
	Primary education	3.19 (2.75,3.69)	2.98 (2.56,3.46)

Combined Interpretation

For complete doses of DPT3, OPV3 and BCG the patterns were similar.

In univariate analysis, children living in rural areas, poor and middle wealth families and with uneducated and primary educated mothers are significantly less likely to have the full dose of Diphthera pertussis and tetanus (DPT3), Oral Polio Vaccine (OPV3) and bacillus Calmette Guerin (BCG) than children living in urban setting, rich and with secondary and higher educated mothers. In the multivariate model, type of residence, wealth index and level of education remain significant at the 5% level although the odds ratios were attenuated. The findings indicate that children in poor families are less likely to have the full dose of DPT, OPV and BCG than children in middle income families who in turn are less likely to have the full dose of DPT, OPV and BCG than those in rich families. This same pattern is noted for those who have mothers with no education and primary education compared with those with secondary or higher education. The results suggest a social gradient for both wealth and education.

These figures suggest that children from poor households are half as likely to receive the full dose of DPT than children from rich households while children with non educated mothers are three times less likely to receive the full dose of DPT than children from mothers with secondary or higher education. Also this suggests that children whose mother had no education are four times less likely to receive a full dose of BCG than children whose mothers have secondary or higher education.

Table 5.5: Logistic regression showing univariate and multivariate analysis of measles vaccination

Measles		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	2.34 (2.05,2.68)	1.38 (1.08,1.77)
	Poor	3.87 (3.09,4.83)	2.01 (1.51,2.65)
Wealth (rich as reference category)	Middle	1.95 (1.53,2.48)	1.21(0.91,1.59)
	No education	6.28 (4.95,8.00)	4.46 (3.44,5.81)
Education (secondary or higher education as reference category)	Primary education	2.03 (1.62,2.55)	1.55 (1.21,1.97)

In univariate analysis, children living in a rural area, from poor and middle wealth families, with mothers who had no education or had received primary education, are significantly less likely to have the full dose of measles vaccination than children living in urban areas, from rich households, with secondary and higher educated mothers. In the multivariate model, place of residence, poor wealth and level of education remains significant at the 5% level except middle wealth although the odds ratio is attenuated.

Chapter Five: How to Keep Children Healthy

Based on the odds ratio, children in poor families are less likely to have the full dose of measles vaccination than children in middle income families who in turn are less likely to have full dose of measles vaccinations than children in high income families. The same pattern is noted for children with mothers with no education and primary education compared with children whose mothers have received secondary or higher education. The results suggest a social gradient for both wealth and education. Children from non educated mothers are four times less likely to be fully vaccinated against measles than children with secondary or higher educated mothers.

The Nigeria routine immunization schedule stipulates that infants should be vaccinated with the following vaccines: a dose of the Bacillus Calmette-Guerin (BCG) vaccine at birth or as soon as possible, three doses of the Diphtheria, Pertussis and Tetanus (DPT) vaccine at 6, 10 and 14 weeks of age, at least three doses of the oral polio vaccine (OPV) and measles at 9 months. Few of the mothers consider immunization a form of care and prevention. Some mothers made sure that their children had all the required vaccinations, however there were some who believed that the child did not need the full vaccination course, and thought that taking at least a few of the shots instead would lessen the severity of the illness in the case of a child being infected.

I make sure they take all the immunizations from the health centre; we are aware of immunization and take pains to take our children there so that they can be immunized. When the children are immunized even when the illness comes it will not stress them (Mother of 3) (0012).

Chapter Five: How to Keep Children Healthy

Any sickness can kill a child if he is not adequately taken care of, like malaria. When a child has malaria and it has eaten deep into him the child can die. Back when there was no immunization for measles children easily died from the infection. Even measles that we received immunization for, when the child is not cared for, the child will die. Since we have immunization and we have been told to come for it, now we realize what it does for our children, so even when our children get infected with measles, it is usually very mild (Mother of 3) (0037).

...Their sickness only lasts two days and is not serious and maybe it's because I take them for the immunization and make sure they complete all the immunizations they are supposed to take (Mother 3) (0053).

Measles was the only disease that gave me a lot of concern, but I thank God it was not too tough on them, I believe it was because of the immunizations they were given (Mother of 4) (0057).

There were very few women in the village who regarded immunization as unimportant.

One woman lived very close to the health centre - less than ten minutes walk - and when talking about her 11 month old child said,

I have not given my child any immunization whatsoever because I don't think it's very important (Mother of 1) (0007) [field note, 14/07]

During this group discussion another woman said she had her child receive most, but not all, of the immunizations available to her.

Chapter Five: How to Keep Children Healthy

My child has been vaccinated against some but not all the childhood diseases. I have vaccinated her against some but I have not completed the vaccinations (Mother of 2) [field note, 14/07].

Another woman lived in a big city but was in the village to visit her mother. She had her child immunized at an early age, but she was in doubt about its effectiveness and wanted to know if it was necessary to complete the full course of immunizations. She had a friend, she said, who had told her that instead of wasting time collecting money from her husband and using it to take her children for immunization, she should invest the money in a lucrative business. These accounts represent a diversity of opinions and behaviours concerning immunizations. In addition there are issues of affordability, which become a more salient factor for those who are poorer.

5.8 TRADITIONAL PROTECTION

5.8.1 HOME REMEDY

Women in Y village use different types of home remedies to ward off diseases and protect their children from ailments. Some of the remedies are ingested orally while others are used externally. They are often used to confer lifelong protection on the user's children and to give protection to children yet unborn. Some are bought from traditional pharmacists or given by *alagbo* women.

This woman uses shea butter (*ori*) to prevent rashes,

My children have fair complexions so I use 'ori' for them; I have always been comfortable with using shea butter oil for my children because it is good for their skin. It smoothes the skin and is very good for dry skin. It helps to prevent skin diseases and rashes (Mother of 6) (0064).

Chapter Five: How to Keep Children Healthy

Agbo (herbal mixture) is sometimes used as a form of illness prevention. Different *agbo* are used by mothers and caregivers to maintain good health, and their preparation is different depending on what they wish to prevent. One mother used *agbo* to help her child develop strong bones.

I give agbo to make my children's bones strong (Mother of 3)(0072).

To prevent measles women in the village mix charcoal and ash in water and spread it around the children's eyes in the belief that it helps to prevent measles from entering the eyes of the child. This mother said,

Charcoal and ash is mixed with water and spread around the eyes of the child to ward off measles and prevent it from entering the eyes because it is very dangerous, and can make one blind. When ash is put around the child's eye, it prevents the measles from entering the ball of the eye (Mother of 4)(0060).

5.8.2 ITAGERI AND PALM WINE

Women reported that when they go on long trips away, they make sure the necessary home remedies are readily available for their children to use,

We use some other things like itageri, palm wine, and aporo, if I am going to travel in a few days time I have to have these home remedies ready and other medicines and I tell the kids to use them when they feel sick. If I travel and I don't have anything in place for them to use, my mind will not be at rest (mother of 5) (0071).

Itageri (Adenopus breviflorus) is a fruit of a tropical creeping plant, oval in shape and fairly large in size. It is green in colour with white markings (usually dots), it dries

up after a few months and the fruit is replaced by another one. (see photo 8). It is placed around the house and because of its oval shape school children often play with it as a ball. The dried fruit can be continually moved around the house. It is believed to have medicinal value and to ward off various types of illness from entering the house, while also reducing the severity of attacks if a child does fall ill. It is sold by herb merchants and traditional pharmacists. It is about 20 naira (less than 10 pence) and is readily available in the market.

Palm wine is sprinkled around the house to ward off sickness and *aporo* is used to treat illnesses like stomach-ache, worms and occasionally fever. It is believed that part of the ingredient for making *aporo* is lime and snake venom. *Aporo* is thought to be effective in treating snake bites.

5.8.3 BRACELETS, AMULETS, NECKLACES AND WAIST BANDS

It is common in the village to see children wearing different types of charms including bracelets, amulets, waist bands and necklaces. This was especially noticeable among babies who were brought in for immunization. They serve various functions and only the mothers can rightly say what they are for. While some are worn for fashion reasons, others are used as a way of protecting the child from evil or illness. There are some specific charms which are worn by children to prevent illnesses associated with teething, worms, and measles or to maintain a child's weight. A child's weight is taken as an indicator of good health, so often one will see children wearing a certain type of bracelet to prevent weight loss. Charms are often, but not always, made with very colourful beads, and are either bought directly from herb traders or traditional pharmacists in the market, or are given to mothers by *alagbo* women.

Chapter Five: How to Keep Children Healthy

I noticed a 22 month old baby wearing a hand band with an old tooth drilled into it,

This is to ward off all the illnesses associated with teething, like a hot body and diarrhoea such that when my child starts to teeth, my child will not fall sick (Teenage Mother of 1)(0072).

Another woman talked about the plain waist and hand bands her child wore. She pointed to the knot on the band where the charm for protection was located,

This is what we do in my family; the knot on the side of the hand band is for protection from evil and the beads on the waist are to prevent my baby from having hermorroids and worms (Mother of 2)(0006).

It's to help prevent any type of sickness or illness from attacking the child; it was given to me by the traditional healer (alagbo) where I had the baby (Mother of 3)(0072).

5.8.4 TIRO

Tiro is a lead containing traditional substance used on the eyes of both children and adults as a form of 'eye cleaner' and as a way of beautifying the features. It is black usually drawn around the eye. It is common to see children with *tiro* round the village.

After I bathe my child, I use tiro on the child to prevent dirt from entering my child's eyes (mother of 2) (0069).

Tiro was noticed on the eyes of many children in the village including those brought to the health centre for immunization.

5.8.5 AJESARE

Ajesare (a form of local immunization) can take several forms. It can either be a form of herbal mixture or remedy accompanied by incantations, or it takes the form of incisions accompanied by incantations. The form whereby a herbal mixture is accompanied by incantations is often given to young children and is believed to give lifelong protection to local illnesses like *so la ta*. These *ajesare* are either ingested orally or used externally during bathing. A woman explained that the *ajesara* could also take the form of a *hantu* (drink), which is given by the *alfa* (Muslim faith healer) for protection. *Ajesare* can also be performed by a diviner (*alagbo* woman).

When I was growing up, because I was born in an alfa house, they used to give us a concoction to drink (hantu). If some people felt we did something bad to them and they wanted to pronounce some incantations or curses on us, it would not work because of the concoction (hantu) we had taken when we were children. When I was a child, my parents took me to the alagbo women and I was given something to drink as a form of protection (Mother of 2)(0037).

Ajesare can be likened to the present day immunization for medical conditions in as much as the stated aim is to act as a preventative measure against illnesses. In the Yoruba language, immunization is referred to as *ajesara*. In this sense *ajesare* might be seen as a form of local immunization. The Hausa of Northern Nigeria also engage in a similar practice, calling it *rubutu*. A common custom involves giving a newborn baby *rubutu* even before it has drunk any breast milk. A verse from the Holy Quran is written on a slate by a *mallam* and is washed off with water and given to the newborn baby to drink (Alti-Muazu, 1985).

5.8.6 INCISIONS

Incisions accompanied with incantations are used on children to prevent different ailment like convulsions and to prevent illnesses associated with teething. This woman explained,

My child has an incision on his face and it works very well. It is to prevent convulsions. My mother-in-law told me it used to happen to some of her children, which is why she sought out a cure. Now that my child has these incisions, when he grows up and he starts to have children it might not affect his children. It is called ajesare (Mother of 2) (0052).

Incisions are made using razor blades or knives, the incisions are usually made in groups of 3, or 7 by the *alagbo* (traditional healer), and are made on different parts of the body like the wrist, head, face and ankles. These incisions are believed to ward off evil spirits that may be causing sickness to the child. They are also used for teething and convulsions. Incisions are accompanied by incantations with some powdered herbal mixture rubbed into the cuts.

5.8.7 OTHER TRADITIONAL PRACTICES

One woman talked to me about refusing to carry out a common practice used to treat a newborn's umbilical cord stump with a hot compress. Although she is aware that there are consequences if she does not comply, she attributes her stand to faith,

There is this thing they call 'eru' when it falls from the umbilical cord they wrap it with a cloth, add all the other stuff, tie it up and heat it up on a lantern to be used as a hot compress. I let my mother realize that I would not take it for this with my second child. For this one I told her, 'mama, don't worry,' and I tried to

Chapter Five: How to Keep Children Healthy

explain to her that boiled water is the best thing as a hot compress. My faith is that it will work, my child will not have stomach pain, I told her to forget about the child having stomach pain, and that she should not worry, because after tying all those things together, and leaving it on the lantern, how clean do they think it is? (Mother of 2)(0064).

This practice is also common to the Hausa women of northern Nigeria, but instead of using the lantern to heat the compress, the metal part of a hoe is placed into the fire until it is red hot, at which point the midwife dips her hand into cold water, taps the hot metal and places it on the baby's navel (Alti-Muazu, 1985).

This section explored the various ways mothers and caregivers protect their children from different types of illness and disease. Immunization was mentioned by relatively few mothers as a way of protecting their children from various forms of childhood illnesses. The type of protection they utilized depended on their beliefs and their perceptions of the causes of illness. Women sometimes seek protection from traditional pharmacists or herb sellers in the market. Forms of protection can take the form of *ajesare* or various charms like bracelets, amulets and hand bands.

5.9 DISCUSSION

This chapter offers explanations of health seeking behaviours adopted by mothers and other caregivers in terms of how they attempt to prevent their children from falling ill. This is influenced by mother's beliefs and perceptions about keeping children healthy. The findings of this chapter address the following theoretical questions:

- *How does interfacing epidemiology and anthropology extend understandings of care giving?*
- *How do medical and social diagnostics interface to affect health seeking behaviour of care givers?*

And the empirical research question:

- *How do mothers and caregivers keep their children healthy?*

A plurality of health seeking strategies are adopted by caregivers and mothers, which are governed by the perceived medical and social diagnostics of illnesses. In prevention, both biomedical and local traditional ways are either combined or used separately.

This chapter also addresses the framework of Fotso and Kuate-Defo (2005) on child morbidity and mortality whereby children's characteristics include child immunity and also mother's cultural practices. This is explored by how mothers in the village take care of their children and what they do to maintain the child immunity that keeps them healthy.

By interfacing epidemiology and anthropology using an analysis of the 2008 NDHS alongside ethnographic fieldwork, a more holistic understanding is achieved.

Chapter Five: How to Keep Children Healthy

These two sources of data complemented each other. The environmental and corporeal cleanliness of both mothers and their children was seen to be important. Children's nutrition was also considered a vital way to help boost immunity. The data highlights the complexity involved in the provision of nutritious food for children in the village that is sometimes compromised by a lack of money. The 2008 NDHS established that children from poor households are less likely to eat eggs, noodles, bread and grains compared to middle or rich households (Tables 4.4 and 4.5). On the other hand, mothers with no education were more likely to give children noodles, bread and grains compared to educated mothers. There are many local bakeries in rural Nigeria but the quality of the bread is often compromised by the quality of the ingredients.

Indomie instant noodles are commonly given to children because they are cheap and quick to cook. Unfortunately, it is given without adding vegetables or proteins like fish or meat. Mothers have had to withdraw essential nutrients like milk from their children's diet due to food's rising cost. Children are instead fed on cassava and its derivatives. Unfortunately, cassava has a very high percentage of starch and a very low protein content.

Children in Y village are more susceptible to illness and infection as a result of malnutrition. In a study carried out to determine the dietary protein intake in Kenyan and Nigerian children between the age of 2 -5 years, where cassava is the staple food, the researchers found out that 13% of Nigerian and 53% of Kenyan children had an inadequate protein intake which was associated with stunting (Stephenson *et al*, 2010). In a similar study, children fed on cassava as staples were found to be at risk of inadequate zinc, vitamin A and iron (Gegios *et al*, 2010).

Chapter Five: How to Keep Children Healthy

Breastfeeding was also considered an important part of care as mothers often breastfed children for as long as 36 months, and exclusively for six months. Women supplement baby formula with locally prepared mixtures of grains, fish and groundnut, which is equally nutritious and not as expensive as baby formula. Yoruba women see themselves as care takers and custodians of their children, while God is most frequently seen as the only one that can really take care of children. Thus mothers and caregivers consider prayers as a form of care. They also use water or olive oil blessed by themselves or priests on the children and sprinkle it around the house.

Traditional protection covers a wide range of strategies and could be applied in several ways. There is traditional protection against most childhood illnesses. They can take the form of waistbands, armbands and necklaces, which invoke different types of protection, including protection against evil, general sickness and specific illnesses like measles, teething or haemorrhoids. While some of these are bought directly from traditional pharmacists in the market, some are obtained from traditional healers after consultations.

Traditional protection is sometimes thought to provide lifelong protection from evil and particular illness. This usually involves consultations with traditional healers who divine and make incisions on different parts of child's body (*ajesare*). Sometimes this is done immediately after birth especially if the child was delivered by a traditional healer. *Ajesare* is similar to biomedical immunization in that both involve oral ingestion and injections; *ajesare* in the form of incisions and herbal infusions, and immunization in the form of injections and oral dosages.

Ajesare can also be used externally as bathing herbs. They are given both in childhood and in later life and confer protection against different childhood diseases,

Chapter Five: How to Keep Children Healthy

some forms of which are thought to bestow lifelong protection. There are also similarities in the name, since immunization in Yoruba is referred to as *abere ajesare*, meaning needle immunization or injection immunization. The similarities are also evident by the way women relate to them, for example when one women asked for a vaccine for teething, in the same way one would acquire ajesara for teething .

Such strategies suggest that the Yoruba use concepts of immunization and protection against illness. Such similarities could be targeted and used during intervention programmes when educating women. This was also found in a study carried out by Adetunji (1996) in a study of pregnancy among Yoruba women.

Itageri, the fruit of a tropical plant, is placed around the house to ward off evil spirits and various kinds of diseases. In a study in a village in south west Nigeria, *itageri* was thought to be used to ward off just measles (Adetunji, 1991). Palm wine is sprinkled around the house, and is commonly thought to ward off evil and various childhood diseases. *Aporo* is used to treat snake bites and is also believed to help boost children's immunity. Caregivers and mothers make sure all these are available in the house especially when they are going to be absent or go on extended trips, as an assurance that their children will be safe. *Tiro* was used as eye cleaner, or against eye infections, and is also used cosmetically. It is used by adults but also commonly on children to keep their eyes clean. In a study carried out by Healy *et al*, (1984), in a community in Nigeria, *tiro* was found to contain high quantities of lead with an average of 50.1% (w/w). This constitutes a health hazard especially for children.

The biomedical prevention mothers used consisted mainly of over-the-counter drugs and immunization. Some over-the-counter drugs, available from patent stores, were used on a daily basis to boost children's immunity. Blood tonic was especially

Chapter Five: How to Keep Children Healthy

popular but a few mothers also said they give their children paracetamol daily. As there is no drugs monitoring agency in Nigeria and most drugs, including antibiotics, are readily sold over the counter, there are frequent cases of medication misuse.

Immunization is a key source of care. The analysis of the 2008 NDHS showed that children from poor households, located in rural areas, whose mothers have no education, are less likely to ever receive vaccination than children from middle /rich households with mothers who hold primary or higher education. This trend also follows for specific immunizations as children from poor households, living in rural areas with mothers who have received no education, are less likely to have had the full course of OPV, BCG, DPT, than children from richer households, in urban areas, with mothers who have been educated to a higher level. Children from poor households are half as likely to receive the full DPT course than children from richer households. And children with non-educated mothers are three and four times less likely to receive the full course of DPT and BCG respectively.

The data suggest that only a few mothers thought that their child's illness would have been worse if the child was not immunised, but many did not readily mention immunization as a form of care they provided. Incomplete immunization was a common occurrence in the village, with mothers not completing vaccinations, thinking one immunization would cover others. Children from richer homes and educated mothers have better access to health care facilities, both since they live in urban areas and also since they have the income to be able to afford to pay for services, as well as being more aware of the importance of immunization (Antai, 2009).

Studies carried out by Odebiyi and Ekong (1982) and Adeniyi (1991) found out that many of their respondents did not believe in the efficacy of the measles vaccination.

Chapter Five: How to Keep Children Healthy

There is a need for more women's education in the village, and for measures which might break down the barriers which keep women from vaccinating their children.

On the whole, the NDHS gave important data on population epidemiology trends, which showed the social patterning of immunization uptake, suggesting that rural dwelling, poorer children of less educated mothers are less likely to complete a full vaccination course. The data demonstrated the impact of social differences on this form of prevention. The qualitative data on the other hand cannot provide this information but it provided equally important information on the barriers women face in relation to taking up immunization, as well as local attitudes.

5.10 SUMMARY

This chapter has explored how mothers and caregivers keep their children healthy through interfacing epidemiology and anthropology. It also contextualised ideas concerning the strategies caregivers and mothers adopt to keep their children healthy, through medical and social diagnostics. The next chapter explores the health seeking behaviours of mothers and caregivers, and how mothers look after sick children.

CHAPTER SIX: DEALING WITH ILL CHILDREN

6.1 INTRODUCTION

This chapter offers an analysis of various ways in which mothers and caregivers look after their children when they fall ill in a rural setting in the North Central region of Nigeria. This chapter addresses the second part of the first empirical research question '*what are the socio-economic, community and household factors affecting the health of children and the health seeking behaviour of mothers and caregivers in the village?*' and '*How do mothers and caregivers deal with their children's illnesses?*' It will also address the theoretical questions, '*How do medical and social diagnostics interface to affect the health seeking behaviour of care givers?*' This chapter interfaces anthropology with epidemiology and is concerned with the agency of caregivers at the household level.

The chapter will draw on an analysis of the Nigerian demographic health survey (NDHS) and non-participant observation sessions and interviews in Y village. The culture and experiences of the mothers and caregivers determine how illnesses are dealt with. Children are sometimes left with figures other than their mothers who look after them; they are usually neighbourhood friends, family relatives, parents, grandparents, parents-in-law and other members of the extended family.

This chapter addresses the various strategies caregivers and mothers adopt in dealing with childhood illnesses. The analysis will focus on ways in which illnesses are managed based on the options available to caregivers and mothers, how illnesses are perceived, and the beliefs of caregivers and mothers concerning illness.

Chapter Six: Dealing with Ill Children

A review of literature concerning health seeking strategies and analysis of data from the 2008 NDHS showed that children born in rural North Central Nigeria are more likely to die earlier on in life compared to their counterparts in some other regions of Nigeria. The data from the NDHS included 28,647 women who gave information about their birth history, health service usage, households and children's health (NPC, 2009). After selecting for the North Central region, the sample size was reduced to 5046 women. Selected variables (dependant) were analysed using cross tabulations furthered by logistic regression with type of residence, level of education and wealth used as covariates or independent variables.

This chapter begins with an analysis of the way mothers perceive and explain childhood illnesses for those under the age of five. It also looks at what mothers do to care for them through examining their experiences in dealing with these illnesses. Two types of childhood illnesses are recognised: biomedical conditions that are treated with drugs and through the clinic, and local folk conditions that are treated with herbal remedies and incantations. I shall refer to the former as medical diagnostics and the latter as social diagnostics (Lewando-Hundt *et al*, 2004; Moore and Sanders, 2001). Some conditions involve plural health seeking strategies and this is related to ideas of causation. The NDHS only gathers data on medical conditions and there is little data on local taxonomies of illness or plural healing.

6.2 THE MEDICAL DIAGNOSTICS OF CHILDHOOD ILLNESSES

Diarrhoea, cough and fever are the leading causes of childhood morbidity and mortality in Sub-Saharan Africa. There is a higher prevalence of these three illnesses in the northern and eastern states of Nigeria (Kandala *et al*, 2007). In Nigeria children have been found to die mainly from malaria, diarrhoea, measles, neonatal tetanus, whooping cough, tuberculosis and bronchopneumonia (Caldwell, 1979, Mosley and Chen 1984, Gymiah, 2003, Feyisetan *et al*, 1997, FMOG, 2006). Child survival is influenced by the care provided in the family as well as the wider physical, social and economic environment (Salako, *et al*. 2001; Jazen, 1978).

According to the 2008 NDHS, in rural parts of Nigeria's North Central region, the reported percentage of children who had diarrhoea, cough and fever within the survey's preceding two week period were 5.4%, 8.1% and 9.2% respectively. Using the NDHS data, childhood illness was analysed against place of residence (urban/rural), wealth index (poor/middle/rich) and maternal education level (no education/primary/secondary or higher education).

Table 6.1: Logistic Regression showing Univariate and Multivariate Analysis of Fever in the Last two Weeks in relation to Residence, Wealth Index and Education

Fever		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	1.31 (1.03,1.67)	1.09 (0.82,1.46)
Wealth (rich as reference category)	Poor	1.49 (1.15,1.92)	1.42 (1.03,1.95)
	Middle	1.56 (1.17,2.07)	1.05 (0.82,1.34)
Education (secondary or higher education as reference category)	No education	1.12 (0.86,1.45)	1.06 (0.80,1.40)
	Primary education	1.37 (1.04,1.78)	1.26 (0.99,1.61)

Results of the univariate analysis showed that children who were living in rural areas in poor and middle wealth households with mothers who had only received an education up to primary level, were more likely to have had fever in the last two weeks than children living in urban areas, in households with higher levels of wealth and education. In the univariate analysis, all the variables except ‘no education’ were statistically significant at the 5%. In the multivariate model, only being poor remained significant at the 5% level although, the odds ratio for its effect was slightly attenuated.

Poor children were more likely to have fever in the last two weeks than middle income children. The trend suggests that children from middle wealth households were more likely than rich children to have fever.

Chapter Six: Dealing with Ill Children

Malaria was mentioned by most of the women as an illness that their children often have. Malaria is often endemic and sometimes just called fever.

Malaria is the most common childhood illness (Mother of 4)(0037).

Malaria and malnutrition are the most common ailments we are presented with in the health centre, as you can see this place is a rural area so they are not aware of the type of food they should eat but malaria is the main problem here (Health provider)(0077).

Table 6.2 lists the Yoruba terms for medical conditions as described by mothers and caregivers and how many times they were mentioned. It shows that the words for diarrhoea, malaria and fever are mentioned most by mothers and caregivers. Cold/catarrh/cough, rashes, measles and convulsions were also frequently mentioned as illnesses common to children in the village. The Yoruba word for malaria is *iba* while the Yoruba word for fever is *ara gbigbonan*

Table 6.2: Yoruba terms for children’s illnesses that are medical diseases and times mentioned

Yoruba	Description	English	Times mentioned
‘iba’	Fever	Malaria	21
‘ara gbigbonan’	Hot body/high body temperature	Fever	17
‘iba jefun-jedo’	‘ what eats the intestine and the kidney/liver’	Typhoid fever	3
‘igbona’ ‘alefo’	Inflammation on the skin	Measles	10
‘giri’	Jerking/shaking	Convulsion	8
‘ofinkin		Cold/cough	12
‘igbe gburu’	Watery stool	Diarrhoea	23
‘ibi’		Vomiting	11
‘ori fifo’	Head breaking	Headache	1
‘arun ma su ma bi’	Stools and vomiting	Cholera	1
‘ro pa ro se’	Twisted arms twisted legs	Polio	1
‘irore’		Rash	10
‘pon jo pon ito’	Colours the urine colours the eye	Jaundice	3
‘jedijedi’	Eat anus	Worms	10
‘iko’		Cough	13
‘kokoro leti’		Ear infection	1
‘otutu aya’	Cold in chest	Pneumonia	1

There was much talk about colds, coughs, malaria, fever and convulsions.

My children hardly fall sick, but they often have colds and malaria. (Mother of 3)(0004).

My child sometimes has coughs, convulsions and typhoid fever (Mother of 2)(0037).

Other illnesses that children have are high temperature (fever), cough, colds and vomiting. Some children can just wake up in the middle of the night and start to cough like this one (pointing to her 18 months old child sitting on her lap) (Mother of 2)(0043).

Chapter Six: Dealing with Ill Children

Cross-tabulations comparing the number of children with coughs in the last two weeks by type of cooking fuel and place of residence from the NDHS 2008 data revealed different rates. 27% of children in rural areas had coughs within the last two weeks, while only 16% had coughs in urban areas. One possible explanation for this difference may be that the type of cooking fuel used in rural areas is different from the type used in urban areas. In rural areas, 95% of mothers cook with coal or firewood while only 67% do so in urban areas, which may have an impact on respiratory conditions (Semple *et al*, 2010).

Table 6.3: Children with Coughs in Last Two Weeks, by Type of Cooking Fuel in Urban and Rural Areas

	Rural		Urban		P value
	Nos/Den	%	Nos/Den	%	
Cough	$\frac{152}{566}$	26.9	$\frac{49}{308}$	15.9	(0.000)***
Charcoal/firewood	$\frac{635}{665}$	95.5	$\frac{224}{334}$	67.1	(0.000)***

***P<0.001

Mothers and caregivers had ideas about how children caught infectious diseases and how they are transmitted. The causes were sometimes environmental. Polio, measles and malaria were thought to be common during the dry hot season. Dry hot season was described in Yoruba as *eerun*. Diarrhoea and cholera were thought to be caused by a dirty environment and transmitted by flies.

A child's body is not wood, so they fall sick sometimes with malaria, diarrhoea, measles and polio, which is usually common in the dry season. Diarrhoea is caused when one lives in a dirty environment, even cholera. When the toilet is not ok, that is when they are dirty (Mother of 3)(0055).

Some mothers will leave the plates outside after feeding the child, and flies from everywhere will perch on the plates, this can cause cholera. It can also come from toilets and bathrooms, and that is how infections gradually get on a child (Mother of 1)(0043).

6.2.1 CAUSES OF FEVER, CONVULSIONS AND DIARRHOEA

Convulsions were believed to have a number of causes – internal, external and environmental. While some women thought convulsions were caused by a very hot body, with the convulsions originating in the blood of the child, others thought that convulsions were related to the type of food given to the child or the weather.

Sometimes children get sick. They have hot body (fever), which results in convulsions (Mother of 2)(0071).

A hot body starts small and gradually develops into something big that can lead to blood draining from the body of the child (Mother of 2)(0043).

I also give my child custard, and other light foods like monimoni (a foodstuff from beans), I do not give him food that is not soft, because it will be too strong for him and he will start to have convulsions (Mother of 1)(0008).

Sometimes when it's cold the child might get it, or when the child has a hot body (Mother of 2)(0071).

You see we should be careful with our children, most of the time when they go to school they eat all sorts of things all together at once, like cashews, some will eat unripe cashews and unripe mango, so that now when they get home they will say ‘oh mum my back hurts’ or ‘I have fever’ and so on (Mother of 4)(0055).

Table 6.4: Logistic Regression showing Univariate and Multivariate Analysis of recent Diarrhoea by Place of Residence, Wealth Index and Education

Diarrhoea		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	1.31 (0.95,1.79)	---
Wealth (rich as reference category)	Poor	1.66 (1.17,2.36)	1.48 (1.09,2.07)
	Middle	1.19 (0.85,1.65)	1.00 (0.70,1.42)
Education (secondary or higher education as reference category)	No Education	1.61 (1.15,2.25)	1.60 (1.11,2.29)
	Primary education	1.24 (0.85,1.80)	1.21 (0.82,1.80)

Diarrhoea was only statistically significant in univariate analysis for children in poor households and those where mothers had no education (see Table 6.4). Place of residence was not entered into the multivariate model as it was not significantly associated with diarrhoea at the 5% level. In the multivariate model, children living in both poor and no-maternal-educated households remained significantly more likely to have diarrhoea. The odds ratios for the poor households were slightly attenuated but not for no-maternal-education. Based on the odds ratio, children from poor homes are more likely to have diarrhoea than middle ranking households who in turn are more likely to have diarrhoea than children from rich households. This pattern repeated itself with mothers who had received either no education or education to primary level, compared with those who had a secondary or higher level of education. The wealth and education

results showed a social gradient although primary education and middle wealth were not significant at the 5% level.

The data shows that fever, coughs and diarrhoea are frequent illnesses and that diarrhoea in particular has a social gradient. Incidences of children who have a cough is related to place of residence. Villagers recognised these biomedical conditions as well as others as shown in the table of Yoruba terms.

6.2.2 TREATMENT FOR FEVER, COUGH AND DIARRHOEA

The analysis of the 2008 NDHS was carried out and fever and cough treatment was analysed against place of residence, wealth index and maternal education. This quantitative data gives a background picture of Nigeria's North Central region. It shows univariate and multivariate odds ratios with 95% confidence interval.

Table 6.5: Biomedical Treatment for Fever and Cough by Place of Residence, Wealth Index and Education.

Fever/cough		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	1.06 (0.70,1.60)	---
Wealth (rich as reference category)	Poor	1.99 (1.26, 3.14)	1.64 (1.01, 2.65)
	Middle	1.55 (1.02, 2.35)	1.42 (0.92,2.17)
Education (secondary or higher education as reference category)	No Education	2.38 (1.49,3.79)	2.04 (1.25, 3.33)
	Primary education	1.52(1.02, 2.28)	1.46 (0.97, 2.19)

Chapter Six: Dealing with Ill Children

Place of residence was not statistically significant in the univariate analysis so this variable was not entered into the multivariate model. In the univariate analysis, children in poor and middle income families, with maternal education up to primary level are significantly less likely than children in rich and higher education families to receive medical treatment for fever and cough. In the multivariate model, poor wealth and no education remain statistically significant at 5% level but not middle wealth and primary education although all odds ratios are attenuated.

This data indicates that children from poor households are less likely to use medical treatment for fever and cough than children in either middle or rich households. Children whose mothers have no education are less likely to receive medical treatment than those with primary education and higher education. For both wealth and education the results suggest a social gradient.

Some mothers will only use biomedical care for their children. They either take their children to the health centre or hospital or will visit the patent medicine store to buy over-the-counter (OTC) drugs. These OTC drugs are bought based on their previous experiences of treating children or the recommendations of the store owner. They can also self medicate at home using left over drugs from previous bouts of illness.

When I see my child running a temperature, I give the child paracetamol, and they always write on the label, if symptoms persist for more than three days consult your physician (Mother of 3)(0069).

Chapter Six: Dealing with Ill Children

When my child has malaria or has diarrhoea because of teething, I visit the patent store and buy chloroquine, paracetamol and pirion (Food seller, mother of 2)(0005).

When my child had a cough I went to the patent medicine store and bought the drugs recommended by the owner (Mother of 3)(0053).

The health educator described the patent store as a vital and crucial first point of call for mothers when their children are ill. He described it as an 'emergency point' where parents with sick children go to get medication.

They go to the patent store most of the time and buy medicines. It is the place they go first. It's like an emergency point where people take their children when they are sick (Health educator)(0045).

Mothers were clear that the patent store was important.

The last time my child had diarrhoea, I bought sugar solution from the patent store and used it for him. If he hadn't got better I would have taken him to the health centre (Mother of 4) (0072)

My children sometimes come up with diarrhoea and sometimes when teething they have fever, I initially buy medication for them from the chemist before I take them to the health centre (Mother of 3) (0013).

6.2.3 ORAL REHYDRATION THERAPY (ORT)

The analysis of the 2008 NDHS was carried out and ORT was analysed against place of residence, wealth index and maternal education. This quantitative data gives a background picture of ORT in Nigeria's North Central region. It shows univariate and multivariate odds ratio and a 95% confidence interval.

Table 6.6: Logistic Regression showing Univariate and Multivariate Analysis for ORT

ORT		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	3.28 (1.67,6.41)	2.31 (1.08,4.95)
Wealth (rich as reference category)	Poor	3.52 (1.71, 7.22)	2.34(1.04, 5.28)
	Middle	1.52 (0.79, 2.91)	1.61 (0.72,3.59)
Education (secondary or higher education as reference category)	No Education	1.50 (0.69, 3.26)	---
	Primary education	1.06 (0.52, 2.18)	---

ORT was not statistically significant for level of education and was therefore not entered into the multivariate model. In the univariate analysis, children living in the rural areas and poor families were less likely to be given ORT for diarrhoea. In the multivariate model, the odds ratio for rural areas and being poor were attenuated but remained statistically significant at the 5% level. The data suggests that children in poor households are less likely to be given ORT than children from households in the middle wealth households, and similarly that those children from middle wealth households were less likely to be given ORT than children living in rich households.

Chapter Six: Dealing with Ill Children

Although the odds ratio for the middle wealth households is not significant at the 5% level, the trend suggests that these children are less likely than those from rich households to use ORT for diarrhoea treatment. This also suggests a social gradient and suggests that children from poor households are twice as likely not to be given ORT for diarrhoea as those from rich households.

Mothers reported using ORT for their children when they had diarrhoea but it depended on whether the diarrhoea was thought to be related to teething (see the teething section in this chapter). Mothers and caregivers either bought it from the local patent store or made it themselves. During health talks at the centre, health care workers would discuss how ORT was made, explaining the measurements of salt and sugar, but they did not give practical demonstrations. The health care workers said they would rather the women made it up at home rather than buying it from the patent store. They said they were concerned about the reliability of the patent store's ORT, where it was sometimes out of stock or past its expiry date.

When my child has diarrhoea I use the appropriate agbo, I give water salt sugar solutions (ORT), and I buy it from the local patent store (mother of 1) (0070).

When the women were asked to give measurements for Oral Rehydration Solutions (ORS), they frequently gave varying amounts for mixing the salt with the sugar in water,

I get an empty two bottles of coke (70cl) and pour clean water into them, then I get 10 teaspoons of salt, and a cube of sugar, another woman said one bottle into a clean container with lid (Mother of 3)(0056).

Chapter Six: Dealing with Ill Children

Only this woman was able to give the correct measurement,

I get an empty bottle of coke, wash it make sure it's clean then I use it to measure boiled water twice (70cl) into a clean bowl with a lid and add one level teaspoon of salt and 10 cubes of sugar, mix them up and cover it with a lid and give the child as often as the child can drink it (Mother of 4) (0006)[field note,08/07]

The NDHS data give a picture of the incidence rate of biomedical conditions that children experience under the age of five. These have agreed symptoms and definitions which both health workers, interviewers and mothers and other caregivers share. However in addition to the conditions over which there is consensus, there are also local taxonomies of illnesses that mothers and caregivers recognise and diagnose alongside local explanatory models of causation – a process which in this thesis is called social diagnostics which are primary socially caused illnesses. These conditions are treated by visiting traditional health practitioners or using herbal remedies. It is common for women to adopt plural health seeking behaviour.

6.3 SOCIAL DIAGNOSTICS OF ILLNESS

Local African illnesses are believed to be caused by natural, supernatural and external factors and require appropriate treatment which is usually not offered at the health centre.

Table 6.7: Gives a summary of taxonomies of other illnesses described by mothers and caregivers in the village. These do not have English translations. This data shows the empirical complexities of discourse in qualitative data.

Table 6.7: Local Taxonomies of illness

Yoruba	Descriptions
Igbe eyin	Diarrhoea associated with teething
Ile tutu	Common condition when the weather is cold and the ground is wet, child not gaining weight, swollen tummy
So o la ta	Peppery condition, hot, uncomfortable in different parts of the body, caused by human agency

6.3.1 TEETHING

The teething period is a period that is feared by caregivers and mothers. For most of these women, the teething period is regarded as a very stressful time for themselves and their children. During the teething period, mothers reported that children would fall sick with a number of illnesses, and diarrhoea and fever were thought to be associated with teething.

When children are teething they sometimes have diarrhoea and fever (Mother of 2) (0052).

Chapter Six: Dealing with Ill Children

When a child is teething, he has hot body (fever) or diarrhoea ('igbe eyin)

(Mother of 5)(0071).

The older people in the village used to say that when a child is stooling and vomiting, it is because the child is teething (Mother of 3)(0046).

Other mothers and caregivers reported that any illness that occurs before teething announces the beginning of a tooth coming through.

When this child was about to start teething he started to cough (Mother of 2)(0062).

My child, the one before this, who is at home, when he is about to start teething, you will just see, suddenly he will have hot body (fever) (Mother of 2)(0071).

My second child does not have hot body but he has some infection around his ears, they told me this happens because he is bringing out teeth (Mother of 2)(0064).

A woman in a focus group when talking about teething said,

What I want is a bit more help, because for some children teething is so stressful, and you wonder as a mother what could possibly be wrong with the child. It would help if we had something like a vaccine that could be given to the child before teething starts to prevent so much diarrhoea and vomiting (Mother of 2)(0056).

Such comments suggest that the teething period is seen as a period when a child falls sick, and to avoid this, some mothers want some kind of preventative to safeguard children from illnesses associated with teething.

We do not stop stooling (diarrhoea) associated with teething (Pregnant mother)(0008).

Mothers occasionally leave a condition like diarrhoea untreated, if they believe it to be caused by teething.

6.3.2 MEASLES

There is a belief in the village that measles is only infectious if one runs away from it. This woman lived in a neighbourhood where a child died of measles and another eight were infected. She said,

We were told not to run from it (measles), that if we did we would all be infected (Pregnant woman) (0006) [field note,08/07]

This woman told me about a neighbourhood where children had been infected with measles which I subsequently visited. I talked with the mothers and saw the children who were just recuperating from the illness. Measles is highly infectious, especially for children who have not been immunised against it, and in this village as not all the mothers had vaccinated their children, when one infected child was not isolated, the disease quickly spread to the other children.

Many of the children had measles already and I noticed that the ones that did not were playing with the ones that had. I recall a young girl of about two rubbing the back of an infected child, and when I asked the women around why they allowed this, since I was worried the infected child might infect the unaffected child, the women present said that they were told not to prevent children who are infected from playing with infected children. 'If the children

avoided infected children then the uninfected will get infected' (won no ki a ma sa fun won), we should not run from it (Mother of 4) (0057)

6.3.3 ILE TUTU (WET GROUND) AND SO O LA TA

There are some illnesses which are Yoruba conditions and part of the local taxonomy of illnesses. *Ile tutu* is believed to occur when there is more water in the body than blood. It is believed that this cannot be cured by going to the health centre because mothers believe the child will just be given injections which will not solve the problem. As this village a health educator said,

Sometimes when the water in the body is more than the blood, children are not brought to the health centre because they believe the child would just be given an injection which they don't want (Health educator)(0045).

When my child was not eating well and losing weight I took him to the traditional healer (alagbo women), she said he has ile tutu and he was given the appropriate agbo and he improved (Mother of 2)(0064)

Ile tutu is mostly common in the cold season (Mother of 5).(0069)

There is a belief among the Yoruba that illness and diseases can be caused by human agencies and supernatural agencies. The human agencies are thought to carry some supernaturalism. Some Yoruba also believe that certain problems can be caused by the Supreme Being (*Olodumare*). *So o la ta* is thought to be neither physical nor an act of God. The common belief is that it is caused by fellow human beings when there is

Chapter Six: Dealing with Ill Children

rivalry or jealousy. When this happens it is believed that a part of the body starts to rot, as this mother explained,

Sometimes illnesses are caused by other people not by God. Well there are some illness that people believe is caused by people proclaiming incantations and curses on people, these people or children now fall sick, especially if there is enmity between people, one part of the body will then start to rot (Mother of 2)(0037).

Sometimes when an illness has no cure it is caused by fellow people. It could also come in any form of sickness, and when those affected go and seek a cure, and they still don't get well, that is then they know there is more to the sickness (Mother of 3)(0060).

Incantations are recited or sung as part of ritual healing. This technique is mainly used by diviners (*babalawo*) and can be used with remedies. It can be used for either benevolent or malevolent purposes (Durodola, 1986; Oyebola 1980). This is similar to the ideas of bewitchment (Lewando-Hundt *et al*, 2004; Plummer, *et al* 2006) in other African societies where healers are visited to treat such conditions.

6.4 PLURAL HEALTH SEEKING BEHAVIOUR

Beliefs about the causes and symptoms of illnesses affect health seeking behaviour, the treatment choices, as do the availability, accessibility and affordability of treatments. There are different types of health care available; help may be sought from health providers in the clinic, the patent store, traditional healers or caregivers and mothers making up home remedies.

6.4.1 TRADITIONAL HERBAL REMEDIES

Multivariate and univariate analysis of the 2008 DHS data for the whole of Nigeria, was carried out using maternal educational level (higher, middle, primary), wealth index (rich, middle, poor) and place of residence (urban/rural) and these were analysed with fever/cough visiting traditional practitioners.

Table 6.8: Logistic regression showing Univariate and Multivariate Analysis of visiting Traditional Health Practitioner with Child with Fever/Cough.

Fevercough THP		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	2.87 (1.73,4.77)	2.90 (1.72,4.91)
Wealth (rich as reference category)	Poor	1.99 (1.03,3.85)	1.50 (0.76,2.93)
	Middle	1.49 (0.79,2.95)	0.85 (0.42,1.72)
Education (secondary or higher education as reference category)	No Education	1.71 (1.11,2.64)	1.64 (1.04,2.59)
	Primary education	1.64 (1.01,2.68)	1.54 (0.93,2.52)

Chapter Six: Dealing with Ill Children

NDHS of 1999, 2003 and 2008 were pooled together before analysis could be carried out (Kandala *et al*, 2007) as large amounts of missing data and inadequate data in each year meant that a meaningful analysis could not be carried out for individual years.

In the univariate model, living in a rural area and being poor, or having a mother with no education or primary education were significant at the 5% level. In the multivariate model, rural place of residence remained significant at the 5% level. Being poor became insignificant at the 5% level in the multivariate model. The odds ratio for no education was attenuated but remained significant at the 5% level and primary education became non-significant at the 5% level.

Children in rural areas are more likely (more than two times) to be treated at the traditional practitioners for fever and cough than children in urban areas. In addition, mothers who have no education are more likely to visit traditional practitioners to treat their children for fever and cough than mothers with primary, secondary or higher education.

Table 6.8 showed that children in rural areas were more than twice as likely to be treated by traditional practitioners for fever and cough than children who lived in urban areas. Mothers with no education are more likely to visit traditional practitioners for fever and cough treatment for their children, than mothers with primary, secondary or higher education.

Table 6.9: Logistic Regression showing Univariate and Multivariate Analysis of Children given Home Remedy or Herbal Medication for Diarrhoea.

Diarrhoea herbal remedy		Univariate (OR,95%)	Multivariate (OR,95%)
Residence (urban as reference category)	Rural	1.86 (1.41, 2.46)	1.79 (1.34, 2.41)
Wealth (rich as reference category)	Poor	1.55 (1.00, 2.42)	1.36 (0.86, 2.12)
	Middle	1.62 (1.05, 2.52)	1.19 (0.76, 1.89)
Education (secondary or higher education as reference category)	No education	1.44 (1.06, 1.95)	1.24 (0.90, 1.71)
	Primary education	0.92 (0.63, 1.35)	0.82 (0.56, 1.21)

NDHS of 1999, 2003 and 2008 were pooled together before analysis could be carried out (Kandala *et al*, 2006) to make up for missing and inadequate data.

In the univariate analysis, all variables except for primary education are significant at the 5% level. In the multivariate analysis, the odds ratio for rural place of residence was slightly attenuated but remained significant at the 5% level. Poor and middle wealth became non-significant at the 5% level. Primary education became non-significant at the 5% level.

Amongst the Yoruba in this region, herbal preparations (*agbo*) are used in the treatment and prevention of different ailments for adults and children. It is a combination of different herbs in different proportions for different ailments. The knowledge of these medicinal herbs is passed on orally from one generation to the next. Traditionally, knowledge is only passed to the first-born or a trustworthy person. Leaves and barks of trees are used more often than flowers or fruits. These are boiled, pounded

Chapter Six: Dealing with Ill Children

and soaked in warm or cold water for varying lengths of time and used externally as lotions and bathing herbs, or internally through oral ingestion (Kokwaro, 1991).

Mothers and caregivers mentioned using different types of herbal remedies (*agbo*) for different illnesses including diarrhoea, malaria, hot body, convulsions, worms and to promote strong bones (*agbo egun omo le*). These women trusted the efficacy of the herbal remedies, preferring them to other treatments, especially if the sickness was one commonly thought to respond to their use,

I give my children 'agbo tutu' (wet herbal mixture) for fever and 'agbo' for piles and convulsions (Mother of 6) (0005).[field note, 16/07]

I give my two year old daughter 'agbo'. I force it into her mouth while she is convulsing, that is the only way to give a convulsing child 'agbo', you force it into their mouth (Mother of 2) (0007).).[field note, 14/07]

Some mothers and caregivers relied more on traditional remedies than others. This woman explained that she learnt how to use herbal remedies from her father.

When my child is ill with measles, I give the child 'agbo', I will also get cobwebs from the cooking area and put them in a container and add palm oil to it. If it is for my son, I will take nine palm fronds from a broom and place it on the container and put it out in the sun. If it's for my daughter I use seven pieces from the palm frond broom. I will then sieve it and give it to my child to drink.

*When my child has fever, I will get bitter leaf (*Vernonia amygdalina*) squeeze it, add some water and palm oil and use it to rub my child's body. The temperature will subside after some minutes. For coughs, I melt shea butter and add salt. It acts as a perfect cough mixture (Mother of 5) (0002).*

Chapter Six: Dealing with Ill Children

Another woman's mother-in-law was an *alagbo* woman and she strongly believed in the use of *agbo* and would only consider the health centre if the *agbo* had failed to give the desired result.

We use the agbo for convulsions; it always works with my children. Once I noticed my child was twisting strangely on the bed. I used the agbo. We rubbed it on the child's mouth, but we don't give too much. We give the child a teaspoon for about 15 days. If he has it in his blood, it will come out with the stools. When a child's body is too hot, there is a different agbo for that and the child is taken to the healer and they are given appropriate agbo. Now when all these do not work or it gets out of hand, the child is then taken to the hospital (Mother of 2) (0037).

This woman explained that her mother-in-law's children had had convulsions including her husband and the preparation made for them was now available for her grandchild.

A child who is thin and not growing healthily may be considered to have *Ile tutu* (cold ground). This is thought to occur when there is more water in the blood than blood. Cases like this are normally not brought to the health centre. It is believed that it is only *agbo tutu* that can be used for the child to get better.

..... For 'ile tutu' when water is more than the blood, 'agbo ile tutu' is made so the child produces black stool and pee. Even if this child is brought to the health centre there is no cure for it. Agbo is preferred so that it can bring out the bad things inside the child. When they take it, sometimes they vomit, or go to the loo and they believe all the bad things have gone out (Health educator)(0045).

Chapter Six: Dealing with Ill Children

One of the main constituents of *agbo ile tutu* is cow or human urine infused with tobacco leaves or other herbs (Iyun *et al*, 1996; Maclean, 1965). This follows a common belief that herbs that act as an enema will result in the body being purified as harmful substances are expelled. Gottlieb (1994) found that the Beng people of West Africa, regularly gave enemas to their children, This is common practice amongst traditional health practitioners in Africa and is underpinned by the belief in ridding the body of harmful substances similar to purging and leeching in England in earlier centuries.

Herbal remedies can be bought or gathered in the wild. The National Agency for Drug and Food Administration Control (NAFDAC) is a national agency owned and managed by the Nigeria Federal Ministry of Health. It was established to regulate and control the quality standard of foods, drugs, cosmetics, medical devices, and chemicals, which are imported and produced in Nigeria. Some traditional herbal remedies (*agbo*) are packaged in bottles registered with NAFDAC and are generally thought to be prepared in a hygienic environment with guaranteed quality.

I have also given NAFDAC registered 'agbo' to my children when they have malaria. I believe in balancing both traditional and biomedical healthcare, I believe biomedicines were derived from the herbs of the traditional remedies

(Mother of 3) (0004).

Some other caregivers also pick it from the wild themselves. Other forms of *agbo* are sold locally in the market by traditional pharmacists or herb traders who sell herbs and are knowledgeable about them. One can either buy the locally prepared *agbo* from them directly or buy the herbs, and prepare it at home based on the given instructions. The *alagbo* women in addition to their knowledge of herbs, act as

Chapter Six: Dealing with Ill Children

traditional birth attendants for pregnant women. They are often elderly, popular and highly respected in the village.

The *alagbo* woman I interviewed combined the role of a traditional pharmacist, diviner and traditional birth attendant. She had learnt about herbal remedies from her father and had been practicing for the past 16 years. She was a traditional birth attendant and she also engaged in divination although she stressed she did not take care of people with mental health problems. Talking about people that came to her for help she said,

I will ask the spirit should I work on this or not? And if they say I shouldn't I wouldn't start work on it but if they say I should work on it I will and the child or woman will always get better (alagbo woman)(0039).

One of the women talked about how the *alagbo* women worked,

They ask us about the illness and if we say for example that the child has hot body (fever), they ask us if the stomach is hot or if any part of the child's body is hot. They will recommend the type of 'agbo' the child needs depending on the illness. They ask for the signs and recommend the appropriate 'agbo' (Mother of 2) (0037).

When a sick child does not get better after the usual *agbo* has been administered, the *alagbo* women may use divination,

It could come in any form of illness, and when you go and seek a cure and the child does not get well, they know there is more to the sickness (Mother of 3)(0056).

When the child has convulsions, it is thought that deities or spirits may be involved and that a diviner needs to be consulted. *Orunmila* is one of the many deities

Chapter Six: Dealing with Ill Children

of the Yoruba and a lesser god (*Orisa*) gifted with wisdom and knowledge, who is divined through *Ifa*. There is a belief among the Yoruba that these deities act as intermediaries between the Supreme Being and mankind. The oracle is usually divined by a diviner (*babalawo*).

This woman believed that convulsions were caused by spirits and that divination was required to deal with it,

If he has convulsions we take them to the 'alagbo', there is something they say we will 'te ifa' (ask ifa) or something like that and they can see what is troubling the child from there (Mother of 3)(0037).

Similarly, Dillip *et al* (2009) argue that in Tanzania, convulsions are more likely to be managed by traditional healers because they are believed to be caused by a malevolent bird casting its shadow on a child.

The Yoruba tradition is syncretistic combining elements of Christianity or Islam with Yoruba traditional beliefs. This Muslim woman explained that one could use different cosmologies of gods for explaining and dealing with illnesses,

The world is so evil now for one to stand alone without protection, because there is this common saying that 'God does not mind us helping him' (God will not refuse extra help). One will go and take one's child and ask them to have a look at him because maybe he suddenly shouts in his sleep without a reason. It might be that the child may be a member of a secret cult or has a familiar spirit and they will tell you what to do, or if you tell them you and somebody else fought they may tell you that was what caused the child's sickness (Mother of 5)(0037).

Chapter Six: Dealing with Ill Children

The *alagbo* woman explained that she uses different remedies for different ailments and the child gets well unless the child is cursed and then she will divine,

Yes I have different herbs 'agbo' for all the different ailments like malaria, meningitis and measles. When I give the appropriate 'agbo' the child will get well. The child will bathe with the 'agbo', which then enters the body. Even if the body is too hot, we have the 'agbo' for that as well, and it will come out of the body through the urine unless the child is cursed (Alagbo woman) (0056).

The health seeking strategies which mothers and caregivers adopted took different forms based on the mother's or caregiver's beliefs, experiences and perceptions of the illness as well as the availability, affordability, and accessibility of different types of health care provision. Plural health seeking behaviour differed according to illness, the resources and preferences of each household. People sometimes used different home remedies and self-medication before they sought outside help from sources like the local patent store, *alagbo* women and the health centre, as this mother explained,

When my child has a cough, we use palm oil with sugar for the child to lick, and if it still persists we go to the local patent store to buy drugs before we finally take the child to the health centre (Mother of 2)(0070).

We try and take care of the child at home but I have heard in adverts over the radio that if there is no improvement in three days we should go and see the doctor. Care at home includes going to the local patent store to buy drugs recommended by the owner and using things at home like different 'agbo' depending on what is wrong with the child. After doing all these, if there is still

Chapter Six: Dealing with Ill Children

no improvement on the child's health, then we have to take the child to the health centre. Then at the health centre, if it is necessary for the child to receive injections or more drugs, it will be given to him (Mother of 3)(0046).

When I had this child I was told to give him some types of 'agbo' to make the bones strong, but I have not given them to my child yet; I am first administering biomedical drugs (mother of 1)(0045).

When my child has measles, sometimes the rash will come out and after taking them to the health centre, I also bathe them with 'ewuro' (bitter leaf) and 'efinrin' (types of herbs/leaves) and use this to rub their body to clear the rashes (Mother of 4)(0069).

When my child is running a high temperature (fever) I soak a piece of towel in cold water and use it on his body or I bathe him in cold water, I feed him and give him 'agbo' or take him to the 'alagbo' woman (Mother of 3)(0043).

When my children fall sick I take them to the health care and I also use various 'agbo' like 'agbo iba', 'agbo jedijedi', agbo for strong bones and 'agbo giri'. This is because the drugs given at the health centre only 'try' (Mother of 1)(0048).

These women explicitly use plural healing, using medication from the health centre and also herbal remedies. This seems to indicate that the medication and remedies have different functions, the medication might deal for example with the symptoms and the herbal remedies might deal with the causes of the condition. This implies that mothers and caregivers think that using the biomedical care giving alone is not enough to make a sick child well.

6.4.2 VIEWS ON THE USE OF TRADITIONAL HERBAL REMEDIES

There were diverse views concerning the use of *agbo*, as some women in the village disagreed on the efficacy of *agbo* and argued that younger children should not be given them. They thought that *agbo* should be given to older children but not to babies less than one year old, as these mothers said,

These children are still too small to take 'agbo' (Mother of 5)(0071).

I use 'agbo' for my children when they have worms but I do not use it when they are small (Mother of 2)(0064).

This woman thought that *agbo* should only be given in controlled doses to young children and felt that it could affect their kidneys or liver in the future,

I think the long-term use of 'agbo', especially when one starts giving it to a child at a very young age can lead to kidney problems in the future. There is a limit to how much one can give to a child when these are dosages that are given to mature adults. Our kidneys are developed enough to handle 'agbo' (Mother of 5)(0055).

Another woman added that *agbo* does not always work for children, indeed, if the herbal mixture is too concentrated or too harsh, it may even harm the child,

They [traditional healers] say go and make this agbo and use it on the child or go and get this particular leaf or herb and give it to the child. But I think it was probably too harsh (too strong) for the boy and it did not work, it harmed the child (Mother of 3)(0055).

Some other women say they do not use *agbo* for their children

Chapter Six: Dealing with Ill Children

It's not that 'agbo' is a taboo for me, I just don't have the zeal for it, even now if my children fall sick I don't use it for them (Mother of 4)(0055).

I do not use 'agbo' at all for my children, I do not have the time, I can forget to warm it in three days and I may not touch it, but the older women used to tell me that 'agbo' is good but the time factors do not always allow me to use it (Mother of 2)(0064).

This woman explained that her health seeking choices were influenced by what she learnt from her mother,

My mother did not teach me to use 'agbo'. They say it is what a mother teaches her child that she knows. Even now, when I fall sick, I go to the hospital because my mother works in the hospital. She would not say I should go and get some leaves to make 'agbo' with. She used to take me straight to the hospital, I don't use agbo for my child (Mother of 2)(0070).

This woman's reason for not giving *agbo* to her children was related to an experience she had with one of her neighbours, and how unhappy she was with what happened to her child after taking *agbo*. The experience scared her so much, she says, that she made up her mind never to give *agbo* to her children.

Well I just know that the child had hot body and 'agbo' was used, the child went back (died), so I can't use it and I will never use it (mother of 1)(0071).

The health provider based in the health centre explained why the women in the village used traditional medicine, visited *alagbo* women and used *agbo* for their children,

Chapter Six: Dealing with Ill Children

It's because they are not aware of the health care services available, they believe in the traditional medicine, that's why (Health care provider)(0077).

This woman, who lives close to the health centre, said she did not use *agbo* because it was expensive and because of the negative views health workers had regarding its use,

I do not use 'agbo' because when I get to the health centre the nurses complain. We live so close to the health centre and sometimes when we go there we pay 200 naira. If I go to the 'alagbo' women they might charge me 500 naira. That's why I do not buy 'agbo' and my child gets better. They also say we should bring the child back at a later date to the health centre. That's the reason I do not use 'agbo' and would rather take the child to the health centre (Mother of 2)(0043).

Though some women said they do not visit the 'alagbo' healer because they would be charged more, some said they prefer the alagbo healer to the clinic precisely because they cannot afford to pay for the services in the health centre,

I am not using the health centre because I do not have the money to go (Pregnant mother)(0003)[field note, 21/05]

Some of the women preferred to take their children to the health centre for particular ailments,

My first child was prone to fainting. Three days before the fainting started he suddenly became more active and played a lot. We could all just be sitting down together and suddenly he would just faint. I always took him to the health centre and never used any traditional methods until he outgrew it (Mother of 2) (0056).

Chapter Six: Dealing with Ill Children

When my children fall sick I bring them to the health centre, for example, this child [on her lap], when I realised the child had 'pon jo pon to' I brought her to the health centre. I saw that the child's eyes were yellow so I brought the child to the health centre (Mother of 2) (0071).

I do not believe in 'agbo', I take my children to the health centre religiously (Mother of 3)(0053).

The data showed that the use of herbal remedies and healers is widespread, and that it is often used either on its own or in conjunction with biomedical care. Some women do not use herbal remedies and their cost tends to vary. Patterns of use are influenced by the type of illness the child is suffering from and the health seeking beliefs, behaviour patterns and economic constraints within any given household.

The particular caregiver who is present when the child falls ill, also influences the kind of health seeking behaviour the child experiences. Within any given household, the decision over who and how the child is looked after is a subject of negotiation, this decision making process might be usefully conceived here as a therapy management group (Janzen, 1978). The group discusses and pools advice, resources and funds to pay for care or provide transport. The father may also be involved in this decision making process mainly as an income provider. Other caregivers, mostly mothers, mothers-in-law, sisters, sisters in law, grandmothers and grandfathers, aunts, uncles and neighbourhood friends, also impact on health seeking decisions. Mothers have a big influence over their daughters and daughter's-in-law's decisions regarding health seeking strategies for their children and even for themselves.

Chapter Six: Dealing with Ill Children

When my eight month old baby was sick, I was living with my grandmother, we did not take the child to the health centre. My grandmother administered various home remedies and some 'agbo' to the child (Mother of 5)(0064).

My son's hair is dreadlocked ('Dada') so when he falls sick my father-in-law is always scared that it might be his spirit guard that is angry so he goes to appease the spirit (mother of 3) (0004).

Dada occurs when the hair naturally tangles even after it has been brushed or combed, as it is often considered a sign of power and complex fate (Ogunyemi, 1996). Parents of children with this type of hair will normally leave the hair to grow long, and avoid having the child's hair cut, except after a certain ritual. *Sango*, one of the deified Yoruba ancestors thought to be the god of thunder is known to have dreadlocks, thus people who worship him often imitate his dreadlocks by braiding their hair. The mystical powers associated with this type of hair can be compared to the biblical Samson (Judges13:5).

There is often a lack of consensus within households regarding what treatment should be taken up, as this mother says,

When I was pregnant my husband asked me to go to a private clinic 'Abiye' (come alive) but my mother-in-law told me to go to another health centre, and I did (Mother of 2)(0067).

When my child has malaria my mother-in-law bathes him with agbo and I also take him to the health centre (Mother of 1)(0008).

Chapter Six: Dealing with Ill Children

The data from the NDHS showed that in the rural North Central region of Nigeria, 63% of children spend more time with caregivers other than their mother or father, while in the urban areas only 35% of children spend more time with caregivers who are not their parents. The analysis also showed that when the children fall ill in the absence of their mother or father, the health seeking decisions fall to the caregivers.

Accounts of children with convulsions provide a good example of this. Two women related a time when a mother was asked to give convulsing child urine to drink,

There was some shouting and screaming and I ran there and I saw that the child was convulsing. It's our belief that if a mother's pee is given to her convulsing child, the child gets better. I have seen it happen several times and it has always worked. [...] When the woman shouted a lot of people in the neighbourhood came round to find out what was going on. One of the older women around told her to pee quickly so they could give it to the child. So she quickly went behind the house to pee and brought it for her three year old son, This older woman then asked people around to hold the child and his mouth was forced open. While all this was taking place another woman quickly took boiling charcoal from the pot that was already on the fire and she put it in a plate. She then shouted for somebody to bring dried grains of pepper, another person also brought onion, which was rubbed on the boy's face. The dried pepper was then poured on the shells from the fire and placed very close so he could inhale it and the child gradually recovered (Mother of 5)(0001).

This mother also explained how a neighbour helped when her child had convulsions,

Chapter Six: Dealing with Ill Children

There was a time when my six month old daughter was ill, she had hot body, I was even supposed to go out that day but decided to stay at home, we slept together on the bed and suddenly she started to convulse, I was scared, so I put her on the potty and her urine was very yellow and hot and all this while she was still shaking, so I was alarmed and scared and called to the women who shared my house and they quickly got 'agbo' for convulsions. I was not sure I knew what it was, but one of the women helping me seemed to know what she was doing and she gave it to the child and she recovered (Mother of 1)(0009).

6.5 DISCUSSION

This chapter answers the second part of the research question '*What are the socio-economic, household and community factors affecting the health of children and the health seeking behaviour of mothers and caregivers in the village?*' and '*How do mothers and caregivers deal with their children's illnesses?*' The chapter also offers an answer to the question, '*How do medical and social diagnostics interface to affect health seeking behaviour of care givers?*' It examined the patterns of children's illnesses using both quantitative and qualitative data. The NDHS data set out the patterns of morbidity and treatment for fever, cough and diarrhoea.

The tables showed differences between both urban and rural areas, and health gradients in relation to wealth and education. The data however, underreported the use of traditional herbal remedies and practitioners, which may be due to the wish to give a socially desirable response or due to the limitations of survey data collection. The qualitative data showed how mothers and caregivers in the village were aware of both medical and social diagnostics of illnesses and their causes and how they use plural health seeking behaviour to treat their children when they are unwell.

In this chapter the social diagnostics of illnesses were considered alongside the medical diagnostics, and were considered in light of patterns of infant and child mortality and morbidity, as well as on clinical conditions and their treatment. Using Krieger's model (2008), different levels and pathways were analysed using Fosto and Defo-Kuate's (2005) framework. The framework broadly divides mortality and morbidity factors into two major groups - community socioeconomic factors and familial/household socioeconomic factors. Such groups are not considered entirely independent in this analysis, as the community socioeconomic factors can influence

Chapter Six: Dealing with Ill Children

child health and survival by shaping the familial/household factors. In this analysis, the social, economic and physical environment shared by residents, was seen as having the potential to impact on health outcomes.

Using this model of child mortality and morbidity, mothers' reproduction and cultural beliefs were classified as familial factors although under the umbrella of community factors. This chapter focused on mothers and caregiver's beliefs about illnesses causation as well as their health seeking behaviour.

Social diagnostics of illness causation, often dictate the type of treatment taken up by mothers and caregivers. At other times plural health seeking is pursued using different hierarchies of resort namely, patent stores, traditional healers, traditional pharmacies, home remedies and the health centre. The health centre is generally only used as a last resort. The order in which these various health seeking strategies are pursued is also influenced by mother's and caregiver's prior experiences, the resources they have available, the person around when the child falls ill, and mother's beliefs about a disease's causation. The therapy management group consists of mothers and other members of the child's household who share and pool resources and the responsibility of giving care to the child.

In terms of biomedical health services in the village, the first point of call in an emergency for both mothers and caregivers tended to be the patent medicine stores. In Nigeria, patent stores and vendors are usually the first point of call for both rural and urban dwellers wishing to receive health care and drugs, as the stores often serve as an accessible and informal place to receive advice (Uzochukwu *et al*, 2008) as well as sometimes offering credit facilities. In a study carried out by Okeke *et al* (2006), most

Chapter Six: Dealing with Ill Children

of the patent medicine sellers in the rural part of Nigeria's South East region were not trained health professionals.

Similarly in Y village, health workers at the health centre had their reservations about mothers and caregivers relying too much on these stores, because they frequently run out of stock, and occasionally sell expired drugs. However, while the village health centre encouraged mothers to prepare Oral Rehydration Therapy themselves, and despite the fact that most of the mothers and caregivers who brought their children in for immunization were aware of ORT and its importance for children suffering from diarrhoea, many of them relied on ORT bought from patent medicine stores, or gave the wrong amounts, through not knowing the exact quantities of sugar and salt required. There were a few women and caregivers I encountered during household interviews who neither knew about ORT nor how to prepare it.

Agbo (medicinal herbs) were frequently used as a form of home remedy by many of the women before they sought outside help from traditional healers, patent stores or the health centre. Fakeye *et al* (2009) found that many women in Nigeria use herbal medicines during pregnancy, with the majority obtaining herbal remedies from the wild. In Nigeria, laws regulating the sale and distribution of herbal remedies are poor and access is unrestricted.

An analysis of the NDHS 2008 data revealed that the most common childhood ailments for children in rural parts of the North Central region were fever, followed by cough and diarrhoea. The qualitative data found that the illnesses most frequently mentioned by mothers and caregivers tended to be respiratory illnesses followed by diarrhoea, fever and malaria. Analysis of the 2008 NDHS in this region, suggests that children from poor households were more likely to have fever in any given two week

Chapter Six: Dealing with Ill Children

period than children from middle and rich income families. Similarly, children in poor households whose mothers have received no education are likely to suffer more from diarrhoea than children from middle or rich households whose mothers have received a primary, secondary or higher level of education.

The analysis of the 2008 NDHS suggested that 95 % of women in rural areas of the North Central region, cook with coal, charcoal or straw. This may help to explain the reason for the high number of reported respiratory diseases children experience. Children under the age of five are normally with their mothers constantly, even when cooking, either playing nearby or strapped to their mother's backs in the traditional way thereby breathing in smoke.

There are many other childhood illnesses, encompassed by the Yoruba social diagnostic taxonomies of illness. Often in such cases biomedical treatment is not pursued depending on the particular illness' characteristics and attributed causation. For children's illnesses like *ile tutu* (swollen stomach and no weight gain typical in wet weather) biomedical treatment is ordinarily not sought because of the belief that it can only be treated by a traditional healer. Convulsions on the other hand are often treated using both biomedical healthcare and traditional healing. Other illnesses like *so o la ta*, which is thought to be caused by malevolent human agencies, is also not referred to the health centre but is treated by traditional healers, through various types of divination and incantations.

In a similar study conducted by Kamat (2009), mothers used both the dispensary and traditional healers for the treatment of malaria, as the fever was thought to be treated at the dispensary but the convulsions, attributed to a spirit, were treated by traditional healers. In another study, convulsions, measles and tetanus were also thought

Chapter Six: Dealing with Ill Children

to be caused by supernatural forces (Omorodion, 1993). This is one example of medical and social diagnostics leading to plural health seeking behaviour and treatments.

The categorization of illnesses according to their causation - either natural forces or supernatural causes mediated by malevolent agencies - has been noted in other similar studies, such as studies by Kirkpatrick and Cobb in Haiti (1990), Lewando-Hundt *et al*, in South Africa (2004) and O'Dempsey in Kenya (1988). While some mothers and caregivers will combine the use of both biomedical drugs and traditional medicine for their children, this does not seem to be the case for pregnant women, who tend not to combine herbal medicine with biomedical drugs since it is commonly believed to be unsafe to do so (Fakeye *et al*, 2009).

Social diagnostics similarly influence the health seeking behaviour and treatment for illnesses seen to be caused by teething. The teething period is a phase that is dreaded by mothers in the village as so many illnesses are associated with it, and indeed the period is widely regarded as a time of sickness. Childhood illnesses like cough, vomiting, ear infections and fever are all associated with teething or the onset of teething. Similarly, in Uganda, teething is associated with malaria, pneumonia and diarrhoea, which are referred to as 'false teeth' (*ebiino*) and only treated by traditional healers (Ene-Obong *et al*, 2000; Nuwaha *et al*, 2007). When a child is teething diarrhoea is frequently not treated, since it is considered that its root cause and what therefore needs treatment is teething rather than diarrhoea.

Different herbs are used depending on a child's ailment. Mothers and caregivers in this study use herbs (*agbo*) for various ailments, including the Yoruba illness of *iba*, malaria, some types of haemorrhoids, measles, teething, *ile-tutu*, measles and diarrhoea (Fawole *et al* 2008). *Agbo ile tutu* is a very common treatment used by many mothers

Chapter Six: Dealing with Ill Children

and caregivers for the treatment of convulsions and *ile tutu* because of its purgative properties. The use of herbs as a treatment for various illnesses both in children and adult is commonplace in Africa (Amusan, *et al* 2002). However the use of herbs (*agbo*) was underreported in the NDHS 2008.

Many people use herbs in Nigeria especially those residing in rural areas, although the side effects of most of these herbs are poorly understood. Women and caregivers used the traditional herbs because of their perceived efficacy. They are often freely available from the wild, or very cheap to buy, and the belief system surrounding their usage is part of Yoruba cultural heritage. *Agbo tutu* is usually made from a mixture of cow or human urine with herbs. Other herb bases are mixed with water or soft drinks. Another popular treatment of convulsions is the use of the child's mother's (or mother relative) urine for bathing the child or as a drink. Similar practices have been found in Kenya and Tanzania (Mwenesi *et al*, 1995; Kamat 2009).

The required heating of some of the herbal remedies, occasionally acts as a form of purification before they are consumed. A study carried out in Nigeria on the use of herbal treatments for malaria in adults, took blood smears from respondents before and after herbal treatment. The researchers found only 4% still tested positive to malaria while 69% tested negative after treatment, while in another sample all the respondents tested negative after treatment (Ukaga *et al*, 2006).

On the other hand, several other studies of medicinal leaves used in herbal preparations in Nigeria for ailments like malaria, fever and convulsions, bought from traditional healers or herbs pharmacists in the market, found the leaves to have a high level of microbial contamination with a high level of pathogenic organisms (Adeleye, *et al*, 2005; Efuntoye, 1997).

Chapter Six: Dealing with Ill Children

Some mothers and caregivers would only use biomedical treatment, either because they said their parents did not teach them to do so, and so they were not used to using them, or because of prior negative experiences which led to a child's death. Others found the drawn out and meticulous process of preparing the herbs over the course of several days too awkward, and some believed they might be scolded by a health worker. Some mothers and caregivers argued that herbs should not be given to children under a year old as they considered the organs (liver/kidneys) of the child not mature enough to handle the herbs, either because they were highly concentrated, too harsh, or because the dosage could not be ascertained. Children in South Africa have been found to die from herbal intoxication with more deaths recorded among those under six months old (Dambisya *et al* 2003).

These qualitative findings on the use of herbal remedies are in sharp contrast to the NDHS data on traditional practitioners and home remedy herbal usage. It is evident from the fieldwork that many of the women and caregivers in Y village visited traditional practitioners and used herbal remedies for their sick children. This was grossly underreported and a great deal of data were missing in the NDHS to the extent that a meaningful analysis could only be carried out using pooled data from the 1999, 2003 and 2008 NDHSs (Tables 6.8 and 6.9). However due to the limited data collected on the subject, the only analysis possible to make at the national level was for the variables of traditional practitioners for fever and cough, and home remedies and herbal medication.

The NDHS did not give a complete picture of traditional practitioners, home remedies or herbal medication in this region, or in Nigeria. Such a lack further serves to highlight the need to interface epidemiology and anthropology. While the NDHS

Chapter Six: Dealing with Ill Children

concentrated on traditional practitioners, home remedies and herbal medication, it was only able to focus on a limited number of ailments. The fieldwork on the other hand was able to extend an understanding of childhood diseases which were treated by traditional practitioners through Yoruba taxonomies of illness. The analysis of the NDHS showed that in rural areas, mothers who had received no education were more likely than urban, more highly educated mothers, to go to traditional practitioners for fever and cough treatment and were also more likely to use home remedies or herbal medication.

Such trends have also been reported in other studies on the treatment of fever for children under the age of five. Surveys about the use of traditional healers carried out in Tanzania found that less than 1% of the population use traditional healers (Warsame *et al* 2007) but in a qualitative study, a greater percentage was recorded (Chibwana *et al* 2009). In this study, caregivers in rural areas were found to visit traditional healers more frequently and to use home remedies and herbal medication more often than their counterparts in urban areas. Similar results were found in a study carried out in rural Guatemala (Van der Stuyft *et al*, 2010).

The NDHS was only able to give partial information on health seeking behaviour. Possible reasons for this may be due to the limitations of survey methodologies. Surveys are frequently administered to only one of several caregivers a child may have, and not necessarily the main caregiver. As interviewers are frequently from a different social background, either having received a higher level of formal education or from urban areas, respondents may feel uncomfortable revealing the use of alternatives to biomedical remedies which may bear a stigma. This could also go some way to explaining why there was such a high volume of missing data.

Chapter Six: Dealing with Ill Children

There is the possibility with questionnaires that caregivers may answer questions according to what they think interviewers want them to say, or what they think may be the right answer according to the interviewer, or what may be a more socially acceptable response, as opposed to stating their own views. An added complication is that the term traditional practitioners is an umbrella term for a wide range of traditional healers and practices carried out by the Yoruba (see chapter 2) which frequently overlap. A lack of clarity or precision in the way questions are phrased may have influenced the high number of negative responses in the NDHS.

Social diagnostics of illness by mothers and caregivers in Y village are based on their experiences, their ideas about illness causation and local taxonomies of illness that are not always congruent with biomedical illness categories. Using herbs and visiting traditional healers continues to be a preferred and popular choice of treatment for all childhood illnesses including biomedical ones. Most mothers used plural health seeking behaviour which included the clinic alongside herbal remedies from the home, patent stores and healers.

Although the Alma Atta Declarations of 1978 emphasized the need for traditional medicine to be incorporated into health systems in developing countries, this has not been fully implemented in Nigeria. Aginam (2007) argues that 'ethnomedical therapies should be integrated into the core framework of global health architecture'. Plural health seeking behaviour and care in this setting can only be better understood by considering the social as well as the medical diagnostics of childhood illnesses and by combining epidemiology with anthropology.

6.6 SUMMARY

This chapter has addressed the research questions set out at the beginning of this discussion through interfacing an epidemiological analysis of the NDHS with ethnographic data on how mothers and caregiver deal with children who are unwell. The next chapter explores the causes behind child mortality and accounts of child deaths.

CHAPTER SEVEN: ACCOUNTS OF CHILD DEATHS

7.1 INTRODUCTION

This chapter offers an analysis of mothers' and caregivers' accounts of incidents of child deaths. This chapter addresses the theoretical question, '*How is structural violence experienced at the community and household levels and what is the scope of agency is for caregivers?*' The chapter also addresses the empirical question, '*How do mothers and caregivers deal with their children's illnesses?*' The first section of this chapter relates mothers and caregiver's accounts of deaths, while the second explores the progression and management of illness and death.

Mother's explanations of their children's deaths included pointing to factors beyond their control. Explanations relating to *abiku*, or 'God's will', were often prominent as mothers and caregivers tried to make sense of suffering and loss, such narrations can be understood within a context of structural violence and poverty, which limit mothers and caregiver's choices and afford them little room to manoeuvre. The table below shows child mortality rates by type of residence, maternal education and wealth.

Table 7.1: Childhood Mortality rates per 1000 live births by type of residence, maternal education and wealth

Background characteristics		Neonatal mortality	Post-neonatal mortality	Infant mortality	Child mortality	Under-five mortality
Residence	Urban	38	29	67	58	121
	Rural	49	46	95	106	191
Zone	North Central	41	37	77	62	135
	North East	53	56	109	126	222
	North west	47	44	91	139	217
	South East	51	44	95	64	153
	South South	48	37	84	58	138
	South West	37	22	59	32	89
Mothers education	No education	49	49	97	124	209
	Primary	48	40	89	77	159
	Secondary	40	30	70	49	116
	Higher	33	15	48	22	68
Wealth quintile	Lowest	50	49	100	132	219
	Second	51	52	103	121	212
	Middle	45	40	86	87	165
	Fourth	40	34	73	60	129
	Highest	39	20	58	31	87

Source: NDHS 2009

Table 7.1 shows an analysis of child mortality rates using figures from the 2008 NDHS. The table was extracted from the 2008 NDHS and it shows rates for 10-year period preceding the survey, and by background characteristics. It shows higher mortality rates in rural areas than urban areas, and more numerous child deaths in the north of the country than the south. Children of mothers with no education are more likely to die than children of mothers with higher education, pointing to a social gradient. A social gradient is also present in relation to wealth, as those with the highest wealth also record the fewest child deaths.

7.2 REASONS GIVEN BY MOTHERS AND CAREGIVERS FOR CHILD DEATHS

Caregivers gave various reasons as to why children in the village had died. Delays in seeking care, ingesting the wrong herbs (*agbo*) or highly concentrated ones, were also thought to contribute to the deaths of children.

When a child is sick, let's say with fever, the parents will be looking after the child, instead of taking the child to the health centre. They will be using different 'agbo', and some of the 'agbo' do not cure the sickness in time. By the time the child is taken to the health centre, the child dies (Mother of 3) (0072).

The health educator agreed with this woman. He believed that children were not being attended to immediately and that parents would only seek out treatment later when the illness had progressed and had not improved. He also talked about the wrong dosages of *agbo* being given to children.

The mother may start noticing that a child is not feeling well, and she may be careless and start to complain, saying this child has started being ill. The mother may be slow and sluggish about attending to the child's illness, and this illness continues to progress until it become serious and unmanageable. The child must have given earlier signs. Now if the child is taken to the health centre they will know what is wrong and how to attend to the child. The child will be cared for with the correct dosage of medication depending on the age of the child. We don't know the correct dosage to use for traditional herbs (Health educator) (0045).

Chapter Seven: Accounts of Child Deaths

In addition to concerns about herbal dosages, these opinions show a belief in the efficacy of biomedicine and a view that a delay in seeking care at the clinic or hospital may lead to a child's death.

Children were also thought to die because of the belief that the child is an *abiku*. *Abiku* are children that are believed to be born only to die. These children are thought to be reborn many times only to die as a spiritual affliction on parents. Even when *abiku* children are living they are believed to be in constant communication with their other members in a fraternity in heaven (Oyebola, 1980). Such beliefs were also noted among mothers in Brazil, who believed that some of their babies were born wanting to die (Scheper-Hughes 1992; Ojikutu 2008).

I had all my children in the house. I had 11 children altogether but 10 children went back; they were all 'abiku'. We took care of them but they all still died. We realised they had 'hot body' and the next thing was that they died. It's the will of the gods (a mu wa olorun) (Mother of 1 surviving child) (0009) [Field note, 18/02].

As explained in chapter 2, polytheism is common, with many people believing in a number of gods who influence life events. A large proportion of Nigerians who are Christian and Muslim, will also believe in these other gods. Mothers and caregivers often try to make sense of their children's death and suffering in reference to religion, attributing children dying to 'what the gods permit' or 'God's will'. Such references may denote their helplessness and an attempt to understand events which are felt to be beyond their control.

Chapter Seven: Accounts of Child Deaths

Sometimes when a child is born and it dies the people believe that it's the gods' wish or it is what the gods permit and at that time there is nothing anybody can do that will make the child survive. If a child is 'abiku', it is believed that the child has a spirit group and that the child comes and goes as it pleases. Sometimes we believe it happens to hurt the parents. Maybe they had done something bad in the past so the child was sent to them to punish or torment them. When this happens in a home the parents are normally advised to put a permanent mark on the child's face so that when the child comes back everybody will recognize the child. Other times one of the child's fingers is cut off. At other times after the child dies it is cut into many pieces and then it is tied up. They believe that if this is done the child will not come back again. Sometimes we also believe that a child can be killed by witches or sorcerers just to harm the parents (Mother of 5) (0001).

The term *Abiku*, 'born to die' also referred to as 'wanderer' or *Ogbanje* by the Ibos of Nigeria (Osifo, 1985), is a concept shared by other tribes in Africa (Allotey and Reidpath 2001). It is believed that these Spirit children can bring prosperity when they are well or misfortune to the family and the community when they are ill (Koster, 2003).

It has been suggested that the concept of *abiku* could be applied to children who die from sudden infant death syndrome (SID) according to Ogunyemi (1996) or to those who fail to thrive. When referring to the death of a child, the Yoruba often say the child has 'gone back', this is especially common for a baby, who is believed able to go back to where it came from after it has died. Such concepts occur in other parts of Africa. For the Beng people of the Cote d'Ivoire, the death of a newborn is not announced publicly

Chapter Seven: Accounts of Child Deaths

and there are no funerals if the newborn dies a few days after delivery, since the infant is not considered to have died but rather to have returned to the place the infant inhabited (Gottlieb, 2004). This is similar to the idea of 'liminality' in which newborns are not considered full social beings until they have survived at least six weeks (Ngubane 1977). This is common in many Muslim areas, and it is a categorization which often extends to mothers, who are also often considered liminal, and may be socially restricted or confined to their homes during this period (Forman *et al* 1990).

One woman felt that her three month old daughter was destined to die young. She also said she could not breastfeed her baby because she thought she did not have enough milk.

I had my child in a traditional house. She was a girl and was about three months old when she died. I think it was the baby's destiny to die young. There was nothing wrong with the child. I was not able to feed the baby well. I could not breastfeed her properly because my breasts were not producing milk at all. I used 'agbo' that were recommended but nothing seemed to work (mother of 1)(0048) [field note 23/01]

Another woman felt that the death of her child was a result of evil doings, and she thought if not for God's intervention she would have died too.

When I got to the health centre about 6.30 that morning, I was examined and they saw that the baby was on the way so they told me I was in labour, but it came and went and they asked me to go and walk about. When I came back, I was asked to lie on the bed but still the contractions were not regular and I was given an injection but still nothing happened and it seemed they were at their

Chapter Seven: Accounts of Child Deaths

wit's end. So both the Christians and the Muslim nurses came in to pray for me, and as they prayed some of the nurses pushed the baby out and eventually the baby came out with God's help and it was dead and had its eyes closed. I think that if not for God's help the baby would not have come out. I think God still needed me to be alive, I think there were some external evil forces at work and that is why the baby died (Mother of 2)(0067).

Such beliefs about supernatural or divine forces at play, might explain misfortunes and afflictions that people suffer and feel are outside of their control. According to Moore and Sanders (2001) witchcraft is best understood not as a matter of belief but rather as social diagnostics. Witchcraft also offers explanation for misfortunes and helps to answer questions in the nature of 'why' rather than 'how'.

The health educator thought that mothers explained or made sense of the deaths of their children through *abiku* or the will of God or the gods, but that these were not necessarily the 'true' explanation,

We seem to say it's the will of God, but when children fall sick we give them some remedies. It may be that their liver or kidneys are not strong enough for what we give them. We give it to them and say that is what mama x gave her child the other day and it worked, but we forget that the ages of the children differ. The mothers call the child 'abiku', and they will not confess what they did. They just say they gave the children what mama so-so gave her own child but the child was too small to be given what was administered to the child (health educator)(0045).

Chapter Seven: Accounts of Child Deaths

Another woman added,

I think that the occurrence of 'abiku' is high because when the child was supposed to be treated they were not. The child is placed close to the fire and they will be using 'agbo' to rub the child's body, adding something hot to the already hot body of the child. Of course the blood of the child will continue to dry. When people don't have money, people tell them once you make this 'agbo' the child will be better and the mother will make the 'agbo' and give it to the child instead of taking the child to the health centre to people that really know about how to care for the child. When they don't have money the mother will continue to try all sorts of things on the child (Mother of 4) (0054).

This indicates that caregivers may delay going to the health centre because of issues of affordability which links to the concepts of structural violence, materialistic and non materialistic explanations of health inequalities as set out in chapter 4.

Another woman thought that children die because of poverty,

God should have mercy on us, what I can say really is that we are dying daily of poverty, poverty greatly contributes to our problems (Mother of 2) (0064).

Another woman compared the process of taking care of a child to trading. She believed that child rearing is like trading, one cannot predict outcomes, one is subject to unseen circumstances or situations beyond one's control which makes women powerless,

Child rearing is like trading... you gain some and you lose some (Mother of 1) (0048) [field note, 23/01].

7.3 ACCOUNTS OF CHILDREN DYING

Women and caregivers related their own experiences and those of their neighbours regarding the deaths of children. From these women's accounts of children dying, it was not possible to know if the children had underlying conditions such as HIV or malnutrition or if they were dehydrated from gastroenteritis. This biomedical information was not part of their lay accounts of plural health seeking behaviour of households where children had died. The following is an account of the death of an 18 month old neighbour's boy,

I just know that in the morning the mother said that the child was sick. She was the daughter of a traditional healer (alagbo woman) and she went there. The mother gave her 'agbo' and the next day the child went back (Mother of 1) (0037)

In this case the mother depended on the herbs from the traditional healer (alagbo woman) who was also the child's grandmother, and the child died. The child was not taken to the health centre.

Another woman present during this conversation said that she had had a similar experience with one of her children and she believed the child would have survived if she had taken the child to the health centre. She talked about how she was forced to make a stand with her husband,

I believe if she had taken that child to the health centre, the nurses would have given the appropriate care, and the child would not have died. It happened to me before with the child I had before this. He was a boy too, he was coughing and he started breathing very fast. That night my husband said he was scared

Chapter Seven: Accounts of Child Deaths

and suggested we take him to the (traditional healer) alagbo house. I told him I have never been to the traditional healer (iya alagbo) before, so we took the child to the health centre and he was taken care of and was fine (Mother of 2)(0070).

Some women felt that poverty was a factor. This account of the death of a two day old baby, which occurred a week before this interview took place, illustrates this point.

Poverty greatly contributes to our problem. This woman did not go to the hospital for antenatal care and when it was time to have the baby she went to deliver at the traditional healer's place. After giving birth, they must have seen that there was something wrong. I do not know what really happened, they should have rushed the child to the hospital. The following morning I went to the house to congratulate the mother. As I entered and was about to pick up the child, an older woman present asked me if I was a nurse. I said no, so she told me not to carry the baby with my condition (I was pregnant). It was not more than two weeks ago this happened. She had her child five days before I had this baby. These people live in my mother's rented house, so my mother said she woke up in the morning and wanted to help the woman bathe her baby, at which point she noticed that the child's clothes were soaked with blood and she was wondering what was wrong. At that time the child had turned pale. They did not take the baby to the hospital and all of them were in the house. They said that they did not have money to take the baby to the hospital. My mother said that after she had bathed the child she thought the cord might not have been tied properly with the string, so she retied it. The baby did not last till noon, the baby bled too death. When the baby was about to die they rushed out looking for a

Chapter Seven: Accounts of Child Deaths

nurse that lived nearby. There was a particular auxiliary nurse they called, but she did not turn up quickly. She complained that she was not called when the woman delivered and that she should go back to where she delivered the baby. They took the child but on the way, the child died so they went back and buried the child. It was a pity but saying that it's only God's will and that he should have mercy upon us, is not enough. A woman has to know what she is doing (Mother of 2) (0064).

In this instance the household did not have money to go to the hospital and delayed seeking help. There is an issue here of affordability and also of accessibility, since the nurse also refused to help. However, it is worth noting that the woman relating this event, who has a higher level of education, felt that women do have a certain amount of choice.

This woman gave an account of her brother dying from measles; a common problem in the village,

My brother was two when he had measles, my father did not allow us to give him any medication. He also had diarrhoea and we only used holy water for him. He eventually died in the house. He was sick for about a month (Mother of 1) (0002).

In some cases health care is not sought from the outside, as is illustrated in the case above, and mothers and caregivers only depend on home remedies and prayers,

The child had measles, she was eight months old, and some children had it in the neighbourhood. We took the child to the 'alagbo' and she was given some 'agbo'. When she did not get better, we took her to the health centre. At the

Chapter Seven: Accounts of Child Deaths

health centre she did not stool or cry, she had a hot body so she was admitted and later died in the hospital (Mother of 2) (0062).

These accounts demonstrate a plural health seeking pattern in which herbal remedies (*agbo*) are first administered at a herbal healer's place and then the child might be taken to the health centre if there is no improvement. Sometimes the order is reversed.

When the two year old child had convulsions he was taken to the hospital and his eyes were closed for eight days. The child did not get better so the parents took him from the health centre. The child was taken to the traditional healer but the child did not open his eyes until he died (Mother of 3) (0072).

In other cases children died after being treated with herbal remedies or drugs,

The child had diarrhoea and was vomiting. She was not gravely sick, and by the evening she went back. She was not given herbs because her father is a doctor. The child was a seven month old girl. The child was not taken to the hospital (Mother of 5) (0071)

There was a four year old boy, who was vomiting, stooling (diarrhoea) and urinating blood, he was rushed to the health centre, but he died in the morning (Mother of 2)(0071).

Chapter Seven: Accounts of Child Deaths

Sometimes women blamed the death of children on the high doses and concentrations of *agbo*. It was also felt that in the process of forcing the herbs in the mouth of the child, it might have sometimes got into the child's nose,

Well, the convulsion started the night before but he did not have a high temperature. His body was very cold, very cold indeed. In the morning he was rushed to the hospital but he went back (died). He was given 'agbo' before he was taken to the hospital. I think he was given too much herbal remedy to drink. If it was an older child then maybe this would not have happened. Again in the process of giving the baby herbs, it might have gone through the wrong place. Because the 'agbo' are forced into the mouth it might have gone through the nose or somewhere else (Mother of 1) (0056).

This particular child had been sick and all the things they had been using on him did not work before they rushed him to the hospital. He died before they even got to the hospital. They used 'agbo' and some other herbs which I think were probably too harsh for the boy (Mother of 4) (0037).

These cases show that women were critical in their thinking about the right concentrations and quantities of 'agbo', recognising them as a factor in the deaths of children. They also recognised delays in seeking medical care as another possible contributor.

This is my third born, my second child went back. He had fever when he was three days off being a month old. He was ill for about two days and I used 'agbo'. I did not use any other medication and I did not take the child to the

Chapter Seven: Accounts of Child Deaths

health centre. I felt I would see what happened after three days before I took him. I had him at home (Mother of 1) (0069).

This woman described how her child died whilst her grandmother was caring for her sick child,

I noticed that my eight month old baby's body was swelling - his hands and legs - I did not notice any other sign except the body swelling and I told my grandmother. So she got herbs and gave it to the child. The herbal remedy was used in the morning and by nightfall the child had died (Mother of 5) (0064).

Another explained that when her four year old son died he was not with her but with her mother,

My son suddenly woke up in the night and he had a hot body. I took him to the health centre and he was treated and became better. Nine months later he got ill again, but this time he was with my mother. My mother told me that he even went to nursery school that day and it was when he came back that she noticed he had a hot body. He died later that night in the house (Mother of 3) (0046).

One couple lost two of their children as neonates and they blamed both deaths on the carelessness of hospital staff,

Wife: I have lost two children and I almost lost the third one. It was only God that helped me. The first child died after 40 days, we took the baby which was a girl to the private hospital, because she was crying a lot and was not breastfeeding. She was ill on and off during those 40 days before she eventually died.

Chapter Seven: Accounts of Child Deaths

Husband: The second child was stillborn and we had the child after nine months of pregnancy. I believed that it was the carelessness of the hospital staff that made the child die. We decided not to use this hospital again.

Wife: Now the third child we almost lost if not for the intervention of the staff.

Husband: No, I think they were careless too.

Wife: No, they were not, three days before my delivery date, I started seeing some water, then during delivery the baby came with the face, well I think the nurses did not know this because they inserted their hand and were squeezing the child's face. They thought it was the child's bottom, eventually when the baby came out, she had bloodshot eyes and some other complications, now she is about seven years old and she has squinty eyes and one of her hands is bent
(Parents of 3)(0010) [field note, 08/03]

This woman, who lost two children, explained how there was a long queue when she brought her sick child to the hospital. She was not attended to in time and by the time she was it was only to be referred elsewhere,

Well the girl was about 18 months old. Again there was nothing wrong with her. She just suddenly started having fits in the middle of the night. Her father tried everything. Her father gave her Hantu (praying over water, or writing the words of a prayer on a small slate and washing it with water into a bowl for a child to drink) that night but it did not get better, so in the morning we took her to the hospital close to us. It was a Sunday and they said the doctor had not come. He came after we had waited for about an hour, examined the child and said he could not handle it. So we were referred to another hospital in the area. We got

Chapter Seven: Accounts of Child Deaths

there and we saw the doctor, he prescribed some medication. We had not even given it to the child when she died (Mother 3) (0056).

In this account there was a delay in hospital treatment, both because of parents delaying seeking outside help and through a lack of staff availability and referrals. These may have played a part in the child's death.

This same woman also lost her five year old daughter under similar circumstances,

She just woke up in the middle of the night and was convulsing. We took her to the hospital at about 2am. Again we were referred to another hospital so my husband asked them to tell him the truth about the child. They told us then to take the child home that there was nothing they could do (Mother of 3) (0056).

Another woman related how her three month old nephew died,

My younger sister's son was about three months old and he had a high body temperature and his stomach was twisting with rumbling sounds. So we took him to the patent store, and were given some medication. Every time the medication was used he vomited. It seemed he could not keep the medication down, and the stomach continued to make sounds. We were really worried, we took him back to the patent store and gave him more medication. We then took him to the traditional healer. She told us he has to stool and pass out everything in his stomach before he can be fine, so they gave him different 'agbo' and at that point we noticed he had difficulty breathing. For a while it seemed he was better and we took him from there, thinking of taking him to his father but before we got home, it started again. We gave him water and it was then we took him to the hospital. They gave him some medication, it was while we were doing this that

Chapter Seven: Accounts of Child Deaths

he died. We used 'ago tutu' [wet 'agbo'] but it did not work that day, it didn't work at all (Aunt to three month old baby).

This account showed plural health seeking behaviour using herbs from the traditional healer, the patent medicine store and finally care at the hospital.

Sometimes, newborn babies died suddenly with apparently no explanation.

The child died three days after delivery, I was not sick during pregnancy and I had the child in the hospital. I brought him home but the child died three days after. What happened still baffles me till this day, because I do not know. He did not have any symptoms. It's only God that understands what happened (Mother of 3) (0055).

This woman gave an account of how her child died and how she did not know what went wrong. She said she made sure she immunized her child. She also showed me a photograph of the child and the child's immunization card, showing the last immunization the child had was DPT3.

My daughter was seven months old, she just cried from her sleep, there was nothing wrong with her the previous day, no symptoms at all. That night we took her to the clinic and she was given paracetamol and B complex and she was sent home. After giving the medication, she seemed better but died three days later at home. I am very careful and I made sure I took all the immunization for my daughter because I knew it was very important. She died a week after I took the last one. I do not know what went wrong with her. I tried to take care of her to the best of my abilities (Mother of 1) (0009) [field note22/02]

Chapter Seven: Accounts of Child Deaths

I have lost three children. The first one was stillborn, I went through an operation, the second was a boy, and it also died just after birth. I was bleeding so much. They both died in the maternity ward. I had my third child in the church. After I got home, it suddenly brought up blood from the mouth and died (Mother of 1) (0006).

Another woman explained how she had twins who died. She explained that she had been ill while pregnant and that one of her babies could not be saved because the hospitals lacked an incubator.

Actually childbirth for me has been a very horrible experience, I lost twin sons. I got married and I was pregnant at 18. I lived here in this village and I was so much in love I decided to stay with my husband who also worked there. I did not have the necessary information I was supposed to have then about pregnancy and what to expect. I was pregnant and anaemic. I developed an infection which I was very ashamed of and I did not tell anybody and I did not use anything. I even told them at one point but they kept telling me I was lazy because I was pregnant and they all thought I was pretending. I was seven months pregnant when the babies came, when the delivery time came I was taken to a hospital that I should never have gone to if I had known better. They were twin boys, one of them died inside me and was stillborn, the other was delivered but the hospital had no incubator and I watched helplessly as my son died (Mother of 3)(0004)[field note 14/06]

Keeping problems related to pregnancy secret is a common experience. A practice among the Hausa and Fulani women of Nigeria called 'kunya', means that a young woman expecting her first or second baby is expected to keep quiet about it, and the

forthcoming birth is not discussed at all (Alti-Muazu, 1985). In this case, a lack of trained professionals and proper equipment also contributed to the death of the twins.

7.4 DISCUSSIONS

This chapter addresses the theoretical question, '*How is structural violence experienced at the community and household levels and what is the scope of agency for caregivers?*' It also addresses the empirical research question, '*How do mothers and caregivers deal with their children's illnesses*' in relation to children who have died. Children die from a range of causes. There may be underlying conditions such as malnutrition or HIV/AIDS but this information was not part of these accounts.

Often when there were no clear physical explanations or causes, social diagnostics using explanations like *abiku* and 'God's will', or bewitchment were expressed. Plural health seeking was evident with people consulting patent stores, traditional healers, health centres and hospitals in varying orders of preference. The use of herbal remedies and consultations with herbal healers was common in the village and yet, as shown in Chapter 6, is a phenomenon which is underreported in NDHSs.

Mothers and caregivers patterns of health seeking behaviour can only be understood as an expression of their cultural behaviour as well as their social cultural beliefs (behavioural cultural inequality). These involved moving between traditional healers (alagbo women) to the health centre, and which occasionally might have contributed to an illness progressing beyond their control. Going to traditional healers can sometimes delay effective treatment, or even have the potential to compound a child's illness depending on the type and concentration of herbs given to a child.

Chapter Seven: Accounts of Child Deaths

In other cases, the child is first taken to the health centre and when the child does not seem to get better parents move the child to a traditional healer's place where the child dies. In other cases the child is not given anything or taken anywhere and the child dies at home. Sometimes between these two sources of health care, the patent store is also visited where a child is given different medication. In the quest to find appropriate therapy for a child who is unwell, sometimes all the local resources are exhausted, as evidenced in the case of the three month old baby who was taken to the patent store twice, to traditional healers and then finally to the health centre before the child died.

Mothers and caregivers in the village mentioned delaying health seeking as one of the major reasons why children in the village die. From the NDHS analysis, (Table 6.5) children from poor households were less likely to get treated with medical treatment for cough or fever compared to children from middle or rich family. Similarly, in Bangladesh and Afghanistan, household relative poverty status was seen as a major determinant in health seeking (Amin *et al*, 2010; Steinhardt *et al*, 2009).

Homemade remedies and herbal remedies would be administered until the illness become too serious to handle at home. These findings were similar to other studies, carried out in Yemen and Cambodia where mothers delay health seeking using home remedies due to a combination of factors, including a lack of funds, dissatisfaction with the quality of care provided by government hospitals, and a lack of knowledge about the severity of some illnesses (Al-Taiar, 2009; Khun, 2007).

Chapter Seven: Accounts of Child Deaths

The NDHS data suggests that more children die in the rural areas than in the urban areas, and that there is also a social gradient in terms of mother's education and wealth quintiles. Children also died more frequently in the northern part of the country, which is more rural than the south. However, the urban under-5 mortality was found to have increased between 1983 and 2003 in Nigeria, in urban disadvantaged areas (Antia and Moradi, 2010).

Nigerian mother's indigenous beliefs, religion as well as ethnicity had been found to be significantly associated with under-5 mortality (Antia 2010; Antia *et al*, 2009) as the Kanuri and Hausa tribes reside mainly in northern Nigeria. As girls from these ethnic groups marry in their early teenage years and also give birth at an early age when their bodies are not fully matured. Mothers from these ethnic groups would also rather give births at home than accessing hospitals.

Other reasons given for children dying in the village were due to mothers negligence and as a result of doses and potency of the herbal preparations being too strong for the child or that in the process of forcing herbs into the mouth of a convulsing child, it passed through the respiratory system and suffocated the child.

Behavioural cultural explanation of health inequality are relevant as children were also thought to die as a result of natural or supernatural forces such as malign human agencies in the form of witches and wizards. This has also been associated with sickness in children as discussed above (Omorodion, 1993). In most parts of Africa, witchcraft is a commonly accepted phenomenon (Nyamnjoh, 2001).

Children are also thought to die because it is 'God's will' and no matter how much the mother cares for the child, the child will still die. *Abiku* are children that are

Chapter Seven: Accounts of Child Deaths

believed to have been born to die (Southgate, 2005; Feyisetan et al, 1997). In addition to this, *abiku* are thought to be in constant communication even while living, with other members of their fraternity in heaven (Oyebola, 1980). It is often believed they are sent to punish their parents for something they had done in the past, as such they keep dying after being born to the same parents.

Some women and caregivers in the study thought parents blame their children's death on *abiku*, as a form of denying that negligence or other behaviour on the part of the parents may have contributed to the child's death. Such concepts often help to explain things which otherwise seem to lack reason, and are applied both to preventable deaths and seemingly unpreventable ailments, like infant sudden death syndrome in the West (Ogunyemi, 1996). These are ways of explaining loss and misfortune and form a useful example of ideas of causation and social diagnostics.

It has been suggested that *abiku* children may have sickle cell disease (Asakitikpi, 2008). In a study carried out on 100 children classified as *obanje and abiku*, haemoglobin samples showed 70 had sickle cell disease (Nzewi, 2001). However, Asakitikpi (2008) argued that this does not negate the emic explanation of *abiku*, since explanations involving the supernatural make sense of what cannot be explained or controlled.

Lack of trained or experienced health care professionals and equipment was also blamed for child deaths, especially in hospitals. Hospitals in Nigeria have been found to employ auxiliary nurses and the long waiting times, referrals and absence of doctors, especially on Sundays, at some government hospitals may also be relevant.

Chapter Seven: Accounts of Child Deaths

Both the materialistic and neo materialistic explanation of health inequalities are also relevant. Mothers and caregivers have been found to delay health seeking. Reasons for delay are often partly cultural behavioural, owing to ideas of causation and reliance on herbal remedies, and related to conditions of poverty.

The lack of affordability and accessibility of health care at the clinic and hospital also links with neo materialistic explanations of health inequalities, since the state provision of health care is limited. Human agency is constrained and limited by structural violence forcing parents and other caregivers to make difficult choices and they often pay heavy emotional and financial penalties as a result.

7.5 SUMMARY

This chapter explored the explanations mothers and caregivers in the village gave about why their children die through accounts of child mortalities. The next and final concluding chapter sets out how the research questions have been answered and presents a discussion of the empirical and conceptual contribution to knowledge this study has made.

CHAPTER EIGHT: CONCLUSIONS

8.1 INTRODUCTION

This thesis has addressed the topic of caring for well and sick children in rural Nigeria in the context of a Yoruba village in north central Nigeria utilising both ethnographic fieldwork carried out in 2008 and secondary analysis of the 2008 Nigerian Demographic Health Survey Data (NDHS) from the region. It has drawn on the disciplines of both epidemiology and anthropology. This concluding chapter aims to demonstrate how the research questions have been answered through empirical and conceptual contributions to extend understandings. In addition, the limitations of the research design and possible areas of future research will be discussed.

The theoretical and empirical research questions were set out in the literature review and were as follows:

8.2 THEORETICAL AND EMPIRICAL RESEARCH QUESTIONS

The theoretical questions;

- How does interfacing epidemiology and anthropology extend understandings of care giving?
- How do medical and social diagnostics interface to affect health seeking behaviour of care givers?

The above theoretical questions were explored empirically by seeking answers to these questions:

- How do mothers and caregivers keep their children healthy?

Chapter Eight: Conclusions

- How do mothers and caregivers deal with children's illnesses?

The theoretical question

- How is structural violence experienced at the community and household levels and what is the scope of agency for caregivers?

The above theoretical questions were explored empirically by seeking answers to this question:

- What are the socio-economic, community and household factors affecting the health of children and health seeking behaviour of mothers and caregivers in the village?

8.3 CONCEPTUAL CONTRIBUTIONS TO KNOWLEDGE

8.3.1 INTERFACING EPIDEMIOLOGY AND ANTHROPOLOGY EXTENDS UNDERSTANDINGS OF CHILD HEALTH CARE AND HEALTH CARE SEEKING BEHAVIOUR

The epidemiological NDHS data gives a general background to the study at the regional level in terms of the patterns of child morbidity and mortality, diet, water use, occupation, wealth, place of residence and education, and how these contrast with urban areas. The ethnographic data was informed by anthropological concepts such as explanatory models of health and illness, plural healing and folk taxonomies of illness, to build up a more nuanced multidimensional picture of the circumstances of carers and households in this village. The anthropological data highlights the contextual factors and socio cultural dynamics and presents the complexities at the household level.

Chapter Eight: Conclusions

The findings concerning water sources in the NDHS (see chapter four) showed that there was a lack of clean safe water in rural villages in this area and the ethnographic data established the complex choices and decisions that households are faced with in terms of accessing water, e.g. the decision to use clean water for making food to sell and to use unsafe water for domestic use.

The NDHS (see chapter five) showed that children in the rural areas were more likely not to have complete immunizations against measles, DPT, BCG3 and OPV3. The fieldwork showed that immunization took place only once in a month in the health centre and although free, the women were charged for the syringes and needles. The cold room for vaccine storage was located in the village district headquarters and as such vaccines were only brought in once a month. The qualitative data showed that the health centre was not staffed during the nights and lacked both electricity and water. These were issues of affordability and accessibility, which reflected the national policy and provision of rural health care in Nigeria.

The benefit of combining epidemiology and anthropology to explore complexity is clearly shown by the data on the use of traditional healers, herbalists and herbs (see chapter six). There were few responses to the questions on this topic in the NDHS and it was necessary to pool responses to compensate for the underreporting. The fieldwork revealed that this was an important aspect of care that was available within the home and community, and that it was widely used.

When discussing morbidity and mortality, there were some local Yoruba taxonomies of illness. Some conditions were only cared for by visiting the traditional healers such as wet ground (*ile tutu*) and children who were believed to be born to die, *abiku*. These beliefs are the Yoruba explanatory models of illness (Kleinman 1980)

which may differ from the explanatory models of disease of health professionals. For example it could be argued that those children who are *abiku* have Failure to Thrive syndrome or sickle cell disease (Asakitikpi 2008).

Kleinman wrote about medical systems as cultural systems (1980) with popular, folk and professional arenas of care. The folk arena of care (Kleinman 1980) in this setting included the traditional healers (*alagbo* women), traditional pharmacists and diviners who were consulted both for cure and prevention such as in the case of local immunization (*ajasara*). The professional arena of care was biomedical care which mothers and caregivers sought from the health centre. The data showed that the caregivers practised plural health seeking behaviour.

8.3.2 HOW DID THE MEDICAL AND SOCIAL DIAGNOSTICS INTERFACE TO AFFECT THE HEALTH SEEKING BEHAVIOURS OF CARE GIVERS?

This is a theoretical question which was addressed through the empirical research questions of ‘how do mothers and caregivers keep their children healthy?’ and ‘how do mothers and caregivers deal with children’s illnesses?’

Both social diagnostics and NDHS informed health seeking behaviour. Through the NDHS data it was clear that biomedical diagnostics and conditions were prevalent in terms of fevers, coughs, diarrhoea and malaria. However, the ethnographic data showed that there were also social diagnostics (Moore and Sanders, 2001; Lewando-Hundt, 2004) in terms of how people thought and acted about their children’s health and illnesses using explanatory models of illness and local Yoruba taxonomies of illness. For example diarrhoea during teething was left untreated and *itegari* is placed in the

home to ward off different illnesses. Similarly *so la ta*, believed to be caused by malign human agencies is only treated by traditional healers.

8.3.3 HOW STRUCTURAL VIOLENCE IS EXPERIENCED AT THE COMMUNITY AND THE HOUSEHOLD LEVELS AND THE SCOPE OF AGENCY FOR CARE

The concept of structural violence (Farmer 1999; Scheper-Hughes 2004) focuses on how social structures shape household circumstances and how people, through expressing agency, can adapt, work and survive within these structural constraints. The materialist and neo materialist explanations of health inequalities focus attention respectively on the material circumstances of peoples' lives and how government policies shape the social and economic conditions and choices of villagers' lives. Relevant examples in relation to neo materialist factors include the health centre user fees as part of the SAP imposed health policies, the provision of an electrically powered pump for the borehole in a village with an erratic electricity supply leading to a lack of water, immunization conducted once a month, and the absence of health workers at night because the health centre is not secured and lacks both a water and an electricity supply.

Following Krieger (2008), pathways and levels were adopted in examining factors affecting childhood morbidity and mortality, using the Fosto and Kuate-Defo (2005) model. This model was extended to include livelihoods and living conditions with its impact felt directly at the household level as well as the community level; for example the lack of water provision is a community socio-economic factor and a state responsibility, as well as a major factor influencing mothers and caregivers' ability to obtain good drinking water for their children. Another example is the irregular supply of

drugs at the health central which results in the health workers selling available drugs at a higher price to generate money to buy some basic drugs before supplies come in from the local government. Mothers and caregivers therefore spend more money on state provided drugs, or, at other times even find that the drugs they require are unavailable.

The ways in which agency was expressed in terms of plural health seeking behaviour was influenced by cultural beliefs about illness causation. Materialist and neo materialist explanations of health inequalities on their own were inadequate in explaining behaviour without understanding the cultural context. The behavioural cultural explanations were relevant alongside the material and neo material factors.

8.4 EMPIRICAL CONTRIBUTIONS TO EXTENDING KNOWLEDGE

8.4.1 SOCIO-ECONOMIC, COMMUNITY AND HOUSEHOLD FACTORS AFFECTS THE HEALTH SEEKING BEHAVIOUR OF MOTHERS AND CAREGIVERS IN THE VILLAGE.

The NDHS reported that in the rural areas people were more likely to feed their children with food like cassava, potatoes and other tubers than parents from urban areas. Mothers in rural areas, in poor or middle income households, who had no education, were also less likely to feed their children eggs compared to mothers from rich households with secondary or higher education. From the data, women in the village were aware that with less income they could not afford to give children food like bread, eggs and butter and that they had to rely more on starchy food and carbohydrates. In terms of education, a greater proportion of women from rural areas have little to no education, but according to the NDHS analysis they were more likely to feed their children with noodles, bread or grain.

Chapter Eight: Conclusions

Analysis of the NDHS showed that people in the rural areas depended more on charcoal and straw as their source of cooking fuel, only a few used kerosene and hardly anyone used electricity or gas. It showed that most users of electricity and gas were urban dwellers. The qualitative data showed that women and caregivers in the village had previously used kerosene for cooking but have subsequently had to abandon it for charcoal and firewood because kerosene had become too expensive and was rarely available. It was reported that kerosene was now only used for lamps, and that other sources of lighting were being sought, such as battery-powered lights. There has been a social change from kerosene to charcoal for rural women and gas and electricity to kerosene for urban women.

The NDHS data showed that electricity was mostly available to urban dwellers but not to people in rural areas. The qualitative data showed that the electricity supply was erratic in the village because the only transformer was damaged. The health centre did not have an electricity supply and one of the boreholes' pumps rarely worked. The quantitative data showed that most men in this region were mainly farmers and the fieldwork confirmed that most men in the village were subsistence farmers and sold their products in the market held every five days. Younger men hunted and sold bush meat to travellers.

From the NDHS, children of mothers in poor households were less likely to get treatment from professional medical staff for fevers or coughs compared to their counterparts in middle or higher income households. In addition, mothers with no education were half as likely to use medical treatment for their children. Data collected from women and caregivers showed that they used herbs and other home remedies when children were ill. Health seeking was also delayed until it could no longer be

home managed. The reasons reported for either not bringing children to the health centre or a reluctance to bring children in, included problems associated with poverty, a lack of drugs, poor accessibility, user's fees and the attitude of health workers.

The analysis of the NDHS showed that poor mothers in rural areas with no education were more likely to give birth at home than urban mothers with secondary or higher education and a higher socio-economic status. When mothers are disadvantaged, the effect is felt directly by children.

8.4.2 KEEPING CHILDREN HEALTHY

This study established that mothers and caregivers believed in prevention as an important aspect of care. They pursued it through plural health seeking and through environmental and personal cleanliness. Breastfeeding was thought to keep children healthy. God and gods were seen as important agents in relation to children's health and the use of holy oil and holy water was thought to protect children. They used a combination of medical and traditional remedies in preventive care. For example, mothers and caregivers in the village used both the local immunization (*ajesara*) and biomedical immunization.

8.4.3 DEALING WITH CHILDREN'S ILLNESSES

The data from this study established that mothers and caregivers pursue plural health seeking behaviour in prevention including the health centre, traditional healers, traditional pharmacists and the patent medicine store. The social diagnostics of illness were considered alongside medical diagnostics (Lewando-Hundt *et al* 2004). Children's deaths were thought to be a result of *abiku*, 'God's will' or rooted in human agencies in the form of witchcraft or curses.

Chapter Eight: Conclusions

Women and caregivers were also handicapped by a limited provision of health services. The health centre mainly functions as a centre for immunization and this occurs only once a month, which is not always adequate. The comprehensive primary centre is located in the headquarters of the local government area, about two hours' drive from the village. There is therefore frequently a need to refer patients to the teaching hospital in the city. This gives rise to the question of the location of the headquarters of the local government which could have been made more central and accessible for other towns and villages. Instead the headquarters are located at the edge of the local government area, which is the largest in the state.

Both materialistic and behavioural cultural explanations of health inequalities are relevant in this setting. Mothers and caregivers were influenced by their explanatory models of illness and their reliance on herbal remedies, traditional healers and clinic care. Neo materialistic explanations of health inequalities are relevant in that there was a lack of affordability and accessibility to health care at the clinic. Moreover referrals to the hospital, coupled with a frequent absence of equipment, drugs, water and electricity compounded the problem. Therefore it is possible to argue that the agency of mothers and caregivers is limited by poverty and constrained by structural violence.

In addition to the qualitative data the quantitative findings of social gradients in these outcomes is supportive and consistent with the findings summarised in the 2008 report of the WHO commission of social determinants of health (WHO 2008) which showed that these gradients are generated by different levels of exposure to socially-patterned risk and protective factors over time.

8.5 LIMITATIONS OF THE RESEARCH STUDY

There are a number of limitations to this study. Firstly, I interviewed very few men. As an unmarried young woman it would have been very difficult for me to interview men without provoking gossip and comment. The division of labour in the village households, and the absence of men during the day, meant that the household interviews were mainly with women. Most of the household interviews were carried out between 10am and 1pm when women tended to be taking a rest after the morning chores or while at work e.g. selling food, making *gari* or *fufu*.

Most men at this time were either on their farms or out working. To have discussions with them would have meant going back to the village in the evenings, a time in which typically men may have been available but women would have been busy cooking. Staying in the village overnight may have helped solve this problem and my key informant would have been someone whose house I could stay in, but he was a man and as such it was not possible. The health workers all lived in the town.

Evening household interviews would have been better suited for speaking to men but going to the village in the evening raised problems of safety in terms of travelling alone and getting transport back to the city is difficult during the night. My status as single woman of marriage age may have also affected the way women talked to me, and though difficult to know with certainty, they might have related to me differently had I been married with children.

In addition to the problem outlined above, there was also a dearth of information on HIV and AIDS in this study. Owing to a social stigma relating to this disease, women remained silent about the subject when asked. A few months after I left the field

Chapter Eight: Conclusions

the health centre began carrying out HIV tests and can now conduct HIV tests on any pregnant mother that registers in the health centre. Cases which test positive are referred to the teaching hospital with a referral letter, but women are not told the reason for their referral. The names of people who are HIV positive are recorded in red ink in a book kept by the officer in charge of the health centre but this is a topic that is not discussed with patients themselves and the officer and nurses who would have access to this book are not from the village. Silence associated with HIV and AIDS has been reported elsewhere. McNeill (2009) argues in a study carried out in South Africa that such silence is rooted within a wider context of avoiding talking about causes of death in general. He adds that a degree of separation is constructed to create a social distance between individuals and unnatural causes of death, among which AIDS is included but is not exclusive.

Discussions held with women and other caregivers about children's morbidity and mortality, included little to no medical diagnosis, added to which I had no access to medical records and registrations of deaths. It was therefore impossible to know if any of the children died through AIDS related problems. Going by national statistics, HIV and AIDS related to 5% of all causes of under-five deaths in Nigeria (see chapter two). This figure is usually lower in rural areas.

The limitations of time and distance meant that the study focused on the village where the health centre was situated. Some of the interviews and observations at the health centre included women who came from 11 surrounding villages but I did not visit them in their homes. These surrounding villages were much smaller, more rural and had smaller populations.

8.6 FUTURE RESEARCH

This study focused on how mothers and caregivers take care of their children in a rural area. It is not clear to what extent the pattern of caring for well and sick children in urban and periurban settings differs from rural areas, such a topic would therefore constitute an important further area of study. Another possible further area of research would be an exploration in greater detail of the role of household decision making and to what extent Janzen's therapy management group (1980) is today a reality. Another area of possible research would be to focus more on the work of the health service providers in the village, and the ways clinic staff, medicine sellers, traditional healers, herbalists and traditional pharmacists collectively impact on child health services in the village.

8.7 SUMMARY

This study showed that women and other caregivers at the household and community levels worked hard to protect and care for their children in difficult circumstances. The combination of anthropology and epidemiology extended understandings of how this is done through explanatory models of illness and social and medical diagnostics. The explanations of health inequalities – materialist, neo materialist and cultural behavioural helped to explain the situation and choices of these households and to delineate the structural violence operating in Nigerian rural society.

REFERENCES

- Abdulazeez, A., Alo, E. B., Rebecca, S. N. and Kudi, A. A. (2008) 'Perceptions and health seeking behaviour of some major Nigerian tribes towards orthodox and traditional medicine', *International Journal of Natural and Applied Sciences*, 4(1), 25-28.
- Abdulraheem, I. S. and Parakoyi, D. B. (2009) 'Factors affecting mothers' healthcare-seeking behaviour for childhood illnesses in a rural Nigerian setting', *Early Child Development and Care*, 179(5), 671-683
- Abioye-Kuteyi, E.A., Elias, S.O., Familusi, A. F., Fakunle, A., Akinfolayan K. (2001) 'The role of traditional birth attendants in Atakumosa, Nigeria.' *Journal of the Royal Society for the Promotion of Health*, 121(2), 119-124.
- Accorsi, S., Fabiani, M., Ferrarese, N., Iriso, R., Lukwiya, M. and Declich, S. (2003) 'The burden of traditional practices, ebino and Tea-tea on child health in Northern Uganda', *Eastern Africa Medicine Journal*, 57(11), 2183-2191.
- Ackers, H. (1993) 'Racism, Sexuality, and the Process of Ethnographic Research' in D, H. and May, T., eds., *Interpreting the Field*, Oxford: Clarendon Press.
- Adegunrin (2003) *Nigerian Foreign Policy under Military Rule*, United States: British Library Cataloguing.
- Adekson, M. O. (2003) *The Yoruba Traditional Healers of Nigeria*, New York: Routledge
- Adeleye, L. A., Okogi, G., and Ojo, E. O. (2005) Microbial contamination of herbal preparation in Lagos, Nigeria. *Journal of Health, Population and Nutrition*, 23(3), 296-297
- Adeniyi, A. (1990) 'Infant mortality and mothers education in Ondo State, Nigeria', *Social Science and Medicine*, 32(12).
- Adeniyi, J., Ejembi, C., Igbinosun, P., Muhammed, D., Nwagbo, F., Ogundeji, M. and Zoakah, A. (2001) *Report of the National Primary Health Care Needs Assessment Survey*, Abuja: National Primary Health Care Development Agency.
- Ademuwagun, Z. A. (1997) Determinants of patterns and degree of utilization of health Services in western states of Nigeria, *Israel Journal of Medical Science*, 13(9), 896-907.

- Adesiyun, A., Adekeye, J. O., Umoh, J. U. and Nadarajab, M. (1983) 'Studies on well water and possible health risks in Kastina, Nigeria', *Journal of Hygiene*, 90(2), 199-205.
- Adetokunbo, L. (2008) 'Why did health and the health sector stagnate in Nigeria since independence', London, Partnership for health. Retrieved on November 12, 2009 from http://www.mansag.org/downloads/Nigeria_Partnership_for_Health_FinalReport.pdf
- Adetunji, A. J. (1991) 'Response of parents to five killer diseases among children in a yourba community, Nigeria', *Social Science and Medicine*, 32(12), 1379-1387.
- Adetunji, J. (1996) 'Preserving the pot and water: A traditional concept of reproductive health in a Yoruba community, Nigeria', *Social Science and Medicine*, 43(11), 1561-1567.
- Adeyemo, D. (2005) 'Local Government and Health Care Delivery in Nigeria: A Case study', *Journal of Human Ecology*, 18(2), 149-160.
- Afolabi Ojo, G. J. (1966) *Yoruba Culture: A Geographical Analysis*, Ife: University of London Press.
- Aginam, O (2007) Beyond shamanism: the relevance of African traditional medicine in Global health policy, *Medicine and Law*, 26(2), 191-201
- Agu, A. P. and Nwojiji, J. O. (2005) 'Mothers perceptions and treatment seeking behaviour in a community in Ebonyi State, South East Nigeria', *Journal of Community Medicine and Primary Health Care*, 17(1), 45-50.
- Ahmed, H. (2007) 'Effects of poverty on child health and paediatric practice in Nigeria: An overview', *Annals of African Medicine*, 6(4), 142-156.
- Aigbokhan, E. B. (2002) 'Poverty, growth and inequality in Nigeria: A Case Study', Retrieved on June 4, 2008 from <http://www.aercafrica.org/DOCUMENTS/RP102.PDF>
- Akande, T. M. (2004) 'Referral systems in Nigeria: Study of a Tertiary Health Facility', *Annals of African Medicine*, 3(3), 130-133.
- Ake, C. (1996) *Demography and Development in Africa*, Virginia: R. R. Donnelly and Sons.
- Akinboye, S. O. and Anifowose, R. (1999) 'Nigerian Government and Politics' in

- Anifowose, R. and Enemuo, F., eds., *Element s of Politics*, Ibadan: Malthouse press Ltd.
- Akogun, O. B. and John, K. K. (2005) 'Illness-related practices for the management of childhood malaria among the Bwatiye people of North-Eastern Nigeria', *Malaria Journal*, 4(1), 13.
- Akepabio, M. E. and Akpan, S. N. (2010) Governance and oil politics in Nigeria's Niger Delta: The question of distributive equity, *Journal of Human Ecology*, 30(2), 111-121.
- Akpede, G. O., Igene, J. O. and Omotara, B. A. (2001) 'Perceptions of and management practices for diarrhoeal diseases by traditional healers In North-eastern Nigeria', *Journal of Health Population and Nutrition*, 19(2), 91-99.
- Allotey, P. and Reidpath, D. (2001) 'Establishing the causes of childhood mortality in Ghana: the 'Spirit' Child', *Social Science and Medicine*, 52(7), 1007-1012.
- Alonge, T. O, Dongo, A. E., Nottidge, T. E., Omololu, A. B. and Ogunlade, S. O. (2008) 'Determinants of patronage of Traditional Bone Setters in the Middle Belt of Nigeria', *Journal of West Africa Medicine*, 23(1), 81-84.
- Al-Taiar, A., Chandler, C., Al Eryani, S. and Whitty, C. J (2009) Knowledge and practices for preventing severe malaria in Yemen: The importance of gender in planning policy, *Health Policy and Planning*, 24(6), 428-437
- Alti-Muazu, M. (1985) 'Hausa traditional birth practices and the health of mother and child' in Badejo, D. L., ed. *Women in Nigeria*, London: Zeds Books, 178-186.
- Alubo, S. O. (1990) 'Debt crisis and health services in Africa', *Social Science and Medicine*, 31(6), 639-648.
- Amadiume, I. (1987) *Male daughters, female Husbands: Gender and Sex in an African Society*, Mauritius: SCE Printing Limited.
- Amin, R., Shah, N. M. and Becker, S (2010) Socio-economic factors differentiating maternal and child health seeking behaviour in rural Bangladesh: A cross sectional analysis, *International Journal for Equity in Health*, 3(9), 9
- Amusan, O. O., Dlamini, P. S., Msonthi, J. D. and Makhubu, L. P (2002) Some herbal remedies from Manzini region of Swaziland, *Journal of Ethnopharmacology*, 79(1), 109-112

- Amuyunzu-Nyamongo, M. and Kyamongo, I. K. (2006) 'Health Seeking behaviour of Mothers of under-five year old in the Slum Communities of Nairobi, Kenya', *Anthropology and Medicine*, 13(1), 25-40
- Andrae, G. and Beckman, B. (1985) *The wheat trap, bread and underdevelopment in Nigeria*, Sweden: Zes books Limited.
- Antai, D. (2010) *Social context, social position, child survival, social determinants of child health inequalities in Nigeria*, unpublished thesis, Karolinka Institutet.
- Antai, D. and Antai, J. (2009) 'Individual- and Contextual-Level Determinants of Social Inequities in Under-Five Mortality in Nigeria: Differentials by Religious Affiliation of the Mother', *World Health and population*, 10.
- Antai, D. and Moradi, T. (2010) 'Urban area disadvantage and under-five mortality in Nigeria: the effect of rapid urbanization', *Environmental Health Perspectives*, 118, (877-883).
- Antai, D., Wedien, S., Bellocco, R. and Moradi, T. (2009) 'Ethnic Disparities in Child Health in Nigeria: A multilevel analysis of individual and contextual factors'. *Ethnicity and Inequality in Health and Social Science*, 2 (4), 39-49
- Arevshatian, L., Clements, C. J., Lwanga, S. L., Misore, A.O, Ndumbe, P., Seward, J. F and Taylor, P. (2007) An Evaluation of infant immunization in Africa: It is a transformation in Progress. *Bulletin of World Health Organization*, 85 (6), 421-500.
- Armar-Klemesu, M., Ruel, M. T., Maxwell, D. G., Levin, C. E. and Morris, S. S. (2000) 'Poor maternal schooling is the main constraint to good child care practices in Accra', *Journal of Nutrition*, 130(6), 1597-607.
- Arulampalam, W. and Bhalotra, S. (2004) 'Siblings death clustering in India: state dependence versus unobserved heterogeneity', *Journal of Royal Statistical Society*, 169(4), 829-848
- Asakitikpi, A. E. (2008) 'Born to die: The Ogbanje Phenomenon and its implication on childhood mortality in Southern Nigeria', *Anthropologist*, 10(1), 59-63.
- Ashimolowo, M. (2007) *What is wrong with being black? Celebrating our heritage, confronting our challenges*, Malta: Destiny image.
- Atkinson, R and Flint, J. (2001) Accessing hidden and hard-to-reach populations: Snow ball research strategies, *Social research update*, 33, Retrieved on 23 May, 2009

from <http://sru.soc.surrey.ac.uk/SRU33.html>

- Avogo, W. A. and Agadjanian, V. (2010) 'Forced migration and child health and mortality in Angola', *Social Science and Medicine*, 70(1), 53-60.
- Awolalu, J. O. (1979) *Yoruba beliefs and sacrificial rites*, Ikeja: Longman.
- Babalaye, T. (1996) 'Cassava, African food security crop', *Consultative Group on International Agricultural Research*, 3(1). Retrieved on June 3, 2009 from <http://www.worldbank.org/html/cgiar/newsletter/Mar96/4cgnews.htm>
- Balk, D., Pullum, T., Storeygard, A., Greenwell, F. and Neuman, M. (2004) 'A Spatial analysis of childhood mortality in West Africa', *Population, Space and Place*, 10(3), 175-216.
- Barnard, R. H. (1994) *Research methods in anthropology: Qualitative and quantitative approach*, London: Sage Publication
- Beckerleg, S. E., Lewando-Hundt, G., Borkan, J. M., Abu Saad, K. J. and Belmaker, I (1997) 'Eliciting local voices using natural groups interviews', *Anthropology and Medicine*, 4(3), 273-288.
- Beebe, J. (1995) 'Basic Concepts and Techniques of Rapid Appraisal', *Human Organization*, 54(1), 42-49.
- Beebe, J. (2002) *Rapid Assessment Process: An Introduction*, New York: AltaMira.
- Beiersmann, C., Sanou, A., Wladarsch, E., Allegri, M. D., Kouyate, B. and Muller, O. (2007) 'The Sitala syndrome: Malaria in Rural Burkina Faso: Local Illness Concepts, Patterns of Traditional Treatment and Influence on Health- Seeking Behaviour', *Malaria Journal*, 6(106), 1475-2875.
- Bell, J. (2005) *Doing your Research Project: A Guide for first-time researchers in Education and Social Science*, Maidenhead: Open University Press.
- Bender, D. E. and Mc Cann, M. F. (2000) 'The influence of maternal intergenerational education on health behaviour of women in peri-urban Boliva', *Social Science and Medicine*, 50(9), 1189-1196.
- Bentley, M., Pelto, G., Straus, L., Schumann, A., Adegbola, C., Pena, E., Oni, G., Brown, K. and Huffman, S. (1988) 'Rapid Ethnographic Assessment: Application in Diarrhoea Management Program', *Social Science and Medicine*, 27(1), 107-116.

- Beresford, B. (1997) *Personal accounts: Involving disabled children in research*, Norwich, Social policy research unit.
- Berkerleg, S. E., Hundt G, L., Abu Saad, J. and Belmarker, I. (1997) 'Eliciting local voices using natural focus group', *Anthropology and Medicine*, 4(3), 273-288
- Bernard, H. R. (1994) *Research Methods in Anthropology: Qualitative and Quantitative Approaches*, 2nd ed., Thousand Oaks, CA; London: Sage Publications.
- Bertley, M. (2004) *Health Inequality - An Introduction to theories, concepts and methods*, Oxford: Blackwell Publishing.
- Bhopal, R. S. (1986) 'The inter-relationship of folk, traditional and western medicine within an Asian community in Britain', *Social Science and Medicine*, 22(1), 99-105.
- Bicego, G., Boerma, J.T. and Ronsmans, C. (2002) The effect of AIDS on maternal mortality in Malawi and Zimbabwe, *AIDS*, 16(7), 1078-1081.
- Black, R. E., Morris, S. S. and Bryce, J. (2003) 'Where and why are 10 million children dying every year?', *Lancet*, 361, 2226-2234.
- Blackburn, C. and Graham, H. (2000) 'Smoking among working class mothers' in *Information pack*, Coventry: University of Warwick.
- Blane, D. (1985) 'An assessment of Black Report's ' Explanation of health inequalities', *Sociology of Health and Illness*, 7(3), 423-445
- Blane, D., Bartley, M. and Smith, G. D (1997) 'Disease aetiology and materialist explanations of socio-economic mortality differentials', *European Journal of Public Health*, 7, 385-391.
- Blaxter, L., Hughes, C. and Tight, M. (2001) *How to Research*, 2nd ed., Buckingham; Philadelphia: Open University Press.
- Boerma, J. T., Black, R .E., Sommerfelt, A. E., Rutstein, S. O. and Bicego, G. T. (1991) 'Accuracy and completeness of mothers' recall of diarrhoea occurrence in Pre-school children in Demographic and Health Surveys', *International Journal of Epidemiology*, 20(4), 1073-1080.
- Bojalil, R., Kirkwood, B. R., Bobak, M. and Guiscafere, H. (2007) 'The relative contribution of case management and inadequate care-seeking behaviour to childhood death from diarrhoea and acute respiratory infections in Hidalgo, Mexico', *Tropical Medicine and International Health*, 12(12), 1545-1552.

- Bowling, A. (2002) *Research Methods in Health: Investigating Health and Health Services*, 2nd ed., Buckingham: Open University Press.
- Boyle, J. (2009) 'Nigeria's 'Taliban' enigma', *BBC*, Retrieved on October 29, 2009 from <http://news.bbc.co.uk/1/hi/8172270.stml>
- Brockerhoff, M. and Hewett, P. (2000) 'Inequality of Child Mortality among Ethnic Groups in Sub-Saharan Africa', *Bulletin of World Health Organization*, 78(30-41).
- Broom, A., Doron, A. and Tovey, P. (2009) The inequalities of medical pluralism: Hierarchies of health, the politics of tradition and the economics of care in Indian oncology, *Social Science and Medicine*, 69(5), 698-706.
- Bruijnzeels, M. A., Foets, M., Wouden, J.C., Prins, A. and Heuvel, W. J. (1998) 'Measuring Morbidity of Children in the Community: A Comparison of Interview and Diary data', *International Journal of Epidemiology*, 27, 96-100.
- Bryce, J., Boschi-Pinto, C., Shibuyak, K. and Black, E. K. (2005) 'WHO estimates of causes of deaths in children', 365(9464), 1147.
- Bryman, A. (2001) *Social research methods*. Oxford, Oxford University Press.
- Bryman, A. (2004) *Social research methods*, 2nd ed., Oxford; New York: Oxford University Press.
- Bryman, A. (2008) *Social research methods*, Oxford, Oxford University Press
- Bryman, A. and Cramer, D. (2001) *Quantitative Data Analysis with SPSS Release 10 for Windows: A Guide for Social Scientists*, Hove: Routledge.
- Burgess, R. G. (1982) *Field Research: A Sourcebook and Field manual*, *Contemporary Social Research Series*, London: Allen & Unwin.
- Burns, A. (1969) *History of Nigeria*, London: Gorge Allen and Unwin Ltd.
- Bushfield, J. (2000) *Health and Health Care in Modern Britain*, Oxford: Oxford University Press.
- Carpenter, M. and Dolan, A. (2001) 'Poverty, Social Exclusion and Health' in Komaromy, C., ed. *Dilemmas in UK Health Care*, Buckingham: Open University Press.
- CHAN (2004) *Christian Health Association of Nigeria "Situations Analysis of selected*

Hospitals and PHCs of Christian Health Association of Nigeria,", Jos, CHAN.

- Charles, J. O., Udonwa, N. K., Ikon, M. U. and Ikpeme, B. I. (2008) 'The Role of Mothers in Household Health- Seeking Behaviour and Decision-Making in Childhood Febrile in Okurikang/Ikot Effiong Otop Community, Cross River State, Nigeria', *Health Care for Women International*, 29(8), 906-925.
- Chibwana, A., I, Mathanga P, D., Chinkhumba, J. and Campbell, C., H (2009) 'Socio-cultural predictors of health seeking behaviour for febrile under-five children in Mwanza-Neno district, Malawi', *Malaria Journal*, 8(219).
- CIA (2009) 'The world of Fact Book', Retrieved on April 6, 2009 from <http://www.cia.gov/library/publications/the-world.factbok/geos/ni.html>
- CIA (2001) 'Nigeria History', *The Library of congress country studies*, Retrieved on April 6, 2010 from http://workmall.com/wfb2001/nigeria/nigeria_history_index.html
- Cocks, M. and Dola, A. (2000) 'The Role of African chemists' in the health care system of the Eastern Cape Province of South Africa', *Social Science and Medicine*, 51(10), 1505-1515.
- Coffey, A. and Atkinson, P. (1996) *Making Sense of Qualitative Data: Complementary Research Strategies*, Thousand Oaks; London: SAGE.
- Cohen, L., Manion, L. and Morrison, K. (2000) *Research Methods in Education*, 5th ed / ed., London: Routledge Falmer.
- Coleman, S., J (1971) *Nigeria: Background to Nationalism*, Berkeley: University of California Press.
- Commission for Africa (2005) Our common interest. Retrieved on July 15, from <http://www.commissionforafrica.org>
- Cooper, S. and Ensor, T (2004) Overcoming barriers to health services access and influencing the demand side through purchasing, HNP discussion paper, Retrieved on May 25, 2010 <http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/EnsorOvercomingBarriersFinal.pdf>
- Cornwall, A. (1996) 'Participatory Research Methods: First steps in a participatory process' in Koning, K. and Martin, M., eds., *Participatory Research in Health: Issues and Experiences*, Johannesburg: Zed Books Ltd.

- Costello, A. and White, H. (2001) 'Reducing Global Inequalities in Child Health', *Archives Disease in Childhood*, 84(2), 98-102.
- Cotterill, P. (1992) 'Interviewing Women: Issues of Friendship, Vulnerability and Power', *Women Studies International Forum*, 15(5-6), 593-606.
- Creswell, J. W. (2007) *Qualitative Inquiry & Research Design: Choosing among Five Approaches*, 2nd ed., Thousand Oaks; London: Sage Publications.
- Curtis, L. (1995) *Assessment of the Quality of Data used in Direct Estimation of Infant and Child Mortality in DHS 11 surveys*, Maryland: Macro International.
- Curtis, V. and Cairncross, S. (2000) 'Domestic hygiene and diarrhoea-pinpointing the problem', *Tropical Medicine and International Health*, 5, 22-32.
- Cutts, F. T., Dos Santos, C., Novoa, A., David, P., Macassa, G. and Soares, A. C. (1996) 'Child and Maternal Mortality during a period of Conflict in Beira City, Mozambique', *International Journal Epidemiology*, 25(2), 349-56.
- Dambisya, Y. M. and Tindimwebwa, G. (2003) 'Traditional Remedies in Children around Eastern Cape, South Africa', *East African Medical Journal*, 80(8), 402-405.
- Danel, I., Graham, W., Stupp, P. and Castillo, P. (1996) 'Applying the Sisterhood Method for estimating Maternal Mortality to a Health Facility-based sample: A Comparison with results from a Household-based Sample', *International Journal of Epidemiology*, 25(5), 1017-22.
- Dare, L. (2008) *Restoring Health to National Agenda*, Nigeria Partnership for Health Conference. London.
- Darlington, Y. and Scott, D. (2002) *Qualitative Research in Practice: Stories from the field*, Buckingham: Open University Press.
- Dawson, B. G. (1991) *Understanding Social Work Research*, Boston: Allyn and Bacon.
- Denscombe, M. (2007) *The Good Research Guide: For Small-scale Social Research Projects, Open up study skills*, 3rd ed., Maidenhead, England; New York: Open University Press.
- Denzin, N. K. and Lincoln, Y. S. (2003) *Collecting and Interpreting Qualitative Materials*, 2nd ed., Thousand Oaks, Calif.: Sage.
- DFID (2005) Country health briefing paper', Retrieved on October 7, 2010 from

http://www.dfidhealthrc.org/publications/Country_health/Nigeria.pdf

- DFID (2009) DFID's programme in Nigeria: eight report of session 2008-09, London, Retrieved on October 3, 2010
<http://www.publications.parliament.uk/pa/cm200809/cmselect/cmintdev/840/840i.pdf>
- Dillip, A., Hetzel, M. W., Gosoni, D., Kessy, F., Lengeler, C., Mayumana, I., Mshana, H. M., Schulze, A., Makemba, A., Pfeiffer, C., Weiss, M. G. and Obrist, B. (2009) 'Socio-cultural Factors explaining timely and appropriate use of Health Facilities for degedege in South-Eastern Tanzania', *Malaria Journal*, 8(44), 1475-2875.
- Doherty, H. (2008) 'Child Mortality', Washington, World watch Institute. Retrieved on May 21, 2009 from <http://www.worldwatch.org/node/5875>
- Dowler, E. and Spencer, N. (2007) *Challenging Health Inequalities: From acheson to 'choosing health'*, Bristol: Policy.
- Dunn, F. L. and Janes, C. R. (1986) 'Introduction: Medical anthropology and Epidemiology' in Janes, R., Stall, R., Gifford, M. eds. *Anthropology and Epidemiology*, Holland: D. Reidel publishing.
- Durodola, J. I. (1986) *Scientific Insights into Yoruba Traditional Medicine*, New York: Conch Magazine Limited.
- Eades, J. S. (1980) *Changing cultures: The Yoruba today*, Cambridge: Cambridge University Press
- Efuntoye, M. O. (1997) Fungi associated with herbal drug plants during storage, *Mycopathologia*, 136(2), 115-118
- Ejembi, C., Suleiman, K., Mairo, M., Judith-Ann, W., Bilkisu, Y. and Saharadeen, Y. (2003) *Strategic Assessment of Social Sector Activities in Northern Nigeria*, Abuja. Retrieved on March 2, 2009 from www.usaid.gov/ng/downloads/rfa/usaidnorthernassessment/report1
- Ekejiuba, E. D. (2005) 'Down to Fundamentals: Women-centred Hearth-holds in rural West Africa', Bryceson, D., ed. *Women wielding the hoe: lessons from rural Africa for feminist theory and development practices*: Bloomington: Indiana University Press.
- Enemuo, F. C. (1999) 'Democracy, Human Rights and the Rule of Law' in Anifowose, R. and Enemuo, F., eds., *Elements of Politics*, Ibadan: Malthouse Press Ltd.

- Etkin, N. L. and Ross, P. J. (1982) 'Food as Medicine and Medicine as Food: An Adaptive Framework for the interpretation of Plant utilization among the Hausa of Northern Nigeria', *Social Science and Medicine*, 16(17), 1559-1573.
- Fakaye, O. T., Adisa, R. and Musa, I. E. (2009) 'Attitude and use of herbal medicines among pregnant women in Nigeria', *BMC Complementary and Alternative Medicine*, 9(53).
- Falola, T. and Heaton, M. (2008) *A History of Nigeria*, Cambridge: Cambridge University Press.
- Farmer, P. (2001) *Infections and Inequalities: The Modern Plagues*, Updated ed., Berkeley; London: University of California Press.
- Farmer, P. (2005) *Pathologies of Power: Health, Human Rights, and the New War on the Poor; California series in Public Anthropology*, London: Regents of the University of California Press.
- Farmer, P. (2006) *Aids and Accusation: Haiti and the Geography of Blame*. Berkeley, University of California Press.
- Farmer, P. (2009) "Landmine Boy" and the Tomorrow of Violence' in Rylko-Bauer, B., Whiteford, L. and Farmer, P., eds., *Global Health in times of Violence*, Sante Fe: School for Advanced Research Press.
- Fawole, O., I, Akinboye, D. O., Catherine, O. F., Oyeduni, A. O. and Adeniyi, J. D. (2008) 'Case management of Childhood Fever by Traditional healers in Southwest Nigeria: Identification of training and collaborative needs', *International Quarterly of Community Health Education*, 28(4), 319-335.
- Fayehun, O. and Omololu, O. (2009) 'Ethnic Differentials in childhood mortality in Nigeria', in *Population association of America*, Princeton University, Detroit, Population Association of America,
- Feyisetan, B. J., Asa, S. and Ebigbola, J. A. (1997) 'Mothers' Management of Childhood Diseases in Yoruba land: The Influence of Cultural Beliefs', *Health Transition Review*, 7, 221-234.
- Finch, H. and Lewis, J. (2003) 'Focus groups' in Ritchie, J. and Lewis, J., eds., *Qualitative Research Practice*, California: Sage.
- Finch, J. (1984) " It is Great to Have Someone to Talk To": The Ethics and Politics of Interviewing and Women' in Bell and Roberts, H., eds., *Social Researching:*

Politics, Problems, Practice, London: Routledge and Kegan Paul, 70-78.

Flick, U. (2006) *An Introduction to Qualitative Research*, Singapore: Sage Publications.

FMOH (2005b) Plan of action for integrated vector management for Nigeria (2006-2009)', Retrieved on August 24, 2009 from <http://nmcpnigeria.org/f/ivm/IVM%20Plan%20of%20action%20HARMONIZED.pdf>

FMOH (2005) 'National Policy on Public Private Partnership for health in Nigeria', Retrieved on October 15, 2009 from http://www.fmh.gov.ng/docs/FMOH_PPP_Policy.pdf

FMOH (2006) *National Health Policy*, Abuja. Retrieved on October 21, 2009 from http://www.fmh.gov.ng/docs/FMOH_CHP_Policy.pdf

Forde, D. (1951) *The Yoruba Speaking People of South Western Nigeria*, London: International Africa institute.

Fontaine, O., Gore, S. M., Pierce, N. F (2000) Rice-based oral rehydration solution for treating diarrhoea. *Cochrane Database of Systematic Review*, (2):CD001264

Forste, R. (1998) 'Infant feeding practices and child health in Bolivia', *Journal of Biosocial Science*, 30(1), 107-25.

Forsyth, F. (1969) *The Biafra Story: the making of an African Legend*. Great Britain, Pen and Sword Publishers

Fosto, J. C. (2007) 'Urban-rural differential in child malnutrition: Trends and socio-economic correlates in Sub-Saharan Africa', *Health and Place*, 13(1), 205-223.

Fosto, J. C. and Kuate -Defo, B. (2005) 'Socio-economic inequalities in early childhood malnutrition and mortality: Modification of the household level effects by the communities SES', *Health and Place*, 11, 205-225.

Fosto, J. C. and Kuate-Defo, B. (2005) 'Measuring socio-economic status in health research in developing countries: Should it be focusing on households or communities or both', *Social Indicator Research*, 72, 189-237.

Fosto, J. C. (2006a) 'Child health inequalities in developing countries: differences across Urban and Rural', *International Journal for Equity in Health*, 5(9). Retrieved on July 7, 2009 from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1544325/>

Fosto, J. C. and Kuate-Defo, B. (2006b) 'Household and community socio-economic influences on early childhood malnutrition in Africa', *Journal of Biosocial Science*,

38(3), 289-313.

- Franckel, A. and Lalou, R. (2009) 'Health seeking behaviour for childhood malaria: Household Dynamics in Rural Senegal', *Journal of Biosocial Science*, 41(1-19).
- Federal Research Division (FRD) (2008) Country profile: Nigeria, Library of progress, Retrieved on February 8, 2010 from <http://memory.loc.gov/frd/cs/profiles/Nigeria.pdf>
- Frost, M. B., Forste, R. and Haas, D. W. (2005) 'Maternal education and child nutritional status in Bolivia: finding the links', *Social Science Medicine*, 60(2), 395-407.
- Gakidou, E. and King, G. (2002) 'Measuring total health Inequality: Adding individual Variation to Group-level Differences', *International Journal for Equity in Health*, 1(3).
- Geertz, C. (1973) *The Interpretation of Cultures: selected essays*, New York: Basic Books.
- Gegios, A., Amthor, R., Maziya-Dixon, B., Egesi, C., Mallowa, S., Nungo, R., Gichuki, S., Mbanaso, A. and Manary, M. J. (2010) 'Children consuming cassava as a staple food are at for inadequate zinc, iron and viatmin A', *Plants Food for Human Consumption*, 65(1), 64-70.
- Ghimire, M., Pradhan, Y. V. and Maskey, M. K. (2010) 'Community based intervention for diarrhoea and acute respiratory infection in Nepal', *Bulletin of World Health organization*, 88(3), 216-21.
- Gibbs, A. (1997) 'Focus group. Social research update', Retrieved on September 6, 2006 from <http://www.soc.surrey.ac.uk/sru/SRU19.html>
- Gill, F. and Maclean, C. (2002) 'Knowing Your Place: Gender and Reflexivity in Two Ethnographies', *Sociological Research Online*, 12(2). Retrieved on June 20, 2006 from <http://www.socresonline.org.uk/7/2/gill.html>
- Global studies (2001) *Global health studies: proposals for medical and nursing undergraduate teaching*, London. Medact.
- Golde, P. (1986) 'Women in the field: anthropological experience' in Glode, P., ed. *women in the field: anthropological experience*, London: University of California press.
- Good, B. J. (1994) *Medicine, rationality and experience: An anthropological perspective*, UK: Cambridge university press.

- Good, C. (1991) 'Pioneer Medical Mission in Colonial Africa', *Social Science and Medicine*, 32(1), 1-10.
- Gordon, T. (1990) *Feminist Mothers*, London: Macmillan.
- Gottlieb, A. (2004) *The Afterlife is where we come from: the culture of infancy in West Africa*, Chicago and London: The University Press
- Government Gazette, (2005) 'Traditional practitioners act', No 27275, vol 476 (Notice 35 of 2004)
- Graham, H. (2004) 'Tackling Inequalities in health in England: Remedying health disadvantage, narrowing health gaps or Reducing health gradient', *Journal of Social Policy*, 33(1), 115-131.
- Graham, H. (2007) *Unequal Lives: Health and socio economic inequalities*, Bershire: Open University press.
- Graham, W. (1994) 'The sisterhood method for estimating the level of maternal mortality. Seven years' experience', *Kangaroo*, 3(2), 184-9.
- Green, E. C. (1985) 'Traditional healers, mothers and childhood diarrhoeal diseases in Swaziland: the interface of anthropology and health education', *Social Science and Medicine*, 20(3), 277-285.
- Green, J. and Thorogood, N. (2004) *Qualitative methods for health research, Introducing qualitative methods*. London; Thousand Oaks, Calif.: Sage Publications.
- Greenbaum, T. L. (2000) *Moderating focus groups: a practical guide for group facilitation*, Thousand Oaks, Calif.: Sage.
- Gyimah, O. (2003) ' Interaction effects of maternal education and household facilities on childhood diarrhoea in sub-saharan Africa: the case of Ghana', *Population Research and Policy Review*, 22(3), 251-266.
- Gyimah, S. O. (2006) 'Cultural background and infant survival in Ghana', *Ethnicity and Health*, 11(2), 101-20.
- Gupta, M., Gauri, V. and Khenmani, S. (2003) *Decentralized Delivery of Primary Health Services in Nigeria: Survey Evidence from the States of Lagos and Kogi*, Human Development Sector, African Region.
- Hahn, R. and Inhorn, M.C (2009) *Anthropology and Public Health*, New York, Oxford

University Press.

- Haines, A. and Cassels, A. (2004) 'Can the millennium development goals be attained?' *British Medical Journal*, 329(7462), 394-7.
- Hammersley, M. and Atkinson, P. (2007) *Ethnography: principles in practice*, 3rd ed., London; New York: Routledge.
- Harding, A (2006) Dora Akunyili: scourge of Nigerian drug counterfeiters, *Lancet*, 367(9521), 1479
- Healy, M. A., Aslam, M. and Bamgboye, O. A. (1984) Traditional medicine and lead containing preparations in Nigeria, *Public Health* 98(1), 26-32
- Heaton, T. B., Forste, R., Hoffmann, J. P. and Flake, D. (2005) 'Cross-national variation in family influences on child health', *Social Science Medicine*, 60(1), 97-108.
- Heggenhougen, H. K. (2009) 'Planting "Seeds of health" in the Fields of Structural Violence: The Life and Death of Francisco Curruchiche' in Bauer-Rylko, B., Whiteford, L. and Farmer, P., eds., *Global Health in Times of violence*, Sante Fe: School of Advanced Research Press.
- Helman, C. G. (2000) 'Culture, health and illness', London: Hodder Arnold
- Hertz, R. (1997) 'Introduction: Reflexivity and voice' in Hertz, R., ed. *Reflexivity & Voice*, London: Sage Publication.
- Hill, Z., Kendell, C., Auther, P., Kirkwood, B. and Adjei, E. (2003) "Recognizing childhood illnesses and their traditional explanation: exploring options for the care-seeking interventions in the context of the IMCI strategy in rural area", *Tropical Medicine and International Health*, 8(7), 686.
- HNP (2005) *Health, Nutrition and Population: Country status report*. Abuja. National Health Policy
- Ho, K. (2007) 'Structural violence as a human rights violation', *Essex Human Rights Review*, 1(4).
- Hobbs, D. and May, T., eds. (1993) *Interpreting the field: Accounts of ethnography*, Oxford, Oxford University Press.
- Hornberg, C. and Pauli, A. (2007) 'Child poverty and environmental justice', *International Journal of Hygiene and Environmental Health*, 210, 571-580.

- Houwelling, T. A. and Kunst, A. E. (2009) 'Socio-economic inequalities in childhood mortality in low and middle income countries: A review of internal evidence', *British Medical bulletin*, 93(1), 7-26.
- Idowu, B. (2007) 'God of Africa is the God of the Christian faith' The doctrine of God in African Christian thought: the holy trinity, in Kombo, O. H., ed. *theological hermeneutics and the African intellectual culture*, Leiden, Hotei Publishers
- Idowu, O.A., Mafiana, C .F, Luwoye, I. J., and Adehanloye, O (2008) 'Perceptions and home management practices of malaria in some rural communities in Abeokuta, Nigeria', *Travel medicine and Infectious Disease*, 6(4), 210-4.
- Igbedioh, S. O. (1993) 'Undernutrition in Nigeria: dimension, causes and remedies for alleviation in a changing socio-economic environment', *Nutrition and Health*, 9(1), 1-14.
- Igbuzor, O. (2006) 'The millennium development goals: can Nigeria meet the goals in 2015?' Abuja, Actionaid. Retrieved on April 27, 2010 from <http://www.civicus.org/new/media/MDGforICAN.doc>
- Ihonvbere, J. O. (1993) 'Economic Crisis, Structural Adjustment and Social Crisis in Nigeria', *World Development*, 21(1), 141-153.
- Imam, A. (1994) 'SAP is really sapping us', *New Internationalist*, Retrieved on March 7, 2008 from <http://www.newint.org/about/>
- IMF (2010) 'Poverty Reduction Strategy Papers', Retrieved on February 26, 2010 <http://www.imf.org/external/np/prsp/prsp.asp#N>
- Inhorn, M. C. (1995) Medical Anthropology and Epidemiology: divergence or convergence, *Social Science and Medicine*, 40(3), 285-290
- Ikoh, M. U., Udo, A. O., Charles, A. O. and Charles, J. O. (2009) 'The influence of "stock out" on health-seeking behaviour of low income women in Uyo urban, Akwa Ibom State, Nigeria', *International Quarterly of Community Health Education*, 29(3), 257-263.
- Inhorn, M. C. and Brown, J. P. (2005) *The Anthropology of infectious diseases*, Amsterdam: Overseas publishers association.
- Islam, A., Molla, A. M., Ahmed, M. A., Yameen, A., Thara, R., Molla, A., Issan1, Z., Hendricks, K and Snyder, J. D (1994) 'Is Rice based Oral Rehydration Therapy

- Effective in Young Infants'? *Archives of Disease in Childhood*, 71 (1): 19-23
- Ityavyar, A. D. (1988) 'Health services inequalities in Nigeria', *Social Science and Medicine*, 27(11), 1223-1235.
- Iyun, B. F. and Tomsin, G. (1996) 'Acute respiratory infections: Mothers perceptions of aetiology and treatment in South-Western Nigeria', *Social Science and Medicine*, 42(3), 437-445.
- Iyun, F. (1995) 'The Impact of Structural Adjustment on maternal and child health in Nigeria' in Emeagwali, G., ed. *Women pay the price: Structural Adjustment in Africa and the Caribbean*, Trenton: African World Press, 31-36.
- Iyun, F. B. and Oke, A. E. (2000) 'Ecological and cultural barriers to treatment of childhood diarrhoea in riverine areas of Ondo State, Nigeria', *Social Science and Medicine*, 50, 953-964.
- Jancloes, M. (1984) 'Could Villages do better without volunteer health workers?', *World Health Forum*, 5(4), 296-300.
- Janzen, M. (1978) *Medical Pluralism in Lower Zaire*, London: University of California Press.
- Jegade, A. S., Amusat, K. J., Sakimi, K. K., Adeyemo, P. O. and Oyetunde, M. O. (2005) 'Perceived causes of Malaria among market women in Ibadan Nigeria', *African Journal for the Psychological Study of Social Issues*, 8(2), 335-347.
- Jones, G., Steketee, R. W., Black, R. E., Bhutta, Z. A., Morris, S. S. and Bellagio Child Survival Study, G. (2003) 'How many child deaths can we prevent this year?', *Lancet*, 362 (9377), 65-71.
- Justesen, A. and Kunst, A. (2000) 'Postneonatal and child mortality among twins in Southern and Eastern Africa', *International Journal of Epidemiology*, 29(4), 678-83.
- Kahn, K., Tollman, S. M., Garenne, M. and Gear, J. S. (2000) 'Validation and application of verbal autopsies in a rural area of South Africa', *Tropical Medicine and International Health*, 5(11), 824-31.
- Kamat, V. R. (2009) Anthropology of childhood malaria in Tanzania in Hahn, R. and Inhorn, M., eds., *Anthropology in public health*, New York: Oxford University Press.

- Kandala, N. B., Magadi, M. A. and Mandise, N. J. (2006) 'An investigation of district spatial variations of childhood diarrhoea and fever in Malawi', *Social Science and Medicine*, 62, 1138-1152
- Kandala, N. B., Ji, C., Stallard, N., Stranges, S. and Cappuccio, F. P. (2007) 'Spatial analysis of risk factors for childhood morbidity in Nigeria', *American Journal of Tropical Medicine and Hygiene*, 77(4), 770-9.
- Kandala, N. B., Stallard, N., Ji, C., Stranges, S. and Cappuccio, F. P. (2008) 'Morbidity from diarrhoea, cough and fever among young children in Nigeria', *Annals of Tropical Medicine and Parasitology*, 102(5), 427-445.
- Kanngiesser, L. (2009) *National Health Insurance Scheme to boost generics market in Nigeria*. Retrieved on April 14, 2009 from <http://www.frost.com/prod/servlet/market-insight-top.pag?Src=RSS&docid=155485216>
- Khalil, M. (2006) *Knowledge, attitude and perception of university students to traditional medicine: a case study of Olabisi Onabanjo University student*, unpublished thesis Olabisi Onabanjo University of Ago-iwoye, Ogun State.
- Khemani, S. (2005) 'Local Government Accountability for Health Service Delivery in Nigeria:' *Journal of African Economies*, 15(2), 285-312.
- Khun, S. and Manderson, L. (2007) 'Health seeking and access to care for children with suspected dengue in Cambodia: an ethnographic study', *BMC Public Health*, 24(7), 262
- Kirkpatrick, M. S., and Cobb, K. A. (1990) 'Health beliefs related to diarrhoea in Haitian children: Building transcultural nursing knowledge', *Journal of Transcultural Nursing*, 1(2), 2-12
- Kitzinger, J. (1994) 'The methodology of focus group: the importance of interaction between participant', *Sociology of Health and Illness*, 16(1), 103-121.
- Kiwanuka SN, E. E., Peterson S, Okui O, Rahman MH, Peters D, Pariyo GW (2008) 'Access to and utilisation of health services for the poor in Uganda: a systematic review of available evidence', *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 102(11), 1067-1074.
- Kleinman, A. (1980) *Patients and healers in the context of culture: an exploration of the border land between anthropology, medicine, and psychiatry*, *Comparative studies of health systems and medical care*, Berkeley (etc.) London: University of

California Press.

- Koch, J. (2008) 'Is religiosity a health resource for the poor', *The Social Science Journal*, 45, 495-503.
- Kokwaro, J. O. (1976) *Medicinal Plants of East Africa*, Kenya: General printers.
- Koster, W. (2003) *Secret Strategies women and abortion in Yourba society, Nigeria*, Amsterdam: Aksant Academic Publishers.
- Kreiger, N. (2008) 'Proximal, Distal and the Politics of causation: what's level got to do with it', *Public health*, 98, 221-230.
- Krueger, R. A. (1994) *Focus groups: a practical guide for applied research*, 2nd ed., Thousand Oaks; London: Sage.
- Krueger, A. and Casey, M (2000) 'Focus group, a practical guide for applied research', London, Sage.
- Kunitz, S., J (2001) 'Accounts of social capital: the mixed health effects of personal communities and voluntary groups' in Leon, D. and Walt, G., eds., *Poverty Inequality and Health- An international perspective*, Oxford: Oxford University Press, 159-174.
- KWG (2010) Kwara State Government of Nigeria-The State of harmony. Retrieved on Feb 17, 2011 from <http://www.kwarastate.gov.ng/ilorin-state-capital.html>
- Labaree, R. V. (2002) 'The risk of 'going observationalist': negotiating the hidden dilemmas of being an insider participant observer', *Qualitative Research*, 2(1), 97-122.
- Lambo, E. and Sambo, L. G. (2003) 'Health sector reform in sub-saharan Africa: A synthesis of country experience', *East African Journal*, 80 (6 Suppl) S1-20
- Lado, C. (1992) 'Female labour participation in agricultural production and the implication for nutrition and health in rural Africa', *Social Science and Medicine*, 34(7), 789-807.
- Laniran, Y. and Clements, G. N. (2003) 'Down step and high rising: interacting factors in Yoruba tone production', *Journal of Phonetics*, 31(2), 203-250.
- Legard, R., Keegan, J. and Ward, K. (2003) 'In-depht interviews' in Ritchie, J. and Lewis, J., eds., *Qualitative Research Practice: A guide for social science students and*

researchers, London: Sage Publication.

- Leonard, T. (2006) *Encyclopedia of the developing world*, New York: Taylor and Francis.
- Lesile, A. L., Anderson, E. A. and Branson, M. P. (1991) 'The responsibilities for children: the role of gender and employment', *Journal of Family issues*, 12(2), 197-210
- Lewando-Hundt, G., Stuttford, M. and Ngoma, B. (2004) 'The Social Diagnostics of stroke-like symptoms: Healers, doctors and Prophets in Agincout, Limpopo province, South Africa', *Journal Biosocial Science*, 36, 433-443.
- Lewis, J. and Finch, H. (2003) 'Focus Group' in Ritchie, J. and Lewis, J., eds., *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, London: Sage Publication.
- Lloyd, P. C. (1967) 'The traditional political system of the Yoruba' in Cohen, R. and Middleton, J., eds., *Comparative Political Systems: studies in the politics of pre-industrial societies*. New York: Natural History Press
- Lopez, A. D. (2003) 'Commentary: Estimating the causes of child deaths', *International Journal of Epidemiology*, 32(6), 1052-3.
- Lurie P, Hintzen, P., Lowe, R. A. (1995) 'Socioeconomic obstacles to HIV prevention and treatment in developing countries: the roles of the International Monetary Fund and the World Bank', *AIDS*, 9(6), 539.
- Lynch, W. J., Smith, G. D., Kaplan, G. A. and House, J. S. (2000) 'Income inequality and mortality: importance to health of individual income, psychosocial environment, or material', *British Medical Journal*, 320, 1200-1204.
- Marmot, M. and Wilkinson, R. G. (2001) 'Psychosocial and material pathways in the relation between income and health: a response to Lynch et al', *British Medical Journal*, 322, 1233-1236.
- Maclean, C. M. (1965) 'Tradition in transition: A health opinion survey in Ibadan Nigeria', *British Journal of Preventive and Social Medicine*, 19, 192-197.
- Madunagu, E. B. (1985) 'Contemporary Positions and Experiences of woman' in Badejo, D. L., ed. *Women in Nigeria*, London: Zed Books, 133-137.
- Martin, M. (1996) 'Issues of power in the participatory research process' in Koning, K. and Martin, M., eds., *Participatory research in Health: Issues and Experiences*, Johannesburg: Zed Bookes Ltd.

- Mashiri, P. (1999) 'Terms of Address in Shona: A Sociolinguistics Approach', *Zambezia*, 26(1), 93-110.
- Mason, J. (2002) *Qualitative researching*, 2nd ed., London: SAGE.
- May, T. (1993) *Social research: issues, methods and process*, Buckingham: Open University Press.
- May, T. (1997) *Social research: issues, methods and process*, 2nd ed., Buckingham: Open University Press.
- Mbagaga, G. M. and Odhiambo, M. O. (2005) 'Mothers health seeking behaviour during child illness in rural Western Kenya community', *African Health Services*, 5(4), 322-327.
- McNeill, F.G (2009) 'Condoms Cause Aids': Poison, Prevention and Denial in Venda, South Africa. *African Affairs*, 108 (432), 353-370
- McConnell, T. (2009) 'Islamist sect leader shot dead after 600 killed in Nigeria siege', *Times Online*. Retrieved on October 29, 2009
<http://www.timesonline.co.uk/tol/news/world/africa/article6734046.ece>
- Menesh, O. A., Sheldon, A.T., Pickett, K. E. and Car-Hill, R. (2007) 'Accuracy of child mortality data in demographic and health surveys', *International Journal of Epidemiology*, 1(7), 1-6.
- Mohammed, H. D. (1985) 'Women in Nigeria History: Examples form Borno Empire, Nupeland and Igboland' in Badejo, D. L., ed. *Women In Nigeria*, London: Zeds Books, 45-55.
- Moore, H. L. and Sander, T. (2001) 'Magical interpretation and material realities an introduction' in Moore, H. l. and Sanders, T., eds., *magical interpretation, material, realities, modernity, witchcraft and occult in post colonial Africa*, London, New York: Routledge, Taylor and Francis group.
- Mosley, W. H. and Chen, L. C. (2003) 'An analytical framework for the study of child survival in developing countries. 1984', *Bulletin World Health Organization*, 81(2), 140-5.
- Mull, D. S. (2005) 'The cultural context of measles mortality in Pakistan' in, Inhorn M. C. and Brown, P. J., ed. *Anthropology of Infectious diseases*, Amsterdam: Overseas publishers.

- Murphy, E. (1998) Qualitative research methods in health technology assessment: a review of the literature'. Southampton: National coordinating centre for health technology assessment
- Mwansa, L. (1989) 'Rural-urban health care services imbalances in Zambia- forces and outcome', *Journal of Social Development in Africa*, 4(1), 69-83.
- Mwensi, H. A., Harpham, T. and Snow, R. W. (1995) 'Child malaria treatment practices among mothers in Kenya', *Social Science and Medicine*, 40(9), 1271-1272.
- Naidoo, J. and Wills, J. (2000) *Health promotion: foundation for practice*, Elsevier Limited.
- National Primary Health Care Development Agency (N.P.H.C.D.A) (2009) Briefing Manual on the MDG- DRG Funded Midwives Service Scheme, Abuja
- National Population Commission (NPC) (2000) *Nigeria Demographic Health Survey (Nigeria)*, Calverton, Maryland.
- National Population Commission (NPC) (2004) *Nigeria Demographic Health Survey (Nigeria)*, Calverton, Maryland.
- National Population Commission (NPC) (2009) *Nigeria Demographic Health Survey (Nigeria)*, Calverton, Maryland.
- Nations, K. M. (1986) 'Epidemiological Research on infectious diseases: Quantitative rigor or rigormortis? Insights from ethno medicine' in Janes, R., Stall, R., and Gifford, M. eds. *Epidemiology and Anthropology*, Holland: D.Reidel publishing.
- Ndugwa, K. P. and Zulu, E. M. (2008) 'Child morbidity and care-seeking in Nairobi slum settlements: The role of environmental and socio-economic factors', *Journal of Child health*, 12(4), 314-328.
- Needle, R., Kroeger, K., Belani, H., Achrekar, A., Parry, C. and Dewing, S. (2008) 'Sex, Drugs and HIV: Rapid Assessment of HIV risk behaviours among Street-based drug using sex workers in Durban, South Africa', *Social Science and Medicine*, 67, 1447-1455.
- NHP (2005) *National Health Policy*. Abuja
- NIP/UNICEF (1995) National Immunization Policy and Standard of Practice, EPI unit,

Epidemiology division, primary health care and diseases control and
Department. Federal ministry of health, Lagos, Nigeria

- Njauara, M. (2009) 'Sectarian violence spreads, 157 feared dead in Borno, Kano',
Guardian, Retrieved on October 29, 2009 from
[http://www.nguardiannews.com/news/article01//indexn2_html?pdate=280709&p
title=Sectarian%20violence%20spreads,%20157%20feared%20dead%20in%20Bor
no,%20Kano](http://www.nguardiannews.com/news/article01//indexn2_html?pdate=280709&p
title=Sectarian%20violence%20spreads,%20157%20feared%20dead%20in%20Bor
no,%20Kano)
- Ngubane, H (1977) '*Body and Mind in Zulu medicine: an ethnography of health and
disease Nyuswa-Zulu thought and practice*', London, Academic Press
- NPC (2006) *The Nigerian millennium report*, Abuja: NPC. Retrieved on June 21, 2010 on
http://web.ng.undp.org/reports/nigeria_mdg_report.pdf
- Nuwaha, F., Okware, J., Hannington, T. and Charles, M. (2007) '*False teeth “ebiino” and
millet disease “oburo” in Bushenyi District of Uganda*', *African Health Science*,
7(1), 25-32.
- Nyamnjoh, B. F. (2001) 'Delusions of development and the enrichment of witchcraft
discourses in Cameroon' in Moore, H. I. and Sanders, T., *magical interpretations,
material realities, modernity, witchcraft and occult in post colonial Africa*, London,
New York: Routledge, Taylor and Francis Group.
- Nyamwaya, D. (1987) 'A Case Study of the interaction between Indigenous and Western
Medicine among the Pokot of Kenya', *Social Science and Medicine*, 25(12), 1277-
1287.
- Nyamongo-Amuyunzu, M and Nyamongo, I. K. (2006) 'Health seeking behaviour of
mothers of under-five year old children in the slum communities of Nairobi,
Kenya', *Anthropology and Medicine*, 13(1), 25-40
- Nzewi, E. (2001) 'Malevolent Ogbanje: Recurrent Reincarnation or Sickle Cell Disease?'
Social Science and Medicine, 52(9), 1403-1416.
- Oakley, A. (1981) 'Interviewing Women: A Contradiction in Terms.' in Roberts, H., ed.
Doing Feminist Research, London: Routledge and Kegan Paul, 30-61.
- Ochiawunwa, I. (2002) *Child Survival in Nigeria: Situation, Response and Prospects*,
Policy Project Nigeria.
- Odebiyi, A. I and Ekong, E. C (1982) 'Mothers' concept of measles and attitudes towards
the measles vaccine in Ile-Ife, Nigeria', *Journal of Epidemiology and Community
Health*, 36(3) 209-213

- Odebiyi, A. I. (1989) 'Food taboos in materials and child health the views of the traditional healers in Ile-ife, Nigeria', *Social Science and Medicine*, 28(9), 985-996.
- O'Dempsey, T. J (1988) Traditional belief and practice among Pokot people of Kenya with particular reference to mother and child health, *Annals of Tropical Paediatrics*, 8(3), 125-134.
- Ogbimi, F. E. (2001) 'Structural Adjustment is the wrong policy', *African technological forum* 8(1).
- Ogundipe-Leslie, M. (1985) 'Women in Nigeria' in Badejo, D. L., ed. *Women in Nigeria*, London: Zed Books, 119-129.
- Ogunjuyigbe, P. (2003) 'Under-five mortality in Nigeria: perceptions and attitude of Yoruba towards the extensions of abiku', *Demographic Research*, 11(2), 51-58.
- Ogunyemi, C. O. (1996) *African wo/man palava, the Nigeria novel by women*, Chicago: The University of Chicago press.
- Ojikutu, K. R. (2008) 'Pattern of under five deaths in Lagos state', *Sudanese Journal of Public Health*, 3(4).
- Ojukwu, C. O. (1969) *Biafra*, New York: Harper and Row.
- Okeke, T. A., Okafor, H. U. and Uzochukwu, B. S. C. (2006) 'Traditional healers in Nigeria perception of cause, treatment and referral practices for severe malaria', *Journal of Biosocial Science*, 38, 491-500.
- Okeke, T. A. and Uzochukwu, S. C. (2009) 'Improving childhood malaria treatment and referral practices training patent medicine vendors in rural south-east Nigeria', *Malaria Journal*, 8(260).
- Okri, M. (1991) *The Famished Road*, Jonathan Cape.
- Olaoye, O. A. and Onilide, A. A. (2009) 'Assessment of microbiological quality of sachet packaged drinking water in Western Nigeria and its public health significance', *Public Health*, 123(11), 729-734.
- Olupona, J. (1993) 'The Study of Yoruba Religious Tradition in Historical Perspective', *Numen*, 40(3), 240-273
- Olusanya, B. O. and Roberts, A. A. (2006) 'Physician education on infant hearing loss in a developing country', *Pediatr Rehabil*, 9(4), 373-377.

- Omololu, A. B., Ogunlade, S. O. and Gopaldasani, V. K. (2008) 'The Practice of traditional bone setting', *Clinical orthopaedics and Related Research*, 466(10), 2392-2398.
- Omorodion, F. I. (1993) The socio cultural context of health behaviour among Esan communities, Edo State, Nigeria. *Health Transition Review*, 3(2), 125-136
- Onadipe, K. (1965) *Koku Baboni*, Ibadan: African Universities Press.
- Onayemi, F. (2007) 'Finding a place: women's struggle for political authority in Classical and Nigerian societies', *Women's History Review*, 16(3), 297-309.
- Oni, G. A. (1988) 'Child mortality in a Nigerian City: its levels and socioeconomic differentials', *Social Science and Medicine*, 27(6), 607-614.
- Onwujekwe, O., Okereke, K., Onoka, C., Uzochukwu, B., Kirigia, J and Petu, A (2010) 'Willingness to pay for community-based health insurance in Nigeria: Do economic status and place of residence matter?' *Health Policy and Planning*, 25(2).
- Onwujekwe, O. and Uzochukwu, B. (2005) 'Socio-economic and geographic differentials in costs and payment strategies for primary health care services in Southeast Nigeria', *Health Policy*, 71(3), 383-397.
- Onwujekwe, O. E., Uzochukwu, b., Obikeze, E. N., Okoronkwo, I., Ogbonnia, O. G., Onoka, C. A., Madubuko, G. and Chijioke, O (2010) 'Investigating determinants of out-of-pocket spending and strategies for coping with payments for healthcare in southeast Nigeria', *BMC Health Services Research*, 10(67).
- Onwuka, N. (2008) 'Nigeria: Unicef gets N940m to combat Malaria, Polio', *This Day*,
- Organization, W. H. (2002) *The World health Report 2002: Reducing risk, promoting healthy life*, Geneva: World health organization.
- Osifo, G. N. (1985) *Dizzy Angel*, Ibadan: University Press.
- Ostheimer, J. M. (1973) *Nigerian Politics*, London: Harper and Row Publishers.
- Owumi, B. E. and Jegede, A.S (1991) 'Primary health care and the improvement of the health status of rural people in Nigeria' Conference paper, Jos, ICDC. University of Jos.
- Oyebola, D. D. O. (1980) 'Traditional medicine and its practitioners among the Yoruba of Nigeria: A classification', *Social Science and Medicine*, 14A, 23-29.

- Oyejide, C. O. and Aderinokun, G. A. (1991) 'Teeth thing Myths in Nigerian Rural Yoruba communities', *African Dental Journal*, 5, 31-34.
- Oyewumi, O. (1997) *The Invention of Women: Making an African sense of Western gender discourses*, Minneapolis: University of Minnesota Press.
- Padfield, M. and Proctor, I. (1996) 'The Effect of interviewer's Gender on the interviewing Process: A Comparative Enquiry', *Sociology*, 30, 355-366.
- Padgett, D. (1998) *Qualitative Methods in Social Work Research: Challenges and Rewards*, Thousand Oaks, Calif: Sage Publications.
- Panter-brick, S. K. (1970) *Nigerian Politics and Military Rule: Prelude to Civil War*, London: The Athlone press.
- PATHS (2010a) 'Developing integrated and Decentralised health systems', Retrieved on April 12, 2010 from <http://www.lath.com/dbimngs/file/attachments/Integrated%20&%20decentralised%20systems.pdf>
- PATHS (2010b) 'Policy Brief', Retrieved on April 12, 2010 from <http://www.lath.com/dbimngs/file/attachments/Safety%20nets.pdf>
- Pathfinder (2009) 'Reproductive Health Knowledge and Practices in Nigeria: Challenging Misconceptions'. Retrieved on January 19, 2009 from http://www.pathfind.org/site/DocServer/Reproductive_Health_Knowledge_Northern_Nigeria.pdf?docID=10861
- Patton, M. Q. (2002) *Qualitative research & evaluation methods*, 3rd ed., Thousand Oaks, California; London: Sage.
- Pearce, N. and Smith, G. D. (2003) 'Is Social Capital the key to Inequalities in Health', *American Journal of Public Health*, 93, 122-129.
- Pearce, O., T (1999) 'She will not be listened to in public: Perceptions among the Yoruba of infertility and childlessness in women', *Reproductive Health Matters*, 7(13), 69-79.
- Pearson, G. (1987) *The new heroin users*, Oxford: Blackwell.
- Pedersen, D. (1992) 'Qualitative and Quantitative: Two Sides of Viewing the World or two categories of life' in Scrimshaw, N., S and Gleason, G., R, eds., *Rapid Assessment Procedures: Qualitative Methodologies for Planning and Evaluation of Health Related Programmes*, Boston: Library of Congress Cataloguing-in-Publication-

Data.

- Peel, J. D. Y. (1968) *Aladura: A Religious movement among the Yoruba*, Oxford: Oxford University press.
- Peterson, K. and Obileye, O. (2002) 'Access to Drugs for HIV/AIDS And Related Opportunistic Infections in Nigeria, Policy project. Retrieved on May 12, 2008 http://www.policyproject.com/pubs/countryreports/NIG_ADOI.pdf
- Pinnock, S. G. (2008) *The romance of missions in Nigeria*, Bibliolife.
- Plummer, M. L., Mshana, G., Wamoyi, J., Shigongo, Z. S., Hayes, R. J., Ross, D. A. and Wight D. (2006) 'The man who believed he had AIDS was cured': AIDS and sexually-transmitted infection treatment-seeking behaviour in rural Mwanza, Tanzania', *AIDS care*, 18(5), 460-466.
- Pole, C. J. and Lampard, R. (2002b) *Practical social investigation: Qualitative and Quantitative methods in social research*, Harlow: Prentice Hall.
- Pope, C. and Mays, N. (1999) *Qualitative research in health care*, 2nd ed., London: BMJ Books.
- Preeze, N. F., Cameron, N. and Griffiths, P. (2009) "'Stuips, sputts and prophet ropes: The treatment of Abantu childhood illnesses in urban South Africa'", *Social Science & Medicine*, 14(3), 343-351
- Punch, K. (1998) *Introduction to social research: quantitative and qualitative approaches*, London; Thousand Oaks, Calif.: SAGE.
- Rahim, H.F., Wick, L., Halileh, S., Hassan-Bitar, S., Chekir, H., Watt, G., Khawaja, M. (2009) 'Maternal and child health in the occupied Palestinian territory', *Lancet*, 373(9667), 967-977.
- Rajaratnam, J. K., Marcus, J. R., Flaxman, A. D., Wang, H., Levin-Rector, A., Dwyer, L., Costa, M., Lopez, A. and Murray, J. L. (2010) 'Neonatal, postneonatal, childhood and under-5 mortality for 187 countries, 1970-2010 a systematic analysis of progress towards millennium development goal 4', *Lancet*, Retrieved on July 23, 2010 from <http://press.thelancet.com/murraychild.pdf>
- Reid, M. (2004) 'The Yoruba in Cuba: Origins, Identities and transformation' in Falola, T. and Childs, M. D., eds., *The Yoruba Diaspora in the Atlantic world*, Bloomington: Indiana University press.

- Reinhartz, S. (1997) 'Who am I?' in Hertz, R., ed. *Reflexivity and Voice*, London: Sage Publication.
- Renne, E. (2006) 'Perspectives on Polio and immunization in Northern Nigeria', *Social Science and Medicine*, 63(7), 1857.
- Renne, E. P. (2010) *The Politics of Polio in Northern Nigeria*, United States of America: Indiana University Press.
- Richards, A. I. (1971) 'Matrilineal systems' in Goody, J., ed. *Kinship*, Middlesex: Cox and Wyman Ltd.
- Riessman, C. K. (1994) *Qualitative studies in social work research*, Thousand Oaks, Calif. ; London: Sage Publications.
- Ritche, J., Lewis, J. and Elam, G. (2003) 'Designing and selecting samples' in Ritchie, J. and Lewis, J., eds., *Qualitative research practice: A guide for social science students and researchers*, London: sage publication.
- Ritchie, J and Spencer, L (1993) 'Qualitative data analysis for applied policy research' in Bryman, A. and Burgess, R., eds., *Analysing qualitative data*, London: Routledge
- Robson, E. (2006) 'The 'Kitchen' as Women's Space in Rural Hausa land Northern Nigeria', *Gender, Place and Culture*, 13(6), 669-676.
- Rojas, M. (1990) 'Women in Africa', *African Postcolonial Literature in English: in the Postcolonial Web* Retrieved on March 29, 2010 from <http://www.postcolonialweb.org/nigeria/precolwon.html>
- Roseneil, S. (1993) 'Greenham Revisted: Researching Myself and My sisters' in Hobbs, D. and May, T., eds., *Interpreting the Field: Accounts of Ethnography*, Oxford University Press.
- Salako, I. A., Brieger, W. R., Afolabi, B. M., Umeh, R. E., Agomo, P. U., Asa, S., Adeneye, A. K. and Nwankwo, B. O. and Akinlade, C.O (2001) 'Treatment of Childhood Fevers and other Illnesses in three rural Nigeria communities', *Journal of Tropical Paediatrics*, 47, 230-238.
- Sanusi, R. A. and Awe, A. T. (2009) 'An Assessment of Awareness of level of National health Insurance scheme (NHIS) among Health care consumers in Oyo state Nigeria', *The Social Sciences*, 4(2), 143-148.
- Sapsford, R. and Jupp, V. (2006) *Data collection and analysis*, 2nd ed., London; Thousand

Oaks, Calif.: SAGE Publications in association with the Open University.

Sasty, N. (2004) 'Trends in socio-economic inequalities in mortality in developing countries: the case of child survival in Sao Paulo, Brazil', *Demography*, 41(3), 443-463.

Sarantakos, S. (1998) *Social research*, 2nd ed., Basingstoke: Macmillan.

Sauerborn, R., Nougara, A., Sorgho, G., Bidiga, J. and Diesfeld, H. J. (1989) 'Assessment of MCH services in the district of Solenzo Burkina Faso.111. Effectiveness of MCH in detecting of and caring for mothers and children at risk', *Journal of Tropical Paediatrics*, 1, 14-17

Scheper-Hughes (2004) 'Dangerous and endangered Youths: Social structure and determinants of violence', *Annals of the New York Academy of Sciences*, 1036, 13-46.

Scheper-Hughes, N. (1992) *Death without weeping: the violence of everyday life in Brazil*", London: University of California Press.

Schimmer B, and Ihekwezub, C. (2006) 'Polio eradication and measles immunisation in Nigeria.' *Lancet Infectious Diseases*, 6, 63-65.

Schwarz, F. O. (1965) *Nigeria: the tribes, the nation, or the race-the politics of independence*, Massachusetts: The M.I.T press.

Seale, C. (2004) *Social research methods: a reader, Routledge student readers*, London; New York: Routledge.

Semple, S., Devakumar, D., Fullerton, D.G., Thorne, P.S., Metwali, N., Costello, A., Gordon, S.B., Manandhar, D.S., Ayres, J.G. (2010) 'Airborne endotoxin concentrations in homes burning biomass fuel', *Environmental Health Perspectives*, 118(7), 988-991.

Shaner, W., Philipp and Schmehl, W. (1982) *Farming Systems Research and Development: Guidelines for Developing Countries*, Colorado: Westview Press.

Shaw, I. and Could, N. (2001) *Qualitative Research in Social Work*, London: Sage.

Shawky, S. and Milaat, W. (2000) 'Early teenage marriage and subsequent pregnancy outcome', *East Mediterranean Health Journal*, 6(1), 46-54.

Social Institutions and gender index (SIGI) (2009) Gender equality and social institutions

in Nigeria. OECD, Retrieved on July 25, 2010 from
<http://genderindex.org/country/nigeria>

- Simondon, K. B., Simondon, E., Costtes, R., Delaunary, V. and Diallo, A. (2001) 'Breastfeeding is associated with improved growth in length, but not weight in rural Senegal toddlers', *American journal of Clinical Nutritional*, 73, 959-967.
- Smith, D. (2003) *Health Inequalities: life course approaches*, Bristol, the policy press.
- Smith, D., Dorling, D., Gordon, D. and Shaw, M. (2004) 'The widening gap: what are the solutions?' in Smith, D., ed. *Health inequalities: life course approaches*, London: Policy press.
- Smith, M. K. (1997) 'Participation observation and informal education', Retrieved on August 7, 2008 from www.infed.org/research/participant_observation.htm
- Snape, D. and Spencer, L. (2003) 'The foundations of Qualitative Research' in Ritchie, J. and Lewis, J., eds., *Qualitative Research Practice: A guide for social science students and researchers*, London: Sage publications.
- Sousa, A., Hill, K. and Dal Poz, M. P. (2010) 'Sub-national assessment of inequality trends in neonatal and child mortality in Brazil', *Internal Journal of Equality in Health*, 9(21).
- Southgate, M.T (2005) The Cover: Healing of Abiku children, *The Journal of the American Medical Association*, 294(13), 1591.
- Spencer, N. J (2000) *Poverty and child health*, 2nd ed., Abingdon: Radcliff Medical press limited.
- Spencer, N.J (2003) ' Social, economics, and political determinants of child health' *Paediatrics* 112, 704-706
- Spencer, N. J (2007) 'Behaving badly? Smoking and the role of behaviour change in tackling health inequalities' in Dowler, E., and Spencer, N., ed. *Challenging health inequalities: From Acheson to 'Choosing health'*, Bristol: The Policy Press.
- Spicer, N. (2004) 'Combing Qualitative and Quantitative method' in Seale, C., ed. *Researching Society and Culture*, London: Sage Publication.
- Standing, S. (1998) 'Writing voices of the less powerful: research on lone mothers' in Ribbens, J. and Edward, R., eds., *Feminist dilemma in qualitative research*, Great Britain: Sage Publication.

- Steinhardt, L. C., Waters, H., Rao Dipankar, K., Naeem Jan, A., et al (2009) 'The effect of wealth status on care seeking and health expenditures in Afghanistan', *Health policy and Planning*, 24(1), 1-17
- Stekelenburg, J., Jagar, B., Kolk, P. R., Western, E., Kwaak, A. and Wolffers, I. N. (2005) 'Health care seeking behaviour and utilisation of traditional healers in Kalabo, Zambia', *Health Policy*, 71, 67-81.
- Stephenson, K., Amthor, R., Mallowa, S., Nungo, R., Maziya-Dixon B., Gichuki S., Mbanaso, A and Manary, M (2010) 'Consuming cassava as a staple food places children 2-5 years old at risk for inadequate protein intake, an observational study in Kenya and Nigeria', *Nutrition Journal*, 26(9), 9.
- Strauss, A. L. and Corbin, J. M. (1998a) *Basics of qualitative research: techniques and procedures for developing grounded theory*, 2nd ed., Thousand Oaks, London: Sage.
- Sudarkasa, N. (1986) 'In a World of Women: Field Work in a Yoruba Community' in Golde, P., ed. *Women in the Field*, London: California Press.
- Sullivan, M. (2007) *An Assessment of the Credibility of Child Mortality declines estimated from DHS Mortality rates*, Switzerland.
- Suthar, S. (2010) 'Contaminated drinking water and rural perceptions in Rajasthan India', *Environmental Monitoring and Assessment*.
- Taffa, N. and Chepngeno, G. (2005) 'Determinants of health care seeking for childhood illnesses in Nairobi slums', *Tropical Medicine and International and Health*, 10(3), 240-5.
- Taye, R. O. (2009) 'Yoruba Traditional medicine and the challenge of integration', *The Journal of Pan African Studies*, 3(3). Retrieved on February 25, 2010 from <http://www.jpanafrican.com/docs/vol3no3/3.3YorubaTraditional.pdf>
- Taylor, S. (2002) 'Researching the social: an introduction to ethnographic research' in Taylor, S., ed. *Ethnographic Research: A reader*, London: Sage publishers.
- Tella, A. (1986) 'Traditional medicine in Nigeria-prospects and problems' in Sofowora, ed. *The State of Medicinal Plant Research in Nigeria*, Ibadan: University Press, 113-123.
- Tessema, F., Asefa, M. and Ayele, F. (2002) 'Mothers health services utilization and health

care seeking behaviour during infant rearing: A longitudinal community based study, South Africa', *Ethiopian Journal of Health Development*, 16(special issue), 51-58.

Tobias, M., Blakely, T., Matheson, D., Rasanathan, K. and Atkinson, J. (2009) 'Changing trends in indigenous inequalities in mortality: lessons from New Zealand', *International Journal of Epidemiology*, 38(6), 1722- 1724.

Tolhurst, R., Amekudzi, Y. P., Nyongator, F. K. and Squire, S. B. T., S (2008) "He will ask why the child gets sick so often" ; the gendered dynamics of intra-household bargaining over healthcare for children with fever in the Volta Region of Ghana', *Social Science and Medicine*, 66(5), 1106-1117.

Tonkiss, F. (2004) 'Using Focus group' in Seale, C., ed. *Researching society and culture*, London: Sage Publications.

Trostle, J. (2005) *Epidemiology and Culture*, United States of America: Cambridge university press.

UNDP (2008) *Mid point assessment of the millennium development goal in Nigeria 2000-2007*, Abuja. Retrieved on July 31, 2010 from [http://planipolis.iiep.unesco.org/upload/Nigeria/Nigeria MDG assessment 2000-2007.pdf](http://planipolis.iiep.unesco.org/upload/Nigeria/Nigeria_MDG_assessment_2000-2007.pdf)

UNDP (2009) 'Human development report 2009 Nigeria', Retrieved on June 3, 2010 from <http://hdrstats.undp.org/en/countries/profiles/NGA.html>

Uneke, C., Ogbonna, A. E., A, Oyibo, P., Onwe, F. and Ngwu, B. (2008) 'The Nigeria health sector and human resource challenges', *The Internet Journal of Health*, 8, Number 1.

Unicef (1999) *Multiple indicator cluster survey (MICS)*, Unicef, USA. Retrieved on August 2007 from <http://www.childinfo.org/MICS2/newreports/philippines/philippines>.

UNICEF (2004) 'Statement global Polio eradication initiative', Retrieved on July 26, 2005 from http://www.polioeradication.org/content/pressreleases/20040803_press.pdf

UNICEF (2004) *The state of the World Children 2004: Childhood under treat*, New York: The United nations.

UNICEF (2006) 'Angola Background', Retrieved on May 8, 2010 from http://www.unicef.org/infobycountry/angola_502.html

UNICEF (2007) ' Information sheet Unicef Nigeria. Retrieved on July 8, 2010 from

http://www.unicef.org/wcaro/WCARO_Nigeria_Factsheets_HIV-AIDS.pdf

UNICEF (2007) 'Botswana background', Retrieved on May 8, 2010 from
http://www.unicef.org/infobycountry/botswana_1902.html

UNICEF (2007) 'Multiple indicator cluster survey: Monitoring the situation of children and women, Abuja'. Retrieved on November 4, 2008 from
http://www.childinfo.org/files/childinfo_mics.pdf

UNICEF (2007) 'Progress for children: A world fit for children statistical review', Retrieved on November 12, 2010 from
http://www.childinfo.org/files/progress_for_children_2007.pdf

UNICEF (2009) 'Millennium Development goal 4: Reduce child mortality', Retrieved on January 11, 2009 from
http://www.unicef.org/factoftheweek/index_50515.html

UNICEF (2010) 'Monitoring the situation of children and women', Retrieved on January 15, 2009 from <http://www.childinfo.org/mortality.html>

UNICEF (2010) 'Polio in Nigeria', Retrieved on February 18, 2010 from
http://www.who.int/csr/don/2009_07_17/en/index.html

United Nations (1995) 'Harmful Traditional Practices affecting the health of women and children.' *Fact Sheet Number 23*, 21. Retrieved on September 11, 2009 from
<http://www.ohchr.org/Documents/Publications/FactSheet23en.pdf>

United Nations (2007) *The millennium development goals report 2007*, New York: United Nations. Retrieved on August 8, 2009 from
<http://www.un.org/millenniumgoals/pdf/mdg2007.pdf>

United Nations (2009) 'Under-five mortality rates', *The State of World Children* . Retrieved on May 12, 2009 from <http://data.un.org/Data.aspx?d=SOWC&f=inID%3A17>

UNODC (2007) 'Nigeria Country Profile', Retrieved on November 23, 2007 from
<http://www.unodc.org/nigeria/en/abuse.html>

USAID (2002) 'Nigeria', Retrieved on June, 2008 from
<http://www.usaid.gov/pubs/cbj2003/afr/ng/>

USAID (2009) 'USAID country health statistical Report', Retrieved on September 10 from
http://pdf.usaid.gov/pdf_docs/PNADR598.pdf

- USAID (2010) 'Focus states (Bauchi and Sokoto) strategy' Retrieved on October 15 from <http://nigeria.usaid.gov/programs/focus-states-strategy>
- Ukaga, C. N., Nwoke, B. E., Onyeka, P. L., Anosike, J. C et al (2006) The use of herb in malaria treatment in parts of Imo State, Nigeria. *Tanzania Health Research Bulletin*, 8(3), 183-185
- Utarini, A., Winkvist, A. and Pelto, G. (2001) 'Appraising studies in health using rapid assessment procedures (RAP): Eleven critical criteria', *Human Organization*, 60(4), 11.
- Uthman, A., O (2008) 'A multilevel analysis of individual and community effect on chronic childhood malnutrition in rural Nigeria'. *Journal of Tropical Paediatrics* 55 (2), 109-115
- Uzochuchwu, B. S., Onwujekwe, E. O., Onoka, C. A. and Ughasoro, M. D. (2008) 'Rural-Urban Differences in maternal Responses to Childhood Fever in South East Nigeria', *PLoS* 3(3): e1788
- Van De Poel, E., O'Donnell, O., Van Doorslaer, E (2009) 'What Explains the Rural-Urban Gap in Infant Mortality: Household or Community characteristics'? *Demography*, 46(4), 827-850
- Wagstaff, A. and Watanabe, N. (2003) 'What difference does the choice of SES make in health inequality measurement', *Health Economics*, 12(10), 885-890.
- Waitzkin, H. (1990) 'On Studying the Discourse of Medical Encounters: A critique of Quantitative and Qualitative methods and a proposal for reasonable compromise', *Medical Care*, 28(6), 473-488.
- Walsh, D. (1998) 'Doing ethnography' in Seale, C., ed. *Researching society and culture*, London: Sage publication.
- Warsame, M., Kimbute, O., Machinda, Z., Ruddy, P., Melkisedick, M., Peto, T., Ribeiro, I., Kitua, A., Tomson, G. and Gomes, M. (2007) 'Recognition, perceptions and treatment practices for severe malaria in rural Tanzania: implications for accessing rectal artesunate as a pre-referral', *PLOs One*, 17(2(1)), 149.
- WHO (1978) 'Declaration of Alma-Ata: International conference on Primary Health Care', Retrieved on April 23, 2010 from http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf

- WHO (1995) 'Traditional practitioners as primary health care workers', Retrieved on September 11, 2009 from <http://apps.who.int/medicinedocs/collect/medicinedocs/pdf/h2941e/h2941e.pdf>
- WHO (2000) 'The World Health Organization's ranking of the World's health system', Retrieved on March 3, 2008 from <http://www.photius.com/rankings/healthranks.html>
- WHO (2006a) 'Mortality country Fact Sheet', Retrieved on May 29, 2006 from http://www.who.int/whosis/mort/profiles/mort_afro_nga_nigeria.pdf
- WHO (2006b) *World health Statistics 2006*, Geneva. Retrieved on August 8, 2010 from <http://www.who.int/whosis/whostat2006.pdf>
- WHO (2007) 'A Standard Verbal Autopsy Method for Investigating Causes of Death in Infants and Children', *WHO/CDS/CSR/ISR/99.4*
- WHO (2008) *Closing the gap in a generation: Health inequality through action on the social determinants of health*, Geneva. Retrieved on July 18, 2009 from http://whqlibdoc.who.int/hq/2008/WHO_IER_CSDH_08.1_eng.pdf
- WHO (2008) *World health statistics 2008*, Geneva. Retrieved on July 10, 2010 from http://www.who.int/whosis/whostat/EN_WHS08_Full.pdf
- WHO (2009) 'Structural Adjustment Programme', Retrieved on March 25, 2008 from <http://www.who.int/trade/glossary/story084/en/index.html>
- WHO (2010) *Vaccine preventable diseases: the burden*, Retrieved on March 2, 2010 from http://www.who.int/immunization_monitoring/diseases/en/
- Wilkinson, R. (1996) *Unhealthy Societies: The Afflictions of Inequality*, London: Routledge.
- Wilkinson, R (1997) 'Socioeconomic determinants of health: Health inequality: relative and absolute materials standards?', *British Medical Journal*, 314(591).
- Wilkinson, R. G. and Pickett, K. (2009) *The spirit level: why more equal societies almost always do better*, London; New York: Allen Lane.
- Williams, S., Calnan, M. and Dolan, A. (2007) 'Explaining inequalities in health' in Dowler, L. and Spencer, N., eds., *challenging Health inequalities: from Acheson to choosing health*, Bristol: the policy press.
- Wirth, M., Sacks, E., Delamonica, E., Storeyard, A., Minujin, A. and Balk, D. (2008) 'Delivering on the MDGs? Equity and maternal health in Ghana, Ethiopia and

Kenya', *East African Journal*, 5(3), 133-141.

World Bank (2009) *Nigeria: Quick Facts*. The World Bank. Retrieved on May 14, 2009 from <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICA>

World Bank (2009) *Nigeria: Women in Agriculture: The World Bank Participation Sourcebook*. Retrieved on March 16, 2009 from <http://www.worldbank.org/wbi/sourcebook/sb0212.htm>

World Bank (2010) *Improving primary health delivery in Nigeria: evidence from four States*, Washington, World Bank

Yilgwa, C. S and Yilgwan, G. A., (2010) 'Domestic water sourcing and the risk of diarrhoea: a cross-sectional survey of a periurban community in Jos, Nigeria', *Nigerian Journal of Medicine*, 19(3), 271-274.

You, D., Wardlaw, T., Salama, P. and Jones, G. (2010) 'Level and trends in under-five mortality, 1990-2008', *The Lancet*, 375.

Yusuf, B. (1985) 'Nigerian Women in politics problems and prospects' in Badejo, D. L., ed. *Women in Nigeria*, London: Zeds Books, 212-216.

APPENDIX 1

Photo 1: Photo of a bathroom and well



Photo 2: Entrance to spring



Photo 3: Women washing in spring



Photo 4: Shed built for petty trading



Photo 5: Village house



Photo 6: Itageri



Photo 7: Health centre water point



Photo 8: Health centre



Photo 9: Health centre



Photo 10: Village bore hole



APPENDIX 2

FOCUS GROUP/HOUSEHOLD DISCUSSION

This is the topic guide to be used in the *natural group discussion with mothers/caregivers/community groups*.

Topics

1. What is important to keep children healthy?
2. What are the illnesses or problems?
3. What they do when their children are unwell?
4. Prevention? Is it possible-how?
5. Death from?
6. Sister or anybody in neighbourhood (child sickness or death)?
7. Beliefs surrounding illness and death?
8. If you can change anything, what will it be to improve the care your child receives at home and community?

SEMI STRUCTURED INTERVIEW

This topic guide is to be used for *interview with primary caregivers/mothers* who have lost one or more children under the age of five

Topics

- 1 About child's health before he was unwell?
2. About the child illness that led to death?

Open history

Prompts

What was the length of time the child was sick before death, days/month

Was care sought outside the home while he/she had illness?

This topic guide is to be used for *interview with health workers/alagbo* who have lost one or more children under the age of five

Topics

1. What are the barriers to health care services?
2. How they care for sick children?
3. What are the childhood illnesses mostly presented in health centre/*alagbo*?
4. What are the barriers to health services in village?
5. Views on attitude and perceptions of woman and caregivers to the health care services/health centre in general?
6. What can be done to improve situations at home and community level?

APPENDIX 3

Perceived Causation of childhood morbidity and mortality

Childhood morbidity	Perceived cause mentioned by caregivers and mothers
Poilo	Dry hot season
Malaria	Dirty environment, Dry hot season, Mosquitoes
Fever (hot body)	Unripe cashew and mango, Mosquitoes
Measles	Dry hot season, avoiding an infected child
Diarrhoea and cholera	Dirty toilets and bathroom, teething, flies, unclean vegetable and fruits, contaminated water and food, over eating <i>eba</i> (fermented gari), care negligence of babies
Typhoid fever, stomach ache and headache	Dirty environment
Coughing/cold	Unclean vegetables and fruits, wet rainy season
Convulsions	Teething, fever, exposure to cold, food perceived not to be soft
Vomiting	Breastfeeding from unclean nipple, dirty mother and Environment
<i>Ile tutu</i>	Exposure to cold weather
<i>So o la ta</i>	Evil human agencies
<i>Abiku/ogbanje</i>	Child reborn many times only to die