



Barriers to reproductive health services among internally displaced women in northern Nigeria

TF Popoola

 orcid.org/0000-0001-5951-8048

Thesis submitted in fulfilment of the requirements for the degree
Doctor of Philosophy in Population Studies
at the North-West University

LIBRARY MAFIKENG CAMPUS
CALL NO.: 2020 -01- 0 6
ACC.NO.: NORTH-WEST UNIVERSITY

Promoter: Prof N Ayiga

Graduation ceremony: October 2019

Student number: 27564932

Declaration

I, Titilope Fisayo POPOOLA, declare that this thesis is my own original work. It is being submitted for the degree of Doctor of Philosophy in Population Studies of the North-West University. To the best of my knowledge, it has not been submitted before in part or in full for any degree or examination at this or any other University. I also declare that the intellectual content used from other people's work has been acknowledged.



Signature: _____

Date: 25/10/2018

Dedication

I dedicate this work to the victorious God almighty.

Acknowledgements

I submit all thanks to the wonderful and gracious God for the successful completion of this study. I am particularly filled with gratitude for the support, guidance and mentorship provided by my supervisor, Professor Natal Ayiga. I am very grateful for his untiring efforts, brilliance and attention to details towards the success of this research work. I would also like to express my appreciation to Professor Akim Mturi for his valuable and constructive suggestions during the early stages of this study

My immense gratitude also goes to the North-West University's Postgraduate Merit Award Committee for the financial support given to me throughout the course of this program. I am also greatly indebted to all other persons who in one way or the other provided invaluable support and advise during the course of this study including Prof. OluOyinloye, Dr. Yemi Kale, Dr. Kayode Afolabi, Dr. Openiyi Alade and Dr. Samuel Bwalya. I appreciate their enthusiastic encouragement and useful critiques. Without their supports I would not have found this program easy. May God bless you abundantly.

Special thanks go to my fellow students at North-West University namely Dr. Ifeayin Mbukanma, Dr. Kemisola Olatunji, Mr. Tunde Oloye and Miss Anzai Mulaudzi. I particularly want to thank Mr. Abiodun Olagunju and Miss Patience Edward, for their help during the data entry of this work, their support was a great relieve. I also appreciate Professor Moses Kibet, Professor Yaw Amoateng, Professor Victor Ojakorotu and other staff members of the Graduate Programme in Population Studies at North-West University, Mafikeng, South Africa.

Last but not least, I owe special appreciation to my wonderful parents- Prof. Afolabi Popoola and Prof (Mrs) Abiodun Popoola. Their care, concern, mentoring, insistent support and endless love cannot be quantified. My sweet mother's night prayers, and words of encouragements has contributed greatly towards the success of this work. Additionally, my wonderful dad's constant listening hears to my jargons and his support in terms of downloading numerous articles and countless financial supports cannot but be appreciated. Not forgetting the support of my lovely siblings- Reverend Femi and Mrs. Bunmi Ogundare, Dr. Oludele Popoola for their supports and words of encouragements.

Lastly, once again, I want to give all the glory to the great and only wise God for his love, kindness, mercies and grace for allowing me to fulfil and achieve one of my dreams. I love you Jesus.

List of Abbreviations

AIDs	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
CEB	Children Ever Born
CHW	Community Health Worker
CI	Confidence of Interval
DC	Delivery Care
EA	Enumerator Area
FCT	Federal Capital Territory
FGD	Focused Group Discussion
FMOE	Federal Ministry of Education
FMOH	Federal Ministry of Health
HBM	Health Behaviour Model
HFD	Health Facility Delivery
HIV	Human Immunodeficiency Virus
IC	Informed Consent
ICPD	International Conference on Population and Development
IDMC	International Displacement Monitoring Council
IDPs	Internally Displaced Persons
IDW	Internally Displaced Women
IOM	International Organization for Migration
IUD	Intra-uterine Device
IRB	Institutional Review Board

JTF	Joint Task Force
KDHS	Kenya Demographic Health Survey
KMs	Kilometers
LGA	Local Government Area
LRA	Lords' Resistance Army
LSRJ	Law Students for Reproductive Justice
MC	Modern Contraceptives
MMR	Maternal Mortality Ratio
NBS	National Bureau of Statistics
NDHS	Nigerian Demographic Health Survey
NEMA	National Emergency Authority
NGOs	Non-Governmental Organizations
NPC	National Population Commission
NSCDC	Nigeria Security and Civil Defence Corps
NWU	North West University
OR	Odds Ratio
PNC	Postnatal Care
PTSD	Post Traumatic Stress Disorders
PRB	Population Reference Bureau
RA	Research Assistance
RHS	Reproductive Health Services
SDGs	Sustainable Development Goals
STIs	Sexually Transmitted Infections

TBA	Traditional Birth Assistants
TFR	Total Fertility Rate
TV	Television
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations International Children's Emergency Fund
UN	United Nations
UNOCHA	United Nations Office for the Humanitarian Affairs
USA	United States of America
WHO	World Health Organization

Table of Contents

Declaration	i
Dedication.....	ii
Acknowledgements	iii
List of Abbreviations	v
Table of Contents.....	viii
List of Tables	xiii
List of Figures	xiv
Abstract	xv
CHAPTER ONE.....	1
INTRODUCTION TO THE STUDY	1
1.1 Background to the study	1
1.2 Factors affecting the utilization of Reproductive Health Services.....	2
1.2.1 Factors affecting the utilization of contraceptives.....	2
1.2.2 Factors affecting antenatal care visits	3
1.2.3 Factors affecting the uptake of health facility delivery	4
1.4 Utilization of reproductive health services in Nigeria	6
1.5 Utilization of reproductive health services by internally displaced women	9
1.6 Problem statement	10
1.7 Aim and objectives of the Study	13
1.8 Research question.....	13
1.9 Research hypotheses.....	14
1.10 Justification of the study	15
1.11 Thesis outline	18
CHAPTER TWO	20
LITERATURE REVIEW	20
2.1. Introduction.....	20
2.2 The magnitude of population displacements	20
2.4 Overview of reproductive health services among Internally Displaced Women	22
2.5 Barriers to uptake of reproductive health services	25
2.5.1 Predisposing factors.....	25
2.5.2 Enabling factors.....	28
2.5.3 Needs factors	30
2.6 Factors impeding utilization of RHS by IDW.....	31

2.7	Theoretical Framework.....	34
2.7.1	Relevance of Andersen's model current study.....	36
2.7.2	Conceptual Framework.....	38
CHAPTER THREE		41
METHODOLOGY OF THE STUDY		41
3.1	Introduction.....	41
3.2	The study setting.....	42
3.2.1	Geographical settings.....	43
3.2.2	Demographic profile of Nigeria.....	44
3.2.3	Social context of study setting.....	45
3.3	Study design.....	48
3.3.1	Mixed methods research paradigm.....	49
3.3.2	Data collection instruments.....	50
3.4	Sampling design and strategies.....	54
3.4.1	Selection of camps.....	54
3.4.2	Sample size determination.....	54
3.4.3	Sampling for the qualitative research paradigm.....	56
3.4.4	Sampling for quantitative research paradigm.....	56
3.5	Data collection methods.....	57
3.5.1	Focus Group Discussion.....	57
3.5.2	Face to face interview method.....	58
3.6	Data quality assurance.....	59
3.7	Data analysis and presentation.....	61
3.7.1	Qualitative data analysis.....	61
3.7.2	The quantitative data analysis.....	62
3.8	Ethical Consideration.....	67
3.9	Study Limitations.....	68
CHAPTER FOUR		70
PROFILE OF INTERNALLY DISPLACED WOMEN BY PREDISPOSING, ENABLING AND REPRODUCTIVE NEEDS CHARACTERISTICS.....		70
4.1	Introduction.....	70
4.2	Predisposing factors.....	71
4.3	Enabling factors.....	75
4.4	Needs factors.....	79
4.5	Summary.....	81

CHAPTER FIVE.....	83
THE PREVALENCE OF AND PREDICTORS OF CURRENT USE OF CONTRACEPTIVE AMONG IDW IN NIGERIA.....	83
5.1 Introduction.....	83
5.2 The Health Behaviour Model.....	85
5.3 Uptake of modern contraceptives.....	86
5.4 Differentials in current use of contraceptives.....	90
5.4.1 Differentials in current use of contraceptives by predisposing factors.....	91
5.4.2 Differentials in modern contraceptives uptake by enabling factors.....	93
5.4.3 Differentials in the current use of contraceptives by need factors.....	100
5.5 Predictors of current use of contraceptives.....	104
5.6 Summary.....	110
CHAPTER SIX.....	113
THE PREVALENCE AND PREDICTORS OF THE RECOMMENDED NUMBER OF ANTENATAL CARE VISITS IN NIGERIA.....	113
6.1 Introduction.....	113
6.2 Uptake of Antenatal care services.....	117
6.3 Differentials in ANC uptake.....	121
6.3.1 Differentials in antenatal care uptake by predisposing factors.....	121
6.3.2 Differentials in antenatal care uptake by enabling factors.....	128
6.3.3 Differentials in antenatal care uptake by perceived or actual need factors.....	132
6.4 Predictors of attending <4 and 4 or more ANC visits.....	134
6.5 Summary.....	143
CHAPTER SEVEN.....	145
THE FACTORS PREDICTING THE UPTAKE OF HEALTH FACILITY DELIVERY AMONG IDW IN NIGERIA.....	145
7.1 Introduction.....	145
7.1.2 Theoretical framework.....	148
7.2 Place of delivery.....	149
7.2.1 Reasons for home deliveries.....	151
7.2.2 Reasons for delivery in a health facility.....	152
7.2.3 Personnel who assisted at delivery.....	154
7.3 Differentials in place of delivery.....	155
7.3.1 Differentials in place of delivery by predisposing factors.....	155
7.3.2 Differentials in place delivery by enabling factors.....	161

7.3.3	Differentials in place of delivery by need factors	167
7.4	Predictors of uptake of delivery in health facilities	169
7.5	Summary	176
CHAPTER EIGHT.....		179
THE PERSPECTIVES OF IDW ON UTILIZATION OF AND BARRIERS TO REPRODUCTIVE HEALTH SERVICES IN NIGERIA.....		179
8.1	Introduction.....	179
8.2	Methodology	181
8.3	Socio-demographic profile of study participants	182
8.4	Utilization of Reproductive Health Services.....	185
8.5	Knowledge, perceptions and utilization of modern contraceptives	186
8.5.1	Knowledge of modern contraceptives	186
8.5.2	Utilization of modern contraceptives	187
8.5.3	Perceived barriers to uptake of modern contraceptive methods	189
8.6	Perceptions and utilization of antenatal care	192
8.6.1	Knowledge of antenatal care	193
8.6.2	Utilization of antenatal care	194
8.6.3	Perceived barriers to utilization of antenatal care	195
8.7	Utilization of delivery care.....	199
8.7.1	Knowledge of health facility delivery	199
8.7.2	Utilization of health facility for delivery	200
8.7.3	Perceived barriers to health facility delivery	202
8.8	Summary	204
CHAPTER NINE		207
SUMMARY OF KEY FINDINGS, DISCUSSION, CONCLUSION AND RECOMMENDATIONS		207
9.1	Introduction.....	207
9.2	Summary of findings.....	208
9.2.1	The profile of the IDW	208
9.2.2	Prevalence of and predictors of current use of contraceptive	209
9.2.3	Prevalence and predictors of antenatal care visits	210
9.2.4	Factors predicting the uptake of health facility delivery	211
9.2.5	Perspectives on and barriers to reproductive health services	211
9.3	Discussion of main findings	213
9.3.1	Current utilization of contraceptives	214

9.3.2	Attendance and predictors of attending 4 or more ANC visits	222
9.3.3	Prevalence of and predictors of health facility delivery	228
9.4	Conclusions	232
9.5	Recommendations.....	234
9.6	Areas of future studies.....	235
References		237
APPENDIX 1		296
APPENDIX II		300

List of Tables

Table 4.1	Profiles of internally displaced women by predisposing factors	74
Table 4.2	Profiles of internally displaced women by enabling factors	77
Table 4.3	Profile of internally displaced women by perceived or actual reproductive health needs	81
Table 5.1	Percentage distribution of women by contraceptives uptake and predisposing characteristics	93
Table 5.2	Percentage distribution of women by modern contraceptives uptake and enabling characteristics.....	98
Table 5.3	Differentials in current contraceptive use by selected need factors	102
Table 5.4	Logistic regression model showing factors predicting current use of contraceptive among IDW	107
Table 6.1	Percentage distribution of women by antenatal care uptake and predisposing characteristics.....	125
Table 6.3	Percentage distribution of women by antenatal care uptake and enabling characteristics	132
Table 6.4	Unadjusted multinomial logistic regression model showing Odds Ratios predicting factors influencing attending <4 and 4+ ANC visits relative to no ANC.....	137
Table 6.6	Adjusted multinomial logistic regression model showing Odds Ratios predicting factors influencing attending <4 and 4+ ANC visits relative to no ANC	141
Table 7.1	Percentage distribution of IDW by place of delivery and selected predisposing factors	158
Table 7.2	Percentage distribution of IDWby place of delivery and sources of information..	162
Table 7.3	Percentage distribution of IDWby place of delivery by selected enabling factors	166
Table 7.4	Percentage distributions of IDWby place of delivery and selected needs factors	168
Table 7.5	Logistic regression model showing odds ratios predicting the health facility delivery of the most recent birth by IDW	173
Table 8.1	Socio-demographic characteristics of IDW by camps	184
Table 8.2	Number of reproductive health uptake among IDW in northern Nigeria.....	185

List of Figures

Figure 2.1	Individual Determinants of Health Service Utilization. Source: (Andersen and Newman, pp.14, 2005).....	36
Figure 2.2	Conceptual framework on barriers to reproductive health services among internally displaced women (adapted from Andersen and Newman, 2005)	40
Figure 3.1	Map of Africa showing the location of Nigeria	43
Figure 3.2	Map of Nigeria showing the regional distributions in the country	46
Figure 3.3	Map of Nigeria showing the distribution of IDP camps in the northern region, Nigeria	48
Figure 5.1	Percentage distribution of IDW by any modern contraceptive uptake and method use.....	87
Figure 5.2	Percentage distribution of IDW by knowledge of sources of modern method of contraception.....	89
Figure 5.3	Percentage distribution of IDW by current use of condom as a contraceptive and sources of condoms	90
Figure 6.1	Percentage distribution of IDW by number of ANC visits during the last pregnancy	118
Figure 6.2	Percentage distribution of IDW by the timing of the first ANC visit.....	120
Figure 6.3	Percentage distribution of IDW by type of ANC service provider	120
Figure 6.4	Percentage distributions of IDW by number of ANC attended during last pregnancy and previous experience of pregnancy complications.....	133
Figure 6.5	Distribution of IDW by history of delivery complications and attendance of ANC	134
Figure 7.1	Percentage distribution of IDW by place of delivery of the most recent birth	150
Figure 7.2	Percentage distribution of IDW by reasons for delivering at home	151
Figure 7.3	Percentage distribution of IDW by reasons for delivery in a health facility	153
Figure 7.4	Percentage distributions of women by type of complications.....	153
Figure 7.5	Percentage distribution of IDW by attendant at the most recent birth	155

Abstract

Introduction

Uptake of Reproductive Health Services (RHS) among Internally Displaced Persons (IDPs) is one of the lowest in the world and remains low even though IDPs are in safer areas where access to RHS should not be a problem. The study assessed the utilization of three continuum of RHS including contraception, antenatal care and delivery care among Internally Displaced Women (IDW) in northern Nigeria.

Methods

The study used cross-sectional research design and data on 422 women from three IDPs' camps. The sample was drawn from a population of IDW aged 15-49 years old who have ever given birth. The data was collected by the use of a structured questionnaire and Focus Group Discussion guide. The binary and multinomial logistic regression models were used for the quantitative analysis, while qualitative data was analysed by the thematic approach using the NVIVO 11 qualitative data analysis software.

Results

The results show that age group 25-34 (OR=0.49, CI=0.26-0.91); living more than 5 km from a health facility (OR=2.13, CI=1.12-4.03); and not wanting another child were significant predictors of current use of contraceptives by IDW after controlling for all covariates simultaneously. The result confirmed the hypotheses that "younger IDW are more likely than the older IDW aged >35 years to have been using contraceptives". However, the hypothesis that "IDW living within one kilometer to a health facility are more likely than those living more than 5 kilometers to a health facility" and "IDW who do not want another child are more likely to have been using contraceptives", were not confirmed. The control factors that remained significant predictors of current use of contraceptives: are being Muslim (OR=0.50, CI=0.29-0.89), having regular access to the radio (OR=1.89, CI=1.09-3.29) and living in Durumi (OR=2.81, CI=1.15-6.88) and New-Kachinguro camps (OR=0.30, CI=0.14-0.67).

The results of the multinomial logistic regression model, which tested for the factors predicting the uptake of 4 or more ANC visits relative to no ANC visit revealed that IDW with no education (OR=46, CI=0.22-0.94) are significantly less likely to have attended the 4 or more ANC visits. The result also revealed that IDW who lived within one km to a health facility and IDW with a history of delivery complications were 1.01 (CI=1.47-4.14) and 1.74 (CI=1.05-3.17) times respectively significantly more likely to have attended the 4 or more ANC visits. The findings confirmed the hypotheses that "IDW with no education are significantly less likely to have attended the 4 or more ANC visits"; "IDW living within one km to a health facility are significantly more likely to have attended the 4 or more ANC visits"; and "IDW with a history of delivery complications are significantly more likely to have attended the 4 or more ANC visits". The result also shows that the significant control factors of attending the 4 or more ANC visits are: being a Christian (OR=0.45, CI=0.22-0.93); living in an urban camp (OR=3.24, CI=1.45-7.25); living in Durmi camp (OR=1.21, CI=0.12-0.77); living in New-Kuchingoro camp (OR=0.30, CI=0.91-2.11); and having a regular access to the radio (OR=12, CI=0.03-0.46).

Regarding the findings on factors predicting health facility delivery, the results of the study shows that IDW living 5 or more Km from a health facility (OR=0.35; CI=0.17-0.72) and having no history of pregnancy complications (OR=0.24; CI=0.13-0.44) are significant predictors of being less likely to have had HFD. The finding also confirmed the hypotheses that "IDW were more likely to have delivered in health facilities if they lived within one kilometer of health facilities than if they lived more than five kilometers from a health facility"; and "IDW were more likely to have delivered in a health facility if they had a history of pregnancy complications than if they had no history of pregnancy complications". Of all the control variables in the model, only displacement in Durku camp (OR=0.34, CI=0.15-0.79), having no access to the radio (OR=0.41, CI=0.22-0.75) and poor attitude of health workers remained significant predictors of HFD (OR=0.17, CI=0.09-0.31) after controlling for all covariates simultaneously.

Results on perspectives on barriers to RHS among IDW revealed that, desire for more children to replace dead family members, poor knowledge on the need for ANC, non-functional clinics, scarcity of professional health workers in camps, lack of equipment in

the health facilities in camps, proximity to health facilities and poor attitude of health workers are barriers to uptake of RHS. Other barriers identified are poor timing of delivery, poor communication between mothers and health workers during referrals, availability of traditional birth assistants in camps and sudden onset of labour.

Conclusion

Overall, it can be concluded from the evidence in the study that current use of contraceptives; attending the recommended 4 or more ANC visits during the last pregnancy; and delivering the last birth in health facilities is low among IDW, which could explain the high rate of poor maternal health and infant mortality among IDW in Nigeria.

Recommendations

Greater attention to RHS during humanitarian emergencies by the government and humanitarian agencies is required to improve the uptake of RHS by IDW. This can be done by ensuring greater investments in health services in IDP camps and addressing the RHS needs of IDW specifically. Additionally, greater security in IDP camps are required in order to improve health service delivery in general and RHS for women in particular.

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Background to the study

Evidence from many countries in sub-Saharan Africa indicates that maternal and new-born mortality is much higher compared to elsewhere in the world because of poor utilization of Reproductive Health Services (RHS). These services are characterized by low prevalence of contraception; not attending, late initiation or attending less than the recommended number of antenatal care (ANC) visits; and delivering at home in the care of relatives, friends and untrained Traditional Birth Attendants (TBAs) (Merdad & Ali, 2018). A number of factors have been identified to contribute to the poor utilization of RHS in sub-Saharan African countries. These include the demographic and social characteristics of women; structural community and environmental factors and health facility related factors; and more importantly lack of knowledge and poor perceptions regarding the need to utilize the main components of RHS which are contraception, ANC visits and Health Facility Delivery (HFD).

In the following sections of this chapter, the prevalence of each of the above RHS were described; the factors that influence their utilization were explained; and the importance of conducting the research on the status and current utilization of contraceptives, number of ANC visits and Health Facility Delivery (HFD) among Internally Displaced Women (IDW) in Northern Nigeria were discussed. The chapter also outlined the main objective, specific objectives, research question and the rationale for the study. The thesis outline was also described.

1.2 Factors affecting the utilization of Reproductive Health Services

In this study, the factors that affect the utilization of RHS have been described in under three main domains. These include contraception, antenatal care and place of delivery.

1.2.1 Factors affecting the utilization of contraceptives

Contraception, aimed to prevent unintended, unplanned and mistimed pregnancy, is the first RHS that is important for the health of women and new-born children. A number of previous studies in sub-Saharan Africa have shown that the use of contraceptives in this world region has been low (Gebremichael et al., 2014; Polis et al., 2016; Tsui, Brown, & Li, 2017), which explains the high fertility in these countries (Bongaarts, 2017; Westoff, Bietsch, & Koffman, 2013). The high fertility, characterized by short birth intervals, is the main underlying cause of pregnancy and delivery complications and the rather high maternal and new-born mortality (Fotso, Cleland, Mberu, Mutua, & Elungata, 2013; Hailu & Gulte, 2016; Wencak, 2013).

The utilization of contraceptives has been affected by demographic, socioeconomic and health facility related factors. Some of the demographic factors that affect the utilization of contraceptives are age, parity and survival status of new-born children. These factors are associated with the low prevalence of contraceptive use among younger and older women (Asiimwe, Ndugga, Mushomi, & Ntozi, 2014; Ochako, Temmerman, Mbondo, & Askew, 2017); women of low parity and women whose children have died (Palamuleni, 2013; Paul, Ayo, & Ayiga, 2015). The social factors that influence knowledge, perceptions and utilization of contraceptives have been identified as the level of education, religious affiliation and place of residence. Studies showed that having no

and having primary education, being a Christian, and living in a rural area is associated with low prevalence of contraception (Blackstone, Nwaozuru, & Iwelunmor, 2017; Feleke, Koye, Demssie, & Mengesha, 2013; Rourke, 2015). Another set of factors that have been found to affect utilization of contraceptives are structural in nature and these include access to sources of information regarding contraceptives (Z. D. Ahmed, Sule, Abolaji, Mohammed, & Nguku, 2017; Alege, Matovu, Ssensalire, & Nabiwemba, 2016); access to health facilities able to provide a wide range of contraceptives (Machira & Palamuleni, 2017; Shiferaw et al., 2018); and attitudes of health workers towards the use of contraceptives by women, but especially by young and unmarried women (Tshitenge, Nlisi, Setlhare, & Ogundipe, 2018).

1.2.2 Factors affecting antenatal care visits

The second important RHS for the health of women and new-born children is attending the recommended number of ANC visits in each pregnancy. Evidence from previous studies in sub-Saharan Africa suggests that most women in the region do not attend the recommended 4 ANC visits in their pregnancies, and those who attend ANC at all, make the first visit late (Pell et al., 2013; Rurangirwa, Mogren, Nyirazinyoye, Ntaganira, & Krantz, 2017). A number of factors, demographic, social and health facility related factors were found by previous studies to affect ANC visits. One of the demographic factors that impedes attending the 4 or more ANC visits is age, which shows that younger women initiate ANC attendance late and older women attend less than 4 ANC visits in a pregnancy (Dansereau et al., 2016a; Yaya et al., 2017a). The socioeconomic characteristics of women that affect ANC visits are the level of education, religious affiliation and place of residence. Previous studies found that less educated women

either do not attend ANC visits, initiate ANC visit late or attend less than 4 ANC visits in a pregnancy (Tesfaye, Loxton, Chojenta, Semahegn, & Smith, 2017; Yadeta & Kumsa, 2017). Religious affiliation also affect the number of ANC visits with some studies indicating conflicting findings between Christians and Muslim, while traditionalist do not attend ANC visits at all (Adewuyi et al., 2018a; Nsibu et al., 2016a). Previous studies also found that women in urban areas are more likely to attend the 4 or more ANC visit than women in rural areas (Yaya et al., 2017a). The role of health facility factors also affects the number of ANC visits. These include the proximity of health facilities and poor quality of services including attitudes of health workers towards pregnant women (Akowuah, Agyei-Baffour, & Awunyo-Vitor, 2018; Kawungezi et al., 2015a). The majority of the findings suggest that women who live near health facilities and those who perceive that health workers have a good attitude to pregnant women attended the 4 or more ANC visits compared to women who live far from health facilities and experience poor attitudes of health workers.

1.2.3 Factors affecting the uptake of health facility delivery

The third and perhaps the most important factor in the health of mothers and new-born children is the place of delivery. Delivery is a very serious risk factor to women and new-born children because of its association with various delivery complications which could end in maternal mortality or what has now come to be known as maternal near miss, if a woman survives (Nansubuga, Ayiga, & Moyer, 2016). The proximate causes of maternal mortality are now well known and they include hemorrhage during and after birth, acute hypertension during labour, infections during and after labour due to poor hygiene, obstructed labour and rapture of the uterus during labour (Jolivet et al., 2018).

There are also underlying conditions or factors that can exacerbate the likelihood of maternal and new-born mortality. The most common of these in sub-Saharan Africa are HIV infection, malaria and chronic non-communicable diseases infections (Filippi, Chou, Ronsmans, Graham, & Say, 2016). The causes outlined above require that mothers must deliver their children in health facilities. However, in many societies in sub-Saharan Africa, HFD is low for a number of reasons. These include demographic, socioeconomic and health facility level factors.

One of the demographic factors that previous studies identified to influence HFD is the age of women. Most of these studies revealed that choice of HFD is more common among younger women than older women (Belay & Sendo, 2016; Garg, Shyamsunder, Singh, & Singh, 2010; Tebekaw, James Mashalla, & Thupayagale-Tshweneagae, 2015). Additionally, previous studies also identified some social factors as significant predictors of the choice of place of delivery. These include the level of education, place of residence and religious affiliation of women. These studies found that women with no or low education are less likely to deliver in a health facility (Dickson, Adde, & Amu, 2016; Jolivet et al., 2018); and women residing in rural areas are less likely than those in urban areas to deliver in a health facility (Akintoye & Opeyemi, 2014; Kitui, Lewis, & Davey, 2013). However, a few studies have contradicting findings on the effect of religion on the place of delivery. While a study by Deyo (Deyo, 2012) and Al-Mujtaba et al. (Al-Mujtaba et al., 2016) found Muslims are less likely to deliver in a health facility, another study by Boah and Mahama (Boah, Mahama, & Ayamga, 2018) and Kalule-Sabiti (Kalule-Sabiti, Amoateng, & Ngake, 2014) found the reverse to be true for Christians.

Some of the factors that reduce the likelihood of HFD and increase the likelihood of maternal mortality or maternal near miss are summarized by the three delays (Barnes-Josiah, Myntti, & Augustin, 1998), which include: lack of or inadequate ANC visits (Doctor, Nkhana-Salimu, & Abdulsalam-Anibilowo, 2018); the failure to understand the need for health facility delivery reinforced by cultural beliefs that lead to the delays in decisions thereof (Lowe, Chen, & Huang, 2016; Roro, Hassen, Lemma, Gebreyesus, & Afework, 2014; Sarker et al., 2016); long distances to health facilities (Moyer & Mustafa, 2013a); and lack of or inefficient delivery referral systems which makes it difficult for women to overcome challenges caused by rapid onset of labour, physical and climatic barriers (Amoah & Phillips, 2017; Kumbani, Bjune, Chirwa, & Odland, 2013). Another factor associated with health facilities that have become worrisome are delays in taking action at the health facility which discourage mothers from opting for HFD. Key among these are poor attitude of and delays by health workers to mothers during delivery, which lead to perceived or actual mistreatment during delivery (Bohren et al., 2015; Pearson, Larsson, Fauveau, & Standley, 2016); and stock-outs of essential medicines such as oxytocine, which could cause many women to opt for traditional birth attendants (TBAs) (Aziato & Omenyo, 2018).

1.4 Utilization of reproductive health services in Nigeria

Compared to a number of other sub-Saharan African countries such as Kenya (Kenya National Bureau of Statistics & ICF Macro, 2015), Ghana (Ghana Statistical Service & ICF, 2018) and Botswana (Madzimbamuto et al., 2014) recent national level data on RHS shows that Nigeria has been performing poorly in these indicators. For example, only 15.1% of married women used contraceptives (National Population Commission -

NPC/Nigeria & ICF International, 2014). The prevalence of contraception is far lower in the conflict ridden North-Eastern Nigeria, which has led to a spike in unwanted, unplanned and poorly spaced pregnancies (Adewuyi et al., 2018a; Suleman Hadejia Idris, Sambo, & Ibrahim, 2013; Sinai, Anyanti, Khan, Daroda, & Oguntunde, 2017) and also where maternal and child health indicators are poorest (Guerrier, Oluyide, Keramarou, & Grais, 2013; Morakinyo & Fagbamigbe, 2017; Olusegun, Ibe, & Micheal, 2012).

Another domain of RHS that has performed poorly in Nigeria over the same period is antenatal care. Although attendance of 4 or more ANC visits increased in recent years, the overall rate is low (Adewuyi et al., 2018b) compared to Kenya, Ghana and Botswana. Additionally, a large proportion of women in Nigeria initiate ANC late leading to poor pregnancy and delivery outcomes (Fagbamigbe & Idemudia, 2017). Additionally, the majority of the women who do not attend ANC or initiate ANC visits late are IDW, most of them in North-Eastern Nigeria (Adewuyi et al., 2018b). Furthermore, assisted delivery in health facilities has remained low in Nigeria compared to other African countries. For example, 74%, 62% and 88% of births in Ghana, Kenya and Namibia respectively occurred in a health facility, however, the prevalence of HFD in Nigeria was only 36% (National Population Commission - NPC/Nigeria & ICF International, 2014). Most women in Nigeria who do not deliver in a health facility are facing displacement (Owoaje, Uchendu, Ajayi, & Cadmus, 2016).

Despite the relatively poor indicators of RHS outlined above, and the challenges of ethnic and religious catastrophes that continue to afflict Nigeria as a country, Nigeria is

currently the 2nd largest economy in Africa and has since 1999 evolved into one of the countries with a stable democratic and governance system on the African continent. The country also has a strong commitment in improving the health status of women and children through a strong commitment to provide maternal and health services. In 2014 Nigeria launched the five year programme on Maternal and Child Survival (MCSP). The aim of the programme was to use evidence based interventions to reduce maternal and new-born mortality in the country. At the African Union level, Nigeria adopted a number of continental conventions and declarations including but not limited to the Abuja Declaration, 2001 (African Union Commission, 2001); and the Maputo Plan of Action (African Union Commission, 2006) to show its commitment to improving the health status of its population in general and the maternal and child health initiatives by African Union member States.

At the global level, Nigeria is a signatory to the International Conference on Population and Development Programme of Action (UNFPA, 1994); the Millennium Development Goals (MDG), 2000 (United Nations, 2000); and the new Sustainable Development Goals (SDGs), (United Nations, 2016). These three global conventions reiterated commitments to eliminate preventable maternal and new-born deaths by 2030. The main targets of these initiatives that are directly linked to maternal and new-born health are: increased use of contraceptives; increased access to maternal health services such as ANC, skilled delivery care and post natal care. These are to be achieved in among other ways by increasing health budgets, health facility infrastructure; provision of essential medications at all times; training and skilling health personnel; and prevention of HIV and other diseases.

1.5 Utilization of reproductive health services by internally displaced women

One of the population groups with low utilization of RHS are IDW in humanitarian emergencies. This population of women can be described as hard to reach by RHS services. The high prevalence of unwanted pregnancy in settings where RHS are very limited or not available has serious implications for maternal and new-born mortality and could explain the rise in maternal mortality in North-Eastern Nigeria in the recent past. Internally displaced persons (IDPs) are people who are forced to flee their places of habitual residence for safety due to social, political and faith based persecution or because of natural disasters such as drought, famine, floods and earthquakes or manmade events such as major infrastructure projects.

Although, some of the events that cause the IDP phenomenon are similar to those of refugees, IDPs are different from refugees because they rotate within their own country's borders (Joshua et al., 2016) and unlike refugees which date back to the 1680s and more importantly after World War I, IDPs are a new phenomenon of the 20th Century (Gatrell, 1999; Purseigle, 2007). The United Nations High Commission for Refugees (UNHCR) estimated that by the end of 2017, about 40 million people worldwide are internally displaced and most of these people are in developing countries (Edwards, 2017). However, compared to refugees, IDPs constitute a seriously neglected and vulnerable population group of forced migrants mainly because of lack of financial and organizational commitments (Adewale, 2016; Fielden, 2008; Population Reference Bureau, 2005). As a result, they receive low humanitarian assistance in terms of health services. Even when these services are made available, the focus has been on the management of trauma, prevention of infectious diseases and under nutrition.

Although IDPs in Nigeria are increasingly being supported by the international community, and Nigeria is a signatory to the Kampala Convention on strengthening protection and care of IDPs in all aspects (Asplet & Bradley, 2012), the reproductive health indicators of IDP populations in Nigeria are still poor. The limited data available suggest that there is either no or limited effort to provide RHS for IDW in Nigeria (Oyelude & Nkem Osuigwe, n.d.). Even in conditions where RHS services are available, the utilization of the main domains of RHS namely contraception, ANC visits and HFD have remained low. This is notwithstanding that many of these IDPs are located in much safer areas such as Abuja and Nasawara States, where health services are ordinarily available. The question therefore is why are the prevalence rates of contraception, attending the recommended 4 or more ANC visits and delivery in health facilities low among IDW?

The main objective of the study was therefore to assess the prevalence of current use of contraceptives, attending the 4 or more ANC visits and delivering the last birth in a health facility by IDW, and identifying the main predictors of the low utilization of these RHS by IDW in selected IDP camps in Abuja and Nasawara States. The Health Behaviour Model (HBM) (R. Andersen & Newman, 1973) was used to examine the factors predicting the current use of contraceptives, attending the recommended 4 or more ANC visits and delivery in a health facility by IDW.

1.6 Problem statement

Although maternal and new-born mortality has declined globally, they have remained much higher in sub-Saharan African countries. This group of countries, including

Nigeria, constitutes the only major world region where the MDG target 4 and 5 were not achieved by the deadline date of 2015 (Akintoye & Opeyemi, 2014; Oleribe & Taylor-Robinson, 2016). Nigeria, with its enormous economic muscle as the second largest economy on the African continent and the political stability that followed the ascension of Retired General Olusegun Obasanjo as President in 1999, is one of the countries where the situation of maternal and new-born health and survival appeared to have slowed since 2010 (Kana, Doctor, Peleteiro, Lunet, & Barros, 2015; National Population Commission - NPC/Nigeria & ICF International, 2014).

No one factor can be used to explain the stagnation in maternal and new-born health reported by the 2013 Nigeria Demographic and Health Survey. However, one force that affected nearly 13 States in the North-Eastern part of Nigeria appears to provide some answers, and that is the Boko-Haram insurgency, which greatly impeded further progress in improving the health situation of the population in that region by massive disruptions of health systems and widespread population displacements (Dunn, 2018; Omole, Welye, & Abimbola, 2015; Yerima & Singh, 2017).

Whether or not and the extent to which maternal and new-born health deteriorated in the States most affected by the Boko-Haram insurgency is no longer a matter of debate. However, what remains unclear is why the Boko-Haram insurgency appears to have had a ripple effect on health of IDPs in general and IDW in particular even in relatively safe places where they sought safety as the health infrastructure in these places were not disrupted. In this study we proposed that IDP population in camps in Nigeria have been neglected and largely excluded from the health care system as a result of the

inadequate funding, inadequate and inaccessible health facilities and a weak and inadequate health workforce which impeded the effective utilization of RHS, which are a prerequisite for improving maternal and child survival. Additionally, the failure to effectively utilize RHS by IDW could have also been deliberate and on the devolution of IDW themselves as a result of the lack of or inadequate knowledge and poor perceptions regarding the need for the three RHS including contraception, regular ANC visits and HFD.

This study therefore assessed the prevalence of the utilization of the three continuum of RHS mainly current use of contraceptives, attendance of the recommended number of ANC visits and HFD. Additionally, the study examined the patterns of current utilization of contraceptives, ANC attendance and HFD to shed more light and information on factors associated with the utilization of these RHS. Furthermore, the study identified some of the barriers impeding utilization of contraceptives, ANC visits and HFD in the three IDP camps occupied by IDPs from North-Eastern Nigeria. In this regards, the study generated the knowledge needed to intervene and sustainably reverse the deteriorating maternal and new-born health situation among IDW in IDP camps and provide opportunities for replication and scale up of similar interventions in other IDP camps in Nigeria.

1.7 Aim and objectives of the Study

Knowledge of the status of utilization of the three continuums of RHS namely current use of contraceptives, number of ANC visits during the last pregnancy and Place of delivery of the last birth by IDW displaced by the Boko-Haram insurgency in North-Eastern Nigeria is not well documented. As a result, interventions to reverse the deteriorating status of maternal and new-born health and survival have been lacking or inadequate. This study therefore assessed the prevalence of current use of contraceptives, number of ANC visits and prevalence of HFD among IDW from North-Eastern Nigeria, and identified the factors influencing them.

The specific objectives of the study were to:

- i. assess the status of RHS focusing on current use of contraceptive, number of ANC visits and place of delivery by IDW;
- ii. examine the patterns of current use of contraceptives, number of ANC visits and place of delivery by IDW;
- iii. identify the factors predicting current use of contraceptives, number of ANC visits and place of delivery by IDW; and
- iv. explore the perspectives of IDW on utilization of the three continuums of RHS and barriers to RHS in camps of displacement.

1.8 Research question

The general research question of the present study was: "What is the utilization status of contraceptives, ANC visits and HFD by IDW and what are the main barriers impeding

the utilization of the three continuums of RHS by IDW from North-Eastern Nigeria? The specific research questions addressed by this study were:

- i. What is the prevalence of current use of contraceptives, the recommended number of ANC visits and HFD among IDW from North-Eastern Nigeria?
- ii. What are the factors associated with the current use of contraceptives, the recommended number of ANC visits and HFD among IDW from North-Eastern Nigeria?
- iii. What are the perceptions of women regarding contraception, ANC visits and HFD among IDW from North-Eastern Nigeria?; and
- iv. What are the barriers to the current use of contraceptives, ANC visits and HFD among IDW from North-Eastern Nigeria?

1.9 Research hypotheses

Despite the reduction in maternal and new-born mortality globally, Nigeria did not meet the targets for MDGs 4 and 5 by 2015 (Oleribe & Taylor-Robinson, 2016). Barriers to contraception, ANC visits and HFD were some of the main proximate factor contributing to the failure to meet the MDG 4 and 5 targets (Adedini, Odimegwu, Bamiwuye, Fadeyibi, & Wet, 2014; Sinai et al., 2017). One of the underlying causes to these barriers is displacement of populations (Onuegbu & Salami, n.d.). This section of the study therefore outlined the hypotheses tested to explain the poor utilization of RHS by IDW from North-Eastern Nigeria. The hypotheses are:

- i. IDW living within one kilometers to a health facility were more likely than those living more than 5 kilometers from a health facility, to have been using contraceptives;
- ii. IDW who did not want to have any additional child were more likely than those who wanted to have another child soon, to have been using contraceptives;
- iii. IDW with no/primary education were significantly less likely to have attended the 4 or more ANC visits relative to no ANC visit than IDW with secondary or higher education;
- iv. IDW living within one km to a health facility were significantly more likely to have attended the 4 or more ANC visits relative to no ANC visit than IDW living more than five km from a health facility;
- v. IDW were significantly less likely to have delivered in health facilities if they lived more than 5 kilometers from a health facility than if they lived within one kilometer to a health facility; and
- vi. IDW were significantly less likely to have delivered in health facility if they had no previous experience of pregnancy complications than if they had a previous experience of pregnancy complications.

1.10 Justification of the study

One of the critical health problems faced by women in humanitarian emergencies and post humanitarian emergencies are RHS. The need for these health services do not arise by accident. They are a result of a number of events. Firstly, during emergencies, the vulnerability of women and girls to sexual and reproductive health challenges is

increased mostly by the pervasiveness of sexual violence and sexual exploitation. Although evidence that IDW and refugee women are acutely sexually abused and exploited which increases their risks of unwanted pregnancies and sexually transmitted infections (STIs), administrative and legal actions to address these human rights abuses during emergencies is poorly addressed (Marsh, Purdin, & Navani, 2006). There is now a lot of evidence that indicates that sexual violence against women and girls has become a weapon of war (Baaz & Stern, 2013; Eriksson Baaz & Stern, 2013); and the powerlessness of women and their dependence during crisis have also increased their vulnerability and susceptibility to sexual exploitation by the very agencies whose primary role is protecting them (Mudgway, 2017) and by parties in conflict as sex slaves. This study therefore raises awareness on the plight of women in IDP settings and the importance and urgency to address the underlying causes of the need for RHS in emergency settings.

The second important dimension is the neglect of the RH needs of women in emergencies (Population Reference Bureau, 2005; Swatzyna & Pillai, 2013; Waldman, 2001). This is mainly because during humanitarian emergencies, priorities for action focus more on the immediate needs of biosocial and biomedical nature of IDPs and refugees. These needs include treatment and management of trauma and infectious diseases outbreaks (Stewart, 2003; Toole & Waldman, 1993, 1997). Other important areas of focus are food, water and shelter (Lafta, Aflouk, Dhiaa, Lyles, & Burnham, 2016; Maxwell & Parker, 2012). The lack of RHS such as contraceptives and lifesaving obstetric care has caused increased unintended pregnancies, unsafe abortions and sometimes death of women in IDP camps (Owoaje et al., 2016). In this regard, this

study is important as it could help raise more awareness on the need for RHS and its provision for IDPs by humanitarian organizations and governments as part of the essential package for IDPs.

Thirdly, although the neglect of IDPs in terms of provision of quality RHS has been noted previously and is not a matter of debate for some time, studies that examine the factors influencing the utilization of RHS by IDW have been few. In order to identify and critically examine barriers to RHS, this study used the Andersen's behavioral model (R. Andersen & Newman, 1973), which argued that utilization of health services is influenced by the position of individuals in society; availability of health care services; and the decisions made by individuals after a careful assessment of the need for that service. The model is relevant for the study of utilization of the RHS continuum of care among IDW because of their vulnerability. This study therefore was premised by the lack of focus on this vulnerable and marginalized population. The findings are expected to provide information for government and humanitarian agencies in designing interventions which could holistically suit the context of the IDW from North-Eastern Nigeria.

Fourthly, the study is based on the population of IDW from the 13 States in the North-Eastern and North-Western regions of Nigeria which are most affected by the Boko-Haram insurgency. These States include Adamawa, Bauchi, Gombe, Taraba, Yobe and Borno States, which have by far experienced the highest number of population displacement. Previous studies have revealed that utilization of RHS by women in these States have traditionally been low (National Population Commission - NPC/Nigeria &

ICF International, 2014; Peters et al., 2008). Other studies have also revealed that the population of these region have remained poorly educated which could have greatly influenced the already low utilization of RHS (Omo-Aghoja, 2013). Most of the displaced populations have sought refuge in the neighboring States of Abuja, Kaduna, Kano, Nasarawa and Katsina and might have brought along social and cultural attitudes and beliefs that impede utilization of contraceptives, ANC visits and HFD.

1.11 Thesis outline

The thesis is divided into nine chapters. Chapter one presents the conceptual outline of the study and includes the background, problem statement, aim and a set of specific objectives, research questions and study hypotheses. It also presents the rationale for the study and the thesis outline. In chapter two, the literature review described the status of RHS in sub-Saharan Africa in general and Nigeria in particular, the status of RHS among IDW, the factors influencing RHS utilization and barriers to the utilization of RHS. Also presented in Chapter two are the theoretical framework and the conceptual framework. Chapter three presents a detailed research methodology. These include the research settings, research design, sampling design and methods of data collection and analysis. In Chapter four the profile of the research subjects was described, while Chapters five and six presented prevalence of and predictors of modern contraceptive use by internally displaced women in the selected camps in Nigeria and prevalence and predictors of uptake of antenatal care by IDW respectively. In Chapter Seven, the factors that predict place of delivery of IDW in Nigeria were presented and Chapter eight presented the perspectives of IDW on utilization and barriers to reproductive health services with a focus on contraceptives ANC visits and HFD. Chapter nine presents the

summary of the major findings, discussions of main results, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter presents the historical background of displacement across the world showing that war, conflicts and violence have been the most common cause of displacement across the world. Further, the global overview of reproductive health services to IDW was defined and discussed. Additionally, the chapter presents the theoretical framework that was used as a basis for the study and the conceptual framework that can be used to explain utilization of Reproductive Health Services (RHS) among Internally Displaced Women (IDW).

2.2 The magnitude of population displacements

Over the years, a lot of people have been forced to flee their homes and seek for refuge and safety elsewhere due to wars, conflicts and persecutions. Specifically, forced displacement has been on the rise since the mid-1990s (Edwards, 2016), mostly in developing countries, including sub-Saharan Africa (Uganda, Côte d'Ivoire, Central African Republic, Libya, Mali, Nigeria, Democratic Republic of Congo, South Sudan and Burundi); the Middle East (Syria, Iraq, and Yemen); Eastern Europe (Ukraine); and Asia (Kyrgyzstan, and in several areas of Myanmar and Pakistan). Even though reports on forced displacement was tracked based on data from governments and partner agencies, the UNHCR (2015b) reported 65.3 million people were displaced by 2015. Of these 38.2 million people were displaced inside their own countries; (up from 33.3 million in 2013), and 1.8 million people were awaiting the outcome of claims for asylum (against 1.2 million in 2013) (Edwards, 2017). Nearly all these IDPs live in camps with

appalling health conditions. One of the health needs frequently neglected in IDP setting is RHS.

2.3 Internally displaced persons in Nigeria

The first IDPs in Nigeria occurred in the 1960s. The first displacement occurred in 1963-1964 as a result of rebellion against traditional rulers and kings within in northern Nigeria; the second was as a result of the Nigerian civil war between 1966 and 1970; the third displacement was in 1992-1999 as a result of ethnic conflicts between the Yoruba and the Hausa (D. E. Agbibo, 2013; Kifordu, 2011). Another conflict, worth noting which led to large scale displacement was religious in nature between Muslims fundamentalists, moderates and Christians in the northern states of Kano and Kaduna.

The Boko-Haram insurgency led by Muslim fundamentalists is the most recent conflict in Nigeria has claimed the lives of millions and displaced more than 2 million people in the North-Eastern region of Nigeria in last 10 years, the Boko-Haram insurgency started an affiliate of Al-Qaeda in 2009 as an instrument against way of life and to Islamize Nigerian citizens (Shuaibu, Salleh, & Shehu, 2015). The Boko-Haram insurgence gained their notoriety in 2014 when they abducted 250 female students from a government secondary school at Chibok in Borno State (Zenn, 2014).

2.4 Overview of reproductive health services among Internally Displaced Women

According to Creel (Creel, 2002) RHS is one of the most crucial elements that can save lives, improve health, and give displaced people basic human welfare and dignity. As defined by World Health Organization (WHO), reproductive health is a state of complete physical, mental and not merely the absence of disease or infirmity, in all matters relating to the reproductive health system and to its functions and process. RHS therefore, implies that people can have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. The RHS of women who are marginalized in a population are crucial and important (K. F. Austin, Noble, & Mejia, 2014). According to Adewuyi et al. (Adewuyi et al., 2018b), IDW who in many parts of the world have limited access to RHS face specific and serious threats to their reproductive health rights.

Worldwide, approximately 75% to 80% of all those affected by displacement are children, women and youth who need RHS (Edwards, 2017). These IDW are most in need for emergency RHS due to their unstable status, vulnerabilities and exposure to violent conflict situations which lead to sexual abuse and victimization with little to no access to obstetric services and increased incidences of sexually transmitted diseases. Additionally, IDW face additional barriers in accessing RHS due to a breakdown of pre-existing family support and their loss of income to pay for the services (Levey et al., 2017).

In a study conducted by Michelle et al. (Hynes, Sheik, Wilson, & Spiegel, 2002) on refugee maternal mortality in 10 countries (namely; Bangladesh, Chad, Ethiopia, Kenya, Nepal, Rwanda, Sudan, Tanzania, Uganda, and Zambia), it was observed that the direct, indirect and contributing causes of maternal death include not only medical causes, but also social factors, many of which are avoidable. According to Barnes et al., (Barnes-Josiah et al., 1998) there are three specific types of delays that can play a role in maternal death: delay in seeking care, delay in reaching care and delay in receiving care. It revealed further that the decision to seek care is influenced by myriad factors, including a woman's control over making that decision, financial considerations, the availability of health care, perceptions of the quality of care and the ability of decision makers to recognize the need for care. Therefore, delays in reaching care occur when those who seek treatment are hindered by the cost, a lack of access to maternal health services, transportation and by the absence of local health care facilities all of which are likely to be the plight of the displaced women (O'hare & Southall, 2007).

Studies have revealed several factors leading to poor reproductive health services among the internally displaced women. For example, Barnes at al., (Barnes-Josiah et al., 1998), expressed in their study that RHS was available within a reasonable distance to camps where the study was conducted, however, other factors such as, the unavailability of supplies or trained providers, a poor referral system that impedes access to higher levels of care all delayed getting care to displaced women. Often times, more than one delay occurs at the same time.

Another factor which has been identified to be negatively associated to uptake of RHS among IDW is the issue of single parenting. It was reported that in many displaced situations, men may have been killed or even be participants in the conflict, thereby, leaving women to take up the sole childcare responsibilities and often multiple children which makes it more difficult for women to seek for health care, particularly for inpatient care.

Reproductive Health Services must be sensitive to the needs of quick access to care such as, emergency care for RHS of individual IDW and responsive to their often-powerless situation, with attention to those who are pregnant. A study conducted in north Uganda by Orach et al., (Orach, Aporomon, Musoba, & Micheal, 2013) found that most IDW are aware of their human right challenges, mainly through humanitarian agencies and even through the media. However, geographic accessibility to health services is high, barriers such as lack of finances, information and decision making hinder women's access to healthcare services. Similarly, a study conducted in Nigeria among women who are not displaced revealed that socio-cultural factors increase the risks faced by women and girls and as a result, they face increased risk of violence and are unable to access assistance and/or make their RHS needs known (Pathfinder International, 2004). This is likely to be true because women are often not included in community consultation and decision-making processes and as a result, their reproductive health needs are often not met.

2.5 Barriers to uptake of reproductive health services

Most IDPs have significant health problems even before being uprooted from their homes. The observation behind this idea is that, most displaced people come from countries with low life expectancies and high levels of maternal and new-born mortality. They also have limited literacy and skills, as well as low rates of employment and low social status (Tunçalp et al., 2015). These problems are often exacerbated by displacement.

Studies on RHS in both developing and developed countries have identified several factors associated with uptake of RHS among displaced persons. Most of these studies were conducted in fragile settings and have found significant relationships between women's demographic and social characteristics, and contextual factors and uptake of RHS (Enwereji, 2009; Kehinde Okanlawon, Reeves, & Agbaje, 2010a). The literature reviewed identified the following as some of the factors impeding utilizations of RHS.

2.5.1 Predisposing factors

Among the predisposing factors that affect the utilization of RHS, age is one of the most outstanding variables. This is mainly because the need for RHS is mostly dependent and lies in age range of 15-49 years, and as result, demand for RHS is largely among women at the peak of their childbearing years of 20-29 (Tanabe et al., 2017). Conversely, the demand and utilization of RHS among younger women aged less than 20 years is low (Akinyemi et al., 2015). Conversely, Howard et al., (Howard et al., 2008) revealed that contraceptive use was more frequent in the older age group. As a result, low uptake of RHS among younger and older women has been found to be a risk factor for maternal health at these ages (Benage, Greenough, Vinck, Omeira, & Pham, 2015).

Although the utilization of RHS in Nigeria has been found to be low, the utilization of these services by IDW in Nigeria is even much lower (Adewuyi et al., 2018b). In the context of humanitarian emergencies, women of reproductive age are susceptible to sexual abuse and exploitation, which increases their risk to unwanted pregnancy. In this regard, the need for the continuums of RHS among younger and older IDW is even greater because of the elevated risk of pregnancy and delivery complications at these ages.

Other predisposing factors that influences or are important in assessing RHS utilization are socioeconomic in nature. These include religion, level of education and access to livelihood systems. A number of studies have demonstrated the importance of religious affiliation on the uptake of the three continuums of RHS (Enuameh, Okawa, Asante, Kikuchi, Mahama, Ansah, Tawiah, Adjei, Shibanuma, Nanishi, et al., 2016). For example, a study conducted among married women in stable populations show that religious affiliations affect the likelihood of contraception, ANC visits and HFD. To corroborate the role of religious affiliation on RHS, Kiura (Kiura, 2012) observed that low use of contraceptive among Muslim women. Another study also observed that the presence of male providers discourages Muslim women from utilizing RHS (Choge, 2012).

Education has also been found to influence the utilization of RHS. A number of studies have found that utilization of the three continuums of RHS increased with the increase in the level of education of women (Benage et al., 2015; Kabakian-Khasholian & Portela, 2017). The effect of education on the uptake of RHS is expected to hold even in

humanitarian emergencies. For example, a multi-country study conducted among IDW demonstrated that women who attended some level of schooling were at least twice as likely to have ever used, or currently using contraceptives (Tanabe et al., 2017). This is attributed to the empowering role of education in decision making and financially on one hand and increasing the awareness and knowledge of women regarding the need for RHS. However, the effect of education on utilization of the continuums of RHS must take cognizant of availability of RHS.

Uptake of RHS is not cheap. It is associated with significant need for resources not only to meet the cost of services, but also to cover costs like transport to health facilities. A study by Okanlawon et al., (Kehinde Okanlawon, Reeves, & Agbaje, 2010b) revealed that the use of modern contraceptives is strongly associated with the wealth of women who are not displaced. In this regard, the ability to afford direct and indirect costs is important. A number of studies on RHS found that ability to afford RHS services increased uptake of the continuums of RHS (Haghparast-Bidgoli et al., 2015). The need for livelihood systems as means to social protection, including access to health services has been observed in previous studies (Gelsdorf, Maxwell, & Mazurana, 2012; Maxwell & Parker, 2012). Women in humanitarian emergencies face additional barriers in accessing reproductive health due to a breakdown in social support systems that exacerbates their financial situations (Haddrill, Jones, Mitchell, & Anumba, 2014). Another study asserted that more than half of the women in their study blamed lack of money as the most common reason for irregular attendance of ANC visits and financial marginalization was blamed for the poor reproductive of women (Orach et al., 2013).

2.5.2 Enabling factors

These are factors that can either facilitate or impede the utilization of the continuums of RHS. These factors are structural in nature and they include distance to health facilities, availability to health facilities, and attitudes of health workers among others.

Distance to health facilities can greatly influence RHS because these are not usually treated as emergencies. Studies have found that distance to health facilities have significant impacts on the utilization of RHS (Hogan et al., 2010). This effect is more likely to affect IDW in far greater ways than women in stable populations. A study of Afghan refugees in Pakistan revealed that 41% of deaths among reproductive-age women were pregnancy-related, due to inaccessibility of emergency obstetric associated with long distance in reaching health facilities (Bartlett et al., 2002). This was attributed to lack of appropriate and safe transportation to reach far away health facilities. This was confirmed by another study by Kabakian et al., (Kabakian-Khasholian & Portela, 2017) who found that long distant to health facilities affects access to care and most women lacked access to medical treatment. In light of previous findings, and because the situation of the IDW are similar to that of IDW in Nigeria, this study also examined the effect of distance to health facilities on RHS.

Even though there are RHS needs among the populations living in conflict-affected settings, adequate RHS are often not available in such settings and what little infrastructure existed to attend to the reproductive health needs of the population is often destroyed (McGinn, 2000). Corroborating this point, Banatvala and Zwi (Banatvala & Zwi, 2000) noted that during conflict and natural disasters, access to health services often decreases and as such the availability of a minimum standard of quality RHS are

generally therefore limited. Several studies have discussed arguably the relationship between availability of health facility and RHS among the displaced. According to (McGinn et al., 2011) in Congo, Sudan and Northern Uganda, fewer than one-third of facilities which were expected to provide broad spectrum family planning services had the requisite supplies, staff and equipment to meet the needs of displaced women. Also, Ali et al., (A. A. A. Ali & Okud, 2013) revealed how limited health facilities influence negatively the provision of minimum ANC and delivery services for women in Eastern Sudan. Similarly, Lassi et al., (Lassi et al., 2015) argued that limited availability of commodities, supplies, equipment and frequent power shortages hinder service provision.

Attitude towards health workers have been found to influence uptake of RHS. Findings have revealed mixed results on the effect of attitude of health worker on uptake of RHS among women (Orach et al., 2015; Roberts et al., 2015). Attitude of health worker can either have a positive effect when it is good and welcoming or a negative effect when it is bad and not welcoming. For example, a study conducted in post conflict Gulu district of northern Uganda suggests that, to improve utilization of family planning services, ensuring sensitization of the community members and improving the attitude and skills of providers are very essential. Few studies have been conducted among IDW Nigeria to identify and examine the association between attitude of health provider and uptake of contraceptives. This study will identify and examine the effect of attitude of health worker on uptake of contraceptives among IDW in northern Nigeria.

2.5.3 Needs factors

Studies have demonstrated the relationship between awareness and uptake of RHS. A cross-sectional study conducted in a conflict-affected setting in Sudan asserted that home-based counseling and awareness are positively associated with uptake of modern contraceptives among IDW (Obwoya, Wulifan, & Kalolo, 2018). In similar, another study (Tajudeen & Adebayo, 2013) revealed that one of the reasons why delivery care is usually poor among IDW is because of innovative strategies such as the creation of awareness for accessing vulnerable populations and delivering basic public health interventions are likely to be unavailable in camp settings. Another survey assessment conducted in Vietnam revealed how those in rural areas were less aware of sexual and reproductive health topics, with the exception of their awareness of family planning as compared to women in urban areas. Thus, considering the wide disparities in the socio-economic status of IDW as compared to women who are not displaced, this study is set to examine the relationship between access to TV, radio and magazine/newspaper and uptake of RHS among IDW in northern Nigeria.

Fertility intentions are another factor that can significantly affect the utilization of RHS. In conditions of forced migration, fertility is likely to be influenced by many voluntary and involuntary forces. Studies revealed that some displaced person's fertility increased to replace children or satisfy their desire to repopulate as they move to healthier and more stable environments, while others decreased fertility owing to uncertainty about the future, economic instability, or marital separation (Aptekman, Rashid, Wright, & Dunn, 2014). Studies have found mixed results on the relationship between fertility intention of IDW and contraceptive uptake (Kisindja, Kimona, Etoy, Dorme, & Benfield, 2017).

Pregnancy-related complications are the leading cause of death and disability in women of reproductive age worldwide. To avert maternal death and disability among displaced women, essential emergency obstetric care services need to be identified and closely monitored early in emergency settings. Complications of pregnancy and childbirth, such as severe bleeding, obstructed labor, and unsafe abortion, may be more serious for displaced women and usually lead to infertility and death. A refugee woman who wants to end her pregnancy and has no access to safe abortion services may seek an unsafe abortion and end up requiring emergency care and even counseling (Mudgway, 2017). There are few documented discrepancies in the relationships that exist between pregnancy complications and uptake of RHS among IDW. The majority of displaced women interviewed in their study reported gynecologic problems during the conflict including: symptoms of reproductive tract infection, severe pelvic pain or dysmenorrhea. In this regard, having a need for RHS due to the previous experience of pregnancy and delivery complications is important in the decisions to utilize the continuums of RHS.

2.6 Factors impeding utilization of RHS by IDW

Access to RHS is both a right and an essential need for the IDW, yet in conflict situations, lack of RHS is one of the leading cause of death, diseases and disability among IDW. Patterns of use of RHS among IDW are fragmented and crises oriented as they are faced with inequalities in accessing care (Joseph, Da Silva, Wehrmeister, Barros, & Victora, 2016). Several factors have been identified to be influencing RHS among women in conflict-affected settings. Most of these studies have found significant

relationships between women's demographic and social characteristics, and other contextual factors.

Another main cause of poor health status of IDW is the poor health-care systems in affected countries. Health care systems in IDPs are weak because health personnel are constrained in their ability to devote time to IDW. The health care systems are plagued by language barriers and other difficult demands which are beyond what health care professionals can handle (Biemba, Yeboah-Antwi, Semrau, Hammond, & Hamer, 2014). Similarly, another study revealed that enabling access to health-promoting activities is often poorer among the displaced due to their inability to communicate with health care provider's ((Suleman Hadejia Idris et al., 2013).

Another factor that has been found to negatively affect health care among IDPs is loss of livelihood. According to Rahman et al., (Rahman, Ngadan, & Arif, 2016) IDW often have very restricted financial means in camps due to the loss of sustenance for living due to displacement, and as a result, access to RHS is major challenges (McGinn et al., 2011). The likelihood that IDW usually lacks a social network, have a dependent and are an insecure position in the society, and are confronted with unemployment. This situation negatively impacts on their lifestyle, living conditions, social environment and use of RHS. Furthermore, IDW do not have legal status under the International Humanitarian systems to provide financial resources on a sustainable basis. For example, a study conducted in Europe revealed that health-care systems are not set up to provide services to displaced populations. This was due to the lack of political will, new policies to return migrants to their countries of origin, insufficient training in

culturally competent service provision and the absence of migrant representatives as stakeholders in the decision-making process.

Besides legal barriers, IDW also face geographical, administrative, social, cultural and economic barriers which impede access to quality RHS (Kumbani et al., 2013). Another barrier to RHS was the neglect of physical and mental health due to distractions of lack of residential status. According to Adewuyi et al., (Adewuyi et al., 2018b)(2017) IDW's reliant and timorous position in society, coupled with their experiences from transit and their state of origin, often leads them to be generally distrustful of people including health providers and thereby makes them avoid uptake of RHS at the health facility.

A study on refugee's maternal mortality in 10 countries, revealed that the direct and indirect factors influencing maternal death include not only medical factors but also social factors such as lack of financial capacity to afford medical care, perceptions of the quality of care and the ability to make decision and recognize the need for care (Hynes et al., 2002). In another similar study, O'Hare and Southall (O'hare & Southall, 2007) found that delays in reaching care due to the high cost of treatment fees, a lack of access to maternal health services, transportation and by the absence of local health care facilities impeded the utilization of RHS. Additionally, IDW do not have sufficient information on RHS at the place of displacement to enable them utilize them.

This study is therefore premised on the view that despite being displaced in relatively safe areas, including Abuja the FCT, the prevalence of RHS in general, and current use of contraceptives, attending the recommended number of ANC and delivery in Health facilities is low. This is notwithstanding the availability of these RHS at the place of

displacement. This study, therefore, examined the patterns of RHS with particular focus on current contraceptive use, ANC and HFD; and identified the barriers to the uptake of the three continuums of RHS among IDW in northern Nigeria.

2.7 Theoretical Framework

This study has its theoretical underpinning on the Anderson Health Behaviour Model (Ronald Andersen, 1968) which was used to study of health service utilization among the marginalized populations. The BM is a multilevel model that incorporates both individual and contextual determinants of health services utilization. Andersen's behavioral model proposed to empirically test hypotheses about inequality of access to health services in the United State of America (USA). The author addressed the challenges that some sectors of society, basically, the underserved in a population receive less health care provision than the rest of the population (R. Andersen & Newman, 1973). The BM was based on the premise that access to services as a result of decisions made by an individual, is constrained by their position in the society and the availability of health care services. Therefore, the model allows the exploration of hypotheses regarding social inequalities.

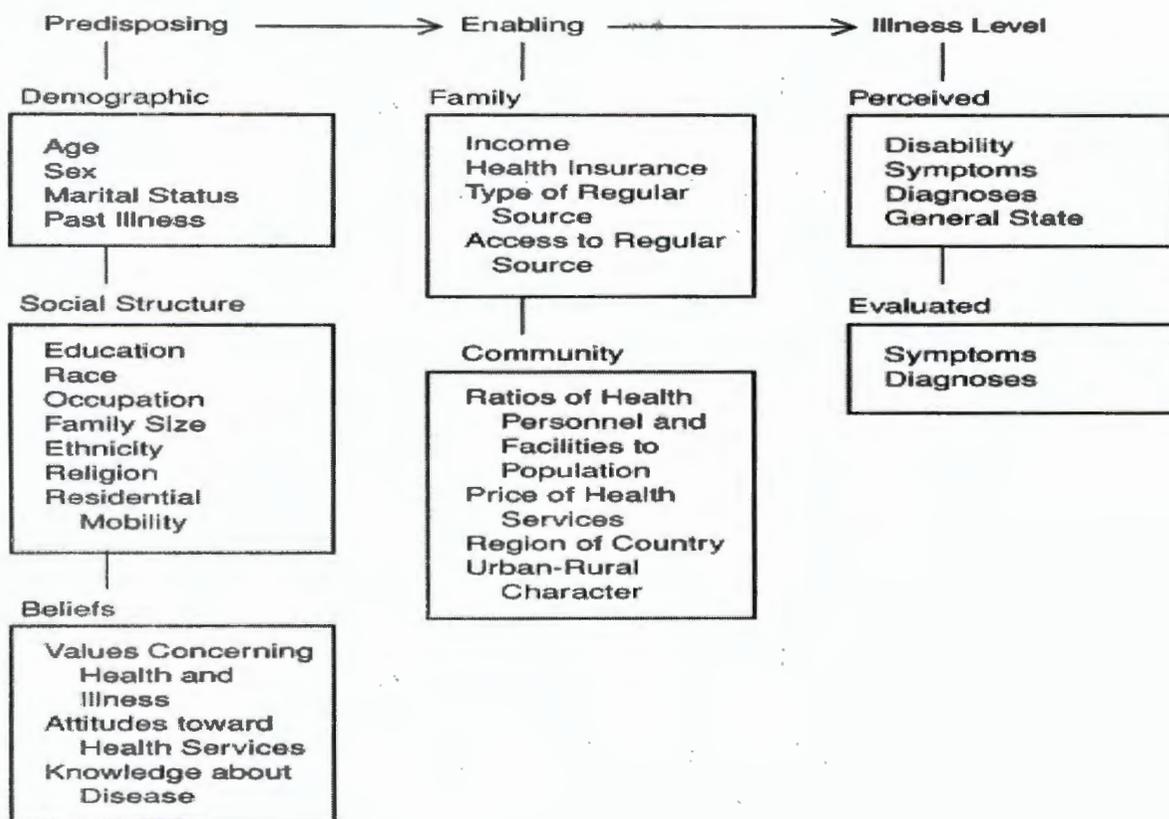
The model seeks to bridge the gap of inequalities to access use of health care services. Three sets of predictor factors were used as a measure in the model, namely: predisposing, enabling and need factors. It was argued that a sequence of factors determines the utilization of health services: the predisposition to use services, the ability to use the services and the need to want to use the services. The author's first study focused on the family as the unit of analysis and several family-level variables

were used. The later versions of the model however focused on the individual as the unit of analysis. Conversely, the author argued that the predisposing factors are based on family's propensity to use health services can be predicted from a set of personal characteristics which predate the illness. These characteristics consist of three sets: family composition, social structure and health beliefs (Andersen, 1968). Specifically, variables such as age, gender, family size, ethnicity and social class were examined. These were used to indicate the position of the family in society which could then influence their lifestyle and their physical and social environments.

It was also argued that the enabling factors are based on the fact that even though a family has a predisposition to use health services, certain factors must be in place to enable them to access services. Such enabling factors includes one having health insurance, material resources and the availability of health services. Therefore, without the ability to access services a predisposing will not necessarily translate into utilization.

Finally, the model takes into account a determinant which opined that in order for a health service to be used, there must have been a need for the use of such service. Consequently, need factors are included in the model to study social inequalities in health service utilization. The Andersen's model (figure 2.1) provides an analytical explanation of the relationship of the three predictive factors and access to health services.

Figure 2.1 Individual Determinants of Health Service Utilization. Source: (Andersen and Newman, pp.14, 2005)



2.7.1 Relevance of Andersen's model current study

As stated earlier, Nigeria is one of the most affected countries by conflict related displacement in Africa. It has been affected by the Boko-Haram insurgency since the year 2009 mostly in the north-eastern part of the country and till date. The insurgency being the recent largest cause of displacement in Nigeria has generated over 2.1 million IDPs who are mostly scattered around states in the northern regions such as, Borno, Adamawa, Yobe and other neighboring states in Nigeria. More than half (54%) of the

displaced population are women in Nigeria. Despite these large numbers of IDW in Nigeria and the potentially negative impact of displacement on the health of this marginalized population, they are faced with great challenges such as food and other basic amenities, with limited information on their reproductive health status. Studies and reports across the world have associated displacement with limited access to RHS (J. Austin, Guy, Lee-Jones, McGinn, & Schlecht, 2008; Oyelude & Nkem Osuigwe, n.d.). Just like other IDPs across the world, IDW in northern Nigeria are likely to be facing RHS challenges. The rigors which accompany displacements such as lack of food and basic amenities including access to health services cannot be over emphasized. All of these challenges coupled with the fact that most of these women are likely to be of young age groups are likely to greatly influence the access to RHS of IDW in Northern Nigeria. This vulnerable group of women is likely to be experiencing several reproductive health issues which on the other hand could be easily avoided if access to RHS becomes effective and accessible in the camps or locations close to camps of living.

This theoretical model appropriately provides an analytical framework for the study of access to health services in inequalities setting using individual and contextual determinants in identifying barriers to uptake of RHS, hence the adoption of behavioral model for this study. The framework (figure 2.2.) below specified using the three predictive factors- predisposing and enabling and perceived need factors. This study thus applied this model in answering the research questions to fill the identified knowledge gaps in the literature. In addition, considering that Andersen's model was tested in the United States of America (USA) being a developed country as opposed

developing country such as Nigeria (Andersen and Newman, 1973), this study therefore addressed this missing gap by examining the effect of the predictive factors with which an IDW can access health care from the health behavioral model.

2.7.2 Conceptual Framework

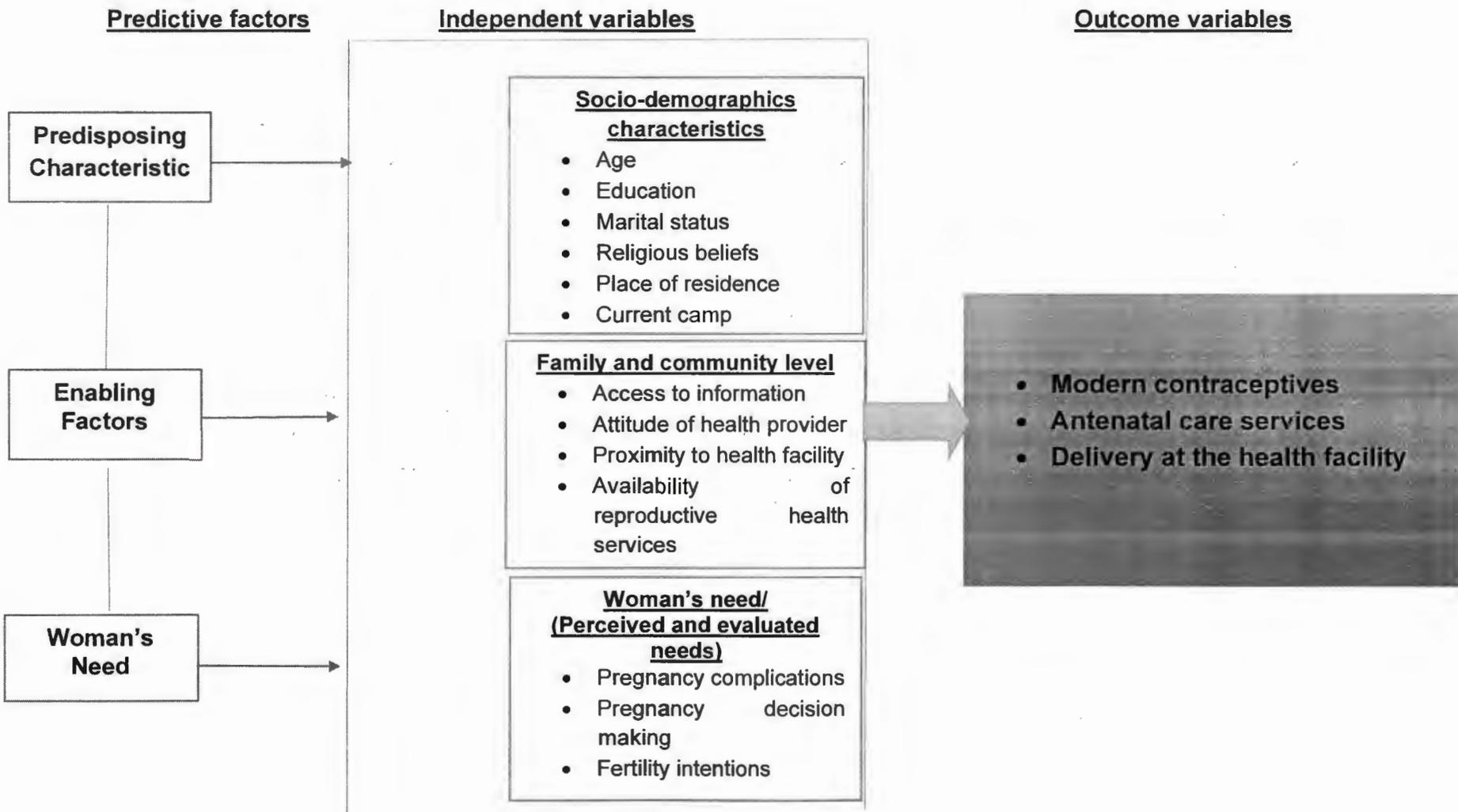
This study was guided by both reviewed literature and the Andersen's behavioral model presented above. Andersen's behavioral model has been extensively utilized and widely acknowledged in studies of use of health services. The model incorporated both individual and contextual determinants of health services use making it a multilevel model. The Andersen's behavioral model (1968) for the study of inequalities and access to health services in the USA was created to empirically test hypotheses regarding social inequalities using three sets of predictive factors (i.e. predisposing, enabling and need factors) to determine the utilization of health services and this have been adapted for this study. Although, the Andersen's model does not specify which variables must be used to operationalize the predisposing, enabling and perceived needs factors (Andersen & Newman, 1973). Instead, the decision of how to operationalize them should be derived from the theoretical relations between the predictor variables and dependent variables. As such, the choice of variables, within the framework of predisposing, enabling and need factors, is up to fit in this research.

The conceptual framework for this study, as earlier pointed out, was adapted from Andersen's behavioral model. The framework (figure 2.2) below considers three sets of predictive factors and their role in access to RHS of IDW. As shown in the model, the socio-demographic characteristics of individual are classified as the predisposing factors. The social relationships, access to healthcare and ability to pay for healthcare

are the enabling factors. Also, the perceived and evaluated needs of a woman are the need factors. The thrust of this argument is that the determinants at each of these predictive factors are capable of causing barriers to reproductive health services through the interactions of attributes in each of the various three predictive factors considering the three predictive factors and their role in influencing RHS of IDW.

The framework of this study provides a logical organization of the associations of reproductive health and it is also helpful for understanding of factors that are likely to influence uptake of RHS among IDW.

Figure 2.2 Conceptual framework on barriers to reproductive health services among internally displaced women (adapted from Andersen and Newman, 2005)



CHAPTER THREE

METHODOLOGY OF THE STUDY

3.1 Introduction

The main objective of this study was to assess the status of Reproductive Health Services (RHS), patterns of the utilization of RHS and identify the predictors of the three domains of RHS namely Contraception, Antenatal Care (ANC) and Health Facility Delivery (HFD) by Internally Displaced Women (IDW). The women included in the study were of the reproductive ages who have given birth in the five years preceding the status. Additionally, the study examined the perceptions of IDW regarding RHS and barriers associated with the utilization of the three domains. The Andersen's Health Behavioral Model (HBM) (R. Andersen & Newman, 1973) was adopted as the theoretical framework for the study.

The study was carried out in three Internally Displaced Persons' (IDP) camps that were accommodating mostly children and women displaced from North-Eastern Nigeria by the Boko-Haram insurgency. The camps are Duruku, Durumi and New-Kuchingoro. The three camps were selected from four camps. The population proportion to size (PPS) was used to determine the sample sizes in each camp. Participants from each camp were selected by the use of systematic sampling technique after listing all women who met the study's inclusion criteria which were being in the 15-49 year age group; have given birth to at least one child in the 5 years preceding the study; and being a usual residence in the camps selected. The study used the cross-sectional design and the mixed method (the quantitative and qualitative) paradigm was used to collect the data because of its advantages over other methods (De Lisle, 2011). The quantitative data

was collected by a questionnaire and the face to face interview method was used, while the qualitative data was collected by the use of a Focus Group Guide (FGG) using Focus Group Discussions (FGDs).

The Pearson's Chi-square statistic was used to examine the differentials in each of the three domains of RHS; the binary logistic regression model was used to identify the predictors of current use of contraceptives and place of delivery; while the multinomial logistic regression model was used to predict attending 4 or more and <4 ANC visits relative to no ANC because they data structures met the requirements for these methods(Holmes & Held, 2006). The qualitative data analysis was aided by the use of NVIVO qualitative data analysis software (F. C. Zamawe, 2015).

This chapter therefore presents a detailed description of the methodology used in the study. These include the research setting, which described the study population and geographical settings; the study design and the sample design. Furthermore, the chapter described the data collection instrument and procedure. The chapter also describes the data quality assurance and processing procedures, and the data analysis procedures. The ethical issues and limitations of the study have also been described in this chapter.

3.2 The study setting

In this section, the study setting was described according to the geographical, demographic and the social context of the study population.

3.2.1 Geographical settings

The study was conducted in Nigeria, which has a land area estimated to be 923,768 square kilometers (kms), of which 13,000 square kms is covered by water. Nigeria is divided into five major geo-ecological zones namely the Gulf of Guinea which also covers the southern tropical rain forest and the southern lowlands which are covered by swamps and mangroves. To the north of the coastal area is a plateau and to the east the country is straddled by the Niger-Benue rivers valley which are also two of largest fresh water system in West Africa. The other regions are the stepped plateau mostly of savanna and drier Sahel to the northern and the mountainous region to the east of the country (Onyeka et al., 2008).

Figure 3.1 Map of Africa showing the location of Nigeria



Source:<https://maps-nigeria.com/>

Nigeria is surrounded by four countries, Benin to the west and Cameroon to the east. In the north-east and north-west, Nigeria is bordered by Chad and Niger respectively, while in the South lies the Atlantic Ocean. The location of Nigeria on the map of Africa is illustrated in Figure 3.1 above.

3.2.2 Demographic profile of Nigeria

With a population of nearly 200 million people, Nigeria is the seventh largest in population size after China, India, the USA, Brazil and Pakistan and the largest on the African continent (Ajibola Amzat, 2017). The demographic profile of Nigeria reveals that there are 36 states with various population sizes. To the north-west are 7 states which are the most populated and together share a total of 35,786,944 people. It is followed by the South-West region which has 6 states sharing a total of 27,266,257 people and the North-Central region which comprise of 7 states including the Federal Capital Territory of Abuja (FCT) which together are inhabited by 21,671,458 people. The South-South with 6 states share 21,014,655 people; the North-Eastern region with 6 states is occupied by 18,971,965 people; and the South-Eastern region with 5 states has the lowest population of about 16,381,729 (Unit, 2010). According to Babalola (2016), the largest state according to population size is Kano followed by Lagos, Kaduna, Oyo and Rivers states each with more than 5 million people. Nasarawa and the Abuja Federal Capital Territory (FCT) where the study was conducted have a population size of 1,863,275 and 1,405,201 respectively (Ajibola Amzat, 2017).

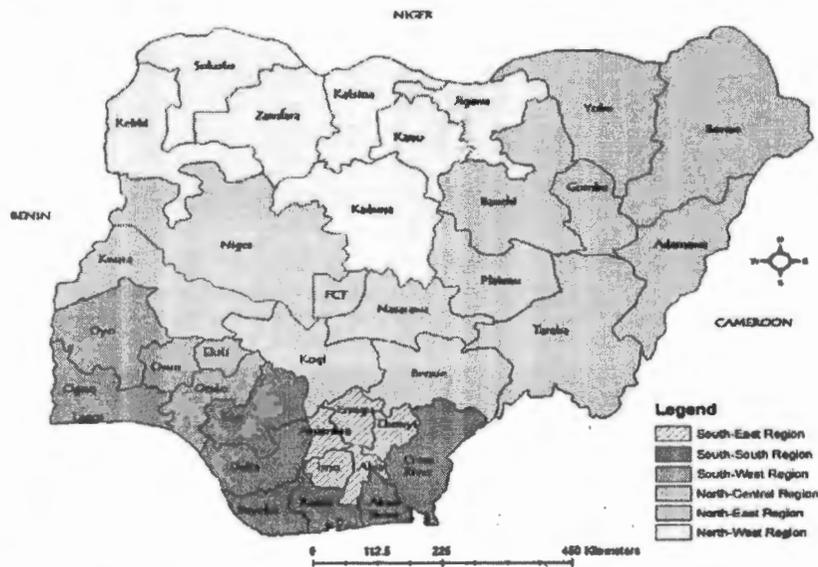
About 44% of the population in Nigeria is below the age of 15 years old and most are male. Furthermore, the second largest age group is the working age group of 15-64 years which comprise of about 53% of the total population with most of them males.

Only about 3% of the population is 65 years or older (Ajibola Amzat, 2017). Additionally, Nigeria has one of the largest ethnicities in Africa, which according to Ukiwo number more than 250 ethnic groups (Ukiwo, 2005). However, the most populous and politically influential ethnic groups are the Hausa and Fulani which comprise of 29% of the total population, Yoruba with 21%, Igbo having 18% and Ijaw with 6.5%. Others are the Kanuri comprising of 4.1%, the Ibibio having 3.5% and the Tiv with 2.5% of the total population. Regarding religious distribution, about half of the population of Nigerians is Muslim (50%), 40% is Christian and only 10% comprise of other religions (Stonawski, Potančoková, Cantele, & Skirbekk, 2016). Furthermore, the literacy rate in Nigeria was estimated at 69.1 in the year 2004. Statistics of the literate distribution in the country showed that literate was higher among males estimated at 78.2% while that among females was estimated at 60.1% (Ajibola Amzat, 2017).

3.2.3 Social context of study setting

The camps in which the study was conducted are located in the Federal Capital Territory (FCT) of Abuja and Nasarawa States which are in the Northern region of Nigeria. The region is also home to many historical and colonial relics. Abuja was created as the Capital of Nigeria in 1976, but officially became the Capital of Nigeria 12th of December, 1991 when all administrative offices were officially moved from Lagos State.

Figure 3.2 Map of Nigeria showing the regional distributions in the country



Source: Pius et al., (2011)

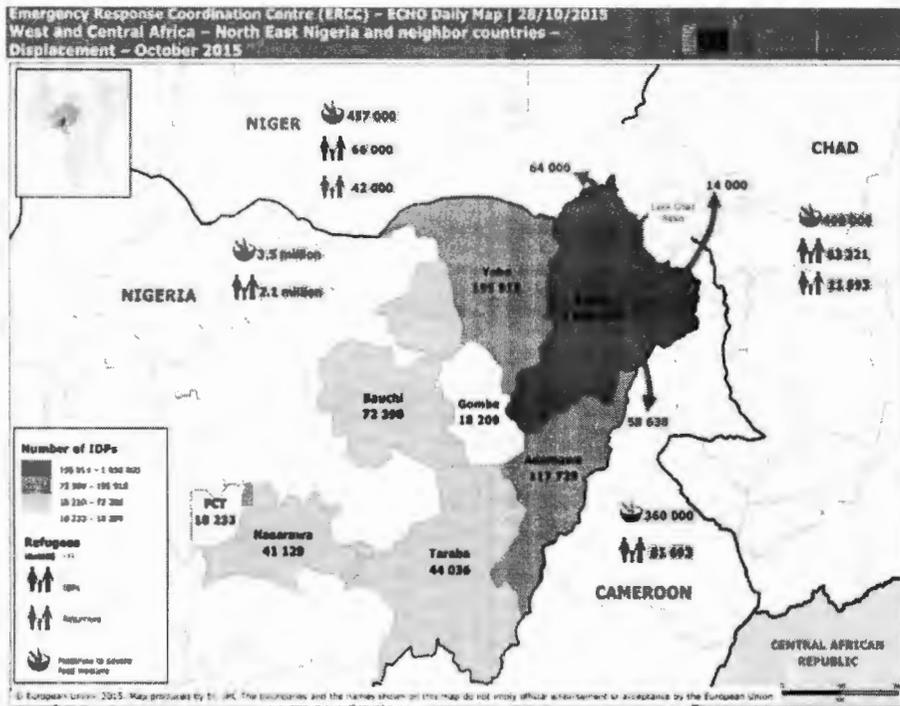
Nasarawa State on the other hand was created in 1996 with its capital as Lafia. The state shares boundaries with some other states namely Kaduna, Benue, Plateau, Taraba, the FCT and Kogi States. The major occupations of the people in Nasarawa state include farming, fishing, dyeing, weaving, carving and blacksmith. The state is also endowed with various mineral resources including tin, marble, coal, semi precious stones, barites and marine which have significant potential for industrial and agricultural development. The green area on the map in Figure 3.2 above shows the North-Central region of Nigeria where Abuja and Nasarawa are located.

Most of people in the camps are from the 6 northern states of Adamawa, Bauchi, Gombe, Taraba, Yobe and Borno which have been hit hard by the Boko-Haram insurgency. Currently, the socioeconomic indicators of the region are some of the lowest in Nigeria. The region is characterized by high poverty level, low level of education and very high maternal mortality, and under-five mortality rates. These

indicators suggest a negative impact of the Boko-Haram insurgency on the already weak social economic conditions in the region. Peasant farming largely dependent on livestock production (cattle, sheep and goats, including fishing) is a major livelihood system. The major crops in the region include sorghum, maize, millet, wheat, cotton, cowpeas, groundnuts, cassava, yam, and sweet potatoes. Additionally, the region is richly bestowed with solid minerals, including gypsum, kaolin, and limestone (Mberu, 2010). However, the Boko-Haram insurgency has greatly crippled the traditional economic system based on agriculture and business, which has increased problems of food insecurity and created beggars from communities which were hitherto independent and relatively wealthy (Awojobi, 2014; Bilyaminu, Iya, & Purokayo, n.d.).

The two selected States were selected based on the formative information from the National Emergency Monitoring Agency (NEMA) and Federal Ministry of Health Nigeria (FMOH). The selected States vary according to camps and locations, in terms of urban-rural settings. Abuja Federal Capital Territory (FCT) has five IDP camps and Nasarawa State has three camps. All the IDP camps were established by the Federal Government of Nigeria with assistance from various humanitarian organizations including The Red Cross Society and United Nations Development Programme (UNDP) (Federal Republic of Nigeria, 2012; Tajudeen & Adebayo, 2013). Figure 3.3 below presents the map of Nigeria showing the distribution of IDP camps in the northern region of Nigeria.

Figure 3.3 Map of Nigeria showing the distribution of IDP camps in the northern region, Nigeria



Source: European Union (2015)

3.3 Study design

To collect the data needed for the study, the cross-sectional study design was used. The choice of the design is informed by the type and status of the data required. The main use of the cross-sectional research design is to establish associations between outcome and the explanatory variables (Mann, 2003). It is also the most effective design for collecting current and retrospective data, and in this regard it is the most appropriate design for the study. The cross-sectional research design is also not only cheap to implement, but also takes a short time to obtain the data required and therefore saved on time for the study.

In this study therefore, the cross-sectional research design aimed to achieve the following aims: first assess the status of the utilization of the three main RHS domains of current contraception status, number of ANC visits and place of delivery; the second aim was to examine the patterns of utilization of contraceptives, ANC visits and place of delivery; and the third aim was to collect data to identify the predictors of current use of contraceptives, number of ANC visits and place of delivery. The final aim was to explore perceptions of IDW on barriers to contraception, ANC and Health Facility Delivery (HFD).

Despite the strengths of cross-sectional designs regarding its external validity because of the large samples and internal validity because of standardized instruments (Bowling & Veloso, 2003), it has some limitations. These limitations include inadequacies in measurements as it cannot account for changes in explanatory variables overtime, errors in sample designs, data collection errors such as miss recording and misinformation. Data in cross-sectional designs can also be affected by recall biases thereby leading to wrong conclusions. To address some of these limitations, the events examined in this study were limited to the most recent births to the IDW.

3.3.1 Mixed methods research paradigm

In implementing the cross-sectional design, the mixed method variant was chosen. This involved the use of both quantitative and qualitative approaches. The choice of these methods was justified by the different types of data they collected which were both required to address the specific objectives of the study. It was also aimed to complement the weaknesses inherent in either approach. In this study, the qualitative paradigm was used first. The purpose of the qualitative paradigm, using FGDs, was to

ascertain the perspectives of IDW on four domains of RHS including contraception, ANC, delivery and post-partum care, and barriers to the utilization of these RH domains by IDW and use the information obtained to develop a structured questionnaire with a high validity. According to Morgan, qualitative methods are good when used prior to designing questionnaires (Morgan, 1998). The FGD was therefore an avenue to learn about the range of opinion, ideas and inconsistencies, and variations that exists among IDW in terms of their RHS experiences which were then used to design the questionnaires used in the quantitative paradigm of the study.

3.3.2 Data collection instruments

The quality of data is an important factor in research and is the basis of the reliability of research results and valid conclusions. In these regards, the type of data required plays an important role and also determines the type of data collection instruments as well as the method of data collection. In this section of the study, the quantitative and qualitative instruments and methods of data collection were described.

3.3.2.1 Qualitative data collection technique

In this study, the qualitative data was collected to provide in-depth understanding of the reproductive behaviour of the IDW. This kind of data provided the contexts that shape among other things the current use of contraceptives, utilization of ANC and whether or not the IDW delivered their last child in a health facility. To collect this type of data, the Focus Group Guide (FGD) was used.

Apart from obtaining information on individual knowledge, attitudes and perceptions on the general reproductive behaviour of IDW, the FGD guide enabled the collection and

induction of information on the likely behaviour of the participants which could have been difficult to collect due to the rather sensitive nature of some of the information provided. It encouraged openness and made it possible for participants to share in some cases in a detail way, their own RH behaviours, risks and fears. The information collected was able to later contextualize the quantitative findings. The FGD guide was used to collect data on five thematic areas, although only data on three were used in this study.

The guide was structured into the following sections: the first section dealt with the introductory statement to set the pace for study and obtained informed consent from the participants including consent to record the proceedings; and the second section collected basic demographic and social data on the participants. The third section focused on the main four thematic areas of the study and these included: contraceptive behaviour and barriers to contraception; ANC behaviour and barriers to ANC visits; place of delivery and barriers to health facility delivery (HFD); and the last thematic area was on postnatal care (PNC) behaviour and barriers to PNC. The FGD guide is attached as Appendix 1.

3.3.2.2 Quantitative data collection techniques

To collect the quantitative data, the structured questionnaire was used. The questionnaire is a common and preferred instrument of data collection in cross-sectional studies because it is associated with a high internal validity mainly because of the standard nature of the questions (Bowling & Veloso, 2003; Mann, 2003). The questionnaire used in this study was developed by the use of information obtained from

the qualitative study. Most of the questions used were also adopted from the Demographic and Health Surveys (DHS) questions. This implies that the questions asked have been validated and therefore collected the intended data. Broadly described, the questionnaire collected data on the following themes: the demographic and socioeconomic characteristics of the women; reproduction of the women; contraceptive behaviour of the women; and pregnancy, antenatal, delivery and postnatal care experience of the women. The detail description of the questionnaire is presented as Appendix 2. However, for the analysis in this study, two main types of data were derived from questionnaire and these are dependent and independent variables, which are described below.

3.3.2.2.1 Dependent variables

The data needed to measure the dependent variables were mainly three. The first of these was current contraceptive use status and it was measured as currently using a contraceptive method coded as "1" and currently not using a contraceptive method coded as "0". The second dependent variable was attendance of antenatal care (ANC) which was collected as the number of ANC visits attended during the last pregnancy which terminated into a live birth. This variable was collected as a continuous variable starting with 0, 1, 2, 3 ... 10 etc. At the stage of analysis it was categorized into three groups coded as "0" if a woman said she did not attend ANC visits during the last pregnancy; "1" if a woman reported she attended 4 or more ANC visits during the last pregnancy; and "2" if woman reported attending <4 ANC visits during the last pregnancy.

3.3.2.2.2 Independent variables

The independent variables derived from the questionnaire used the HBM and the conceptual framework developed for the study. They were grouped into three namely the predisposing, enabling and need factors. The data on predisposing factors included the demographic attributes of the women such as data on age collected in completed years; religious affiliation categorized as Christian, Muslim and Traditionalist; level of education categorized as no education, primary, secondary and tertiary education; and marital status categorized as never married, currently married, separated/divorced and widowed. Other predisposing variables on which data were collected included the place of residence categorized as rural and urban; and camp of displacement categorized as Duruku, Durumi and New-Kachinguro.

On enabling variables, data was collected on sources of information. These include access to newspapers/magazine categorized as always, sometimes and never; access to the radio categorized as always, sometimes and never; and access to TV categorized as always, sometimes and never. Additionally, data was collected on health facility factors including distance to health facilities which was later categorized as within 1 km, 1-5 kms and more than 5 kms; attitudes of health workers which was categorized as good and poor; availability of referral services categorized as yes, no or do not know; and availability of RH services in the camps categorized as yes, no or do not know.

Regarding the need factors, three main variables were derived from the data collected for inclusion in the analysis. These were fertility intentions of the women categorized as wants another child soon, wants another child later and do not want any more children;

previous experience of pregnancy complications categorized as yes or no; and previous experience of delivery complications categorized as yes or no.

3.4 Sampling design and strategies

Sampling is a statistical practice used to select individual observations from the target population. The selected individual observations constitute a subset of the target population called a sample (Bhattacharjee, 2012). The sampling method used determines whether or not research findings can be generalizable to the target population. In this regard, in this study, two types of sampling designs were used and these were the probability sampling design for the quantitative study and the non-probability sampling design for the qualitative study.

3.4.1 Selection of camps

There are a number of camps to which IDPs in Nigeria are displaced. The first stage of the sampling therefore involved the selection of the 3 camps from among other potential camps. This was intended to ensure that the study was only representative of the camps and its population, but also economically feasible. Of the four camps identified in the study area, the 3 camps were selected using the simple random sampling method, which was appropriate on two grounds. The first was that the number of camps in the study region was not too large; and secondly, the simple random sampling guaranteed equal chance of selection in the sample of camps and therefore was bias free.

3.4.2 Sample size determination

According to (Bilak, 2015) 54% of the 2,152,000 IDPs displaced by the Boko-Haram insurgency were women. This proportion of the total IDP population was therefore used

to calculation the sample size for this study. To achieve the sample size representative for the study, the Scott smith (2013) formula was used. The formula is stated and applied thus:

$$n = \frac{\left(\left(\frac{x - u}{\sigma} \right)^2 \times \sigma(1 - \sigma) \right)}{(E)^2}$$

Where n is the sample size; $\frac{x - u}{\sigma}$ is the confidence (95%) interval level derived from the Z-score table=1.96); $\sigma = 0.56$; E is the margin of error (+/- 5% confidence of interval). Accordingly, to estimate the sample size, the above formula was substituted as: margin of error= 5%; confidence level= 95%; population size= 0.54; response distribution= 50%. Therefore, the estimated sample size equals;

$$n = \frac{((1.96)^2 \times 0.54(1 - 0.54))}{(0.05)^2}$$

$$n = \frac{(3.8416 \times 0.2484)}{(0.0025)}$$

$$n = 381.7$$

To account for non-response, this calculated sample of 382 was inflated by 10% which brings a total minimum sample size n to 420. To distribute the sample to the entire women population aged 15-49 who met the inclusion criteria in the 3 camps, the PPS sampling technique was used by treating each selected camp as a stratum and redistributed to each camp according to the number of listed eligible women. In each camp, the list of eligible women was compiled by the camp woman leaders.

3.4.3 Sampling for the qualitative research paradigm

To sample for the qualitative paradigm of the study, the non-probability sampling design was used. The IDW aged 15-45 years constituted the target population of study in each camp. In each camp, the camp heads, as gate keepers to the camp communities, were used to identify potential participants for the qualitative study and the purposive sampling method was used to obtain the sample. The procedure simply allowed the selection of the participants on the basis of their relevance in terms of having met the criteria of the study and their availability to participate in the study. In this regard, the problem of bias was encountered. To minimize on the bias that may result, a list of identified and potentially available participants was developed and the simple random method was used to select participants from the list generated. Using these methods, a total of 44 participants were selected to participate in the qualitative study. Accordingly 18, 15 and 13 eligible women were selected from New-Kuchingoro, Duruku and Durumi camps respectively.

3.4.4 Sampling for quantitative research paradigm

The stratified sampling method was used to select IDW for the study in each of the 3 selected camps. Stratified sampling is a probability sampling technique in which the researcher divides the entire population into different subgroups or strata, while randomly selecting the final subjects proportionally from the different strata (Webb & Wang, 2014). Thereafter, the systematic sampling technique was used to select the sample in each of the camps following the steps outlined below (Gabler & Stenger, 2012):

- A list of all eligible IDW was compiled in each camp and handed to the researcher by the camp women leaders;
- The sample interval was determined by dividing the total sample size in each camp by the number of women who met the criteria for the study; and
- A randomly chosen element (woman) on the list provided the first sample and thereafter the sampling interval was used to select the rest of the elements in the study.

In order to have equal representation of the sample size from each stratum, the categories (i.e. strata) were randomly sampled so that the eventually selected sample sizes have the uniform sampling fraction of each of the population of women in each camp. Accordingly 81, 181 and 160 eligible women were selected from New-Kuchingoro, Duruku and Durumi camps respectively.

3.5 Data collection methods

The study used FGDs to collect the qualitative data which was the first stage of the study. In the second stage, the face to face interview method was used to collect the quantitative data. In this section, the two methods were described in greater detail.

3.5.1 Focus Group Discussion

The FGD comprised of a total of 44 participants including 16, 15 and 13 from New-Kachinguro, Durumi and Duruku respectively. From each camp two homogeneously constituted FGDs were held. Age was the main stratification criterion and its use was aim to create two homogeneous groups. These were women aged less than 25 years and those aged 25 years or older. This stratification was premised on the expected

variations in the reproductive behaviour and service use between younger and older women (Fuentes, Ingerick, Jones, & Lindberg, 2018; Renzaho, Kamara, Georgeou, & Kamanga, 2017a). Although those in New-Kachinguro were 8, the average size of each FGD was 7 participants. Each FGD lasted about 90 minutes. The structure of the FGD was a semi-circle so that each participant had a clear view of each other and the moderator who facilitated the FGD process and the note taker (recording operator) who recorded the proceedings.

Apart from posing questions, statements and probes to members for dialoguing, the moderator used the *members* checking technique in conducting the FGDs. This allowed the interviewers to understand the participants' explanations and giving other participants' opportunity to express their own opinions and ideas. Body language and emotional expressions such as laughter and gestures of the participants were also documented during the FGD proceedings. The FGDs were conducted in the Hausa and Pidgin languages and all the FGDs proceedings were recorded by the use of smart phones.

3.5.2 Face to face interview method

The Face to face interview method was used to administer the structured questionnaire. The interview was a one to one conversation in which trained research assistance asked questions directly to the respondents who provided the answers to the questions. The use of the face to face interview was considered to be the most appropriate because of the low literacy levels of the women, difficulty in delivering questionnaires using other means and to ensure that the response rate was high and questionnaire were completed and returned for data processing within the shortest time possible. The

face to face interview process also facilitated clarifications of questions, improved respondent comprehension of questions and improved quality of data collected. The interviews were conducted in Hausa and Pidgin language and in private in to ensure that respondents were at ease while providing data.

3.6 Data quality assurance

To ensure that the data collected was of a high quality, the following data quality assurance procedures were implemented before, during and after the data collection. In order to ensure reliability of the results, several data quality assurance measures were used. For the qualitative data, constructs of credibility, transferability, dependability, conformability and trustworthiness were enhanced.

- The researcher recruited two qualitative data collectors and four survey enumerators with social science background and experience in conducting social research. The research assistants were trained for three days on the two main data collection instruments.
- The training of the data collectors included the pretesting of the research tools as part of the enumerators' field practice. The questionnaire was piloted in one of the camps. After the pretesting, questions were improved for clarity, ambiguity and simplicity. The training of FDG moderators included the use of probes, translation and transcription of the data collected during pretest. The training also discussed the field protocols, roles and responsibilities of enumerators and supervisor. It also included questionnaire administration.

- Both the qualitative and quantitative research stages were supervised by an experienced researcher, who accompanied the enumerators during the survey to the field during which she clarified issues and edited completed questionnaires. The supervisor's role included on-spot checking for accuracy of the completed questionnaires; overall administration of the research process; and was responsible for coding the responses before handing them over to the researcher for verification prior to data entry.
- Experienced data entry clerks who worked along with the supervisor and researcher during the data collection were recruited. They were trained on data entry procedures to ensure the accuracy of data entry.
- *Data-editing and coding were implemented* at two stages. The first was done during data collection and the second edits and coding was done in the office. The checks ensured that all the data captured were correct, consistent and logical.
- *Data cleaning was done as a statistical* procedure which involved only the quantitative data. Its main purpose was to ensure that the data was ready, correct and good for analysis. During the cleaning, identified outliers and missing data were traced to the individual records involved and corrected. Qualitative data transcripts were also edited for correctness before it was exported to NVIVO qualitative software for coding.

3.7 Data analysis and presentation

Data analysis was conducted by the use of both qualitative and statistics procedures. In the sub-sections presented bellow, the data analysis procedures were described in greater detail.

3.7.1 Qualitative data analysis

Data collected during FGD underwent three steps during data analysis. These included the following:

- The first step involved the transcription of the recorded data. This was done verbatim from the smart phones. To these was added the observations made during the FGDs regarding body language and emotions. The transcribed data was typed in word and then imported in NVIVO.
- In NVIVO transcribed data were coded and assigned unit codes and identifiers for each question and participant, which were then used during data analysis.
- To analyze the qualitative data, the master sheet approach was used to assign codes and the unique ID numbers of each question was used to generate data which corresponds to each question, each woman and their responses and categorized by each thematic area.
- The generated data was then summarized in matrix format in which matrixes represented thematic areas. Summaries of similar responses from respondents were developed and interpreted. Unique and informative verbatim statements were then edited and used to illustrate the interpretations.

3.7.2 The quantitative data analysis

The quantitative data generated through the questionnaire was analyzed by the use of SPSS version 24. The analysis was conducted by the use of univariate, bivariate and multivariate statistical techniques.

3.7.2.1 The univariate analysis

The univariate analysis presents the profile of the IDW. The analysis involved the frequency distribution of the IDW by the selected predisposing, enabling and need factors. The predisposing variables analysed at this level includes the frequency distribution by age groups, religious affiliations, level of education and marital status. Other variables presented were place of residence and camp of displacement. The enabling variables presented in the profile were access to newspapers/magazines, the radio and TV. Also described were distance to health facilities, attitudes of health workers, availability of referral services and availability of RHS in camps. Regarding the need factors, frequency distributions were presented for fertility intentions, previous experience of pregnancy complications and previous experience of delivery complications. This level of the analysis was used to assess the data for the bivariate analysis.

3.7.2.2 The bivariate analysis

The bivariate analysis was done by the use of the Pearson's chi-square statistic. The Chi-square statistics is a non-parametric test used to assess the level of association between an independent and a dependent categorical variable. In this regard, the chi-square statistic was used to examine the differentials in the three dependent variables

namely the current use of contraceptives; number of antenatal care visits; and place of delivery by the selected predisposing, enabling and need factors. The differentials were examined by selected individual-level variables. The Chi-square formula used was of the form:

$$x^2 = \sum_{i=1}^i \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

Where: O_{ij} is the i th observation of the j th item; and E_{ij} is the i th expected value of the j th item. The decision rule was used to reject the null hypothesis in favour of the alternative; if the p -value was less than 5% ($P < 0.05$). The Pearson's Chi-square (χ^2) statistic was chosen; because the dependent and independent variables are categorical. The Chi-square statistic was used as a preliminary step to assess the generalizability of the findings from the sample to the study populations and the variables were considered to be associated if the $p < 0.1$ or $p < 0.05$.

3.7.2.3 Multivariate analysis

Two multivariate methods namely the binary and multinomial logistic regression models were used to analyze the data because the dependent variables were categorical and therefore met the requirements for these models (Hosmer Jr, Lemeshow, & Sturdivant, 2013). The first was the binary logistic regression model. This was used to identify the significant predictors of current use of contraceptives and HFD. The predictors in this model comprised of the predisposing, enabling and need factors associated with the study respondents. In the model, the dependent variables current use of contraceptives was coded "1" if a woman said she using a contraceptive method and "0" if otherwise. Not using a contraceptive method was used as the reference category. The second

dependent variable was place of delivery which was coded as “1” if a woman delivered in a health facility and “0” if delivery was at home. Delivery at home was used as the reference category.

The relationships of the dependent variables with the predisposing, enabling and need factors were determined by a variety of logistic coefficient(s) associated with the corresponding independent variable(s). The coefficients for the independent variables are estimated with the logit values, or the Odds Ratio as the dependent measure (black at al., 2006). The model used was of the form:

$$\text{logit}_i = \ln \left(\frac{\text{prob}_{\text{event}}}{1 - \text{prob}_{\text{event}}} \right) = b_0 + b_1 X_1 + b_2 X_2 + \dots + b_n X_n \dots\dots\dots 11$$

Or

$$\text{Odds} = \left(\frac{\text{prob}_{\text{event}}}{1 - \text{prob}_{\text{event}}} \right) = e^{b_0 + b_1 X_1 + b_2 X_2 + \dots + b_n X_n} \dots\dots\dots 12$$

Where; X_1, X_2, \dots, X_n , are the independent variables; $b_0, b_1, b_2, \dots, b_n$ are the coefficients; e is the error term and \ln is the natural logarithm.

Both forms of the coefficients reflect the direction and the magnitude of the relationship between the dependent and the independent variables. The interpretation of the coefficients for direction and magnitude can either be directly assessed in the original coefficients, which can take positive or negative values or indirectly by the use of the exponentiated coefficients (Odds Ratios), which can take a value of less than 1, or greater than 1 (Hair, Black, Babin, Anderson, & Tatham, 2006). When the coefficients

are interpreted for direction, the direction of the relationship reflects the changes in the dependent variable associated with the changes in the independent variable.

The second multivariate method was the multinomial logistic-regression model, which was used to identify the significant predictors of making 4 or more or less than 4 ANC visits relative to no ANC visit. In this analysis not making an ANC visit was the reference category. In this analysis making 4 or more ANC visit during the last pregnancy was coded as "1", making <4 ANC visit during the last pregnancy was coded as "2" and not making a ANC visit at all during the last pregnancy was coded as "0".

The multinomial model uses the maximum-likelihood estimator to evaluate the probability of belonging to any category of ANC visits. Since ANC visits were categorized into three, the calculation of 3-1=2 equations was required, one for each category relative to the reference category, in order to describe the relationship between 4 or more and <4 ANC visits by each predisposing, enabling and need variable. The multinomial formula used was in the form of:

$$n = \ln \left\{ \frac{p(\zeta_i = n)}{p(\zeta_i = 1)} \right\} = \alpha_n + \sum_{k=1}^K \beta_{nk} X_{ik} = Z_{ni}$$

Hence, for each case, there were 2 predicted log odds, one for 4 or more ANC visits and a second for <4 ANC visits while maintaining no ANC visit as the reference category. The formula used in this estimation was of the form:

$$p(\zeta_i = n) = \frac{\exp(Z_{ni})}{1 + \sum_{r=2}^3 \exp(Z_{ri})}$$

For the reference category, the formula used was of the form:

$$p(\zeta_i = 1) = \frac{1}{1 + \sum_{r=2}^3 \exp(Z_{ri})}$$

For both the binary and multinomial logistic-regression models, the parameter used to interpret the results was the beta-coefficients (β^x); also known as the Odds Ratio, which took the form of:

$$y = \text{Log}_e \frac{P_i}{1 - P_i}$$

If the Odds Ratio is greater than 1.00, the independent variable had a positive effect; and therefore it increased the likelihood of the dependent variable. However, if the Odds Ratio was less than 1.00, the independent variable has a negative effect and therefore reduced the likelihood of the dependent variable. The Z statistic was used to assess the statistical significance of each variable in the model. In the analysis, a variable was a significant predictor if the Z value associated with the Odds Ratio was 0.1 or 0.05.

3.8 Ethical Consideration

All research involving human participants require ethical approval from relevant Research Ethics Committees (REC). In this regard ethical approval was obtained from the appropriate REC at North-West University and after determining the research does not pose any risks to participants, the research was approved by the North-West University's Institutional Review Board (IRB) under research approval certificate number: 0050917A9. The approval certificate was then presented to camp officials who allowed the research to be conducted.

Additionally, informed consent was obtained from all participants aged 15-49 years of age in accordance with the national regulations governing consent. In Nigeria, the constitution recognizes married adolescents who are below the age of 18 years as adults and capable of giving consent. The Child Rights Act 2003 provides that a child who has attained the age of 16 years has the right to give consent in scientific investigation and access treatment without parental consent (Brimah, 2014; Federal Republic of Naigeria, 2003). All participants in the IDP camps were explained the objectives of the study, potential risks and benefits of the study and their consent were obtained before interviews were conducted. A copy of the informed consent form was given to the participants that include the names of the study investigators and telephone numbers for later contact if required (Appendix 3).

Apart from the FGDs, the face to face interviews were conducted in auditoria and visual privacy, voluntary and anonymously. This was intended to protect respondents and ensure that the information they provided about themselves, remained confidential. The

respondents were also informed that they could withdraw from the study at any stage and their decision to participate or not will not affect their wellbeing or rights to camp services. Additionally, after data was collected, only research personnel eligible to access the data had access. The data was also used only for research purposes. No financial incentives were offered to research participants. However, FGD participants received a cup of rice and spices after the FGDs.

3.9 Study Limitations

The result of this study was likely to have been affected by some limitations that could have affected the conclusions emanating from the study. These limitations include some of the following:

- Firstly, a number of variables used in the study have social desirability implications. These include the dependent variables namely contraception, ANC and place of delivery. The desire to appear compliant could have led to falsification of responses on contraception, ANC and place of delivery and lead to over or under reporting leading to systematic biases in the estimation of rates. To minimize the likely magnitude of the bias, respondents were guaranteed of anonymity and confidentiality of data collected.
- Secondly, responses on previous experience of pregnancy and delivery complications could have been inaccurate, under and over reported because respondents did not have the capacity to determine whether or not these events actually happened. To address this limitation, respondents' responses were validated by matching responses to a check list that describe pregnancy and delivery complications.

- Thirdly, most IDW were seriously stressed and could have been suffering from post traumatic stress disorders (PTSD) caused by the events that led to their displacement. As a result they might have lost account of information on their RH experience, if the experiences happened many years in past. The effect of this limitation was mitigated by restricting inquiries on most recent births that occurred in the preceding 5 years.
- The results of the study could have also been affected by the cross-sectional design used in the study. Three notable limitations of cross-sectional design are: firstly, the problem of temporality associated with time varying variables; secondly, the problem of assessing causality which makes it impossible to determine if an outcome was indeed a result of variables analyzed for in the study; and thirdly, the problem of confounding.
- The insecurity caused by the Boko-Haram insurgency made it impossible to select camps in hard to reach areas for the study. It is therefore likely that the worst case scenarios of RHS were omitted by the study. The data collected in this study might therefore not provide sufficient evidence on the status of RHS situation.

CHAPTER FOUR

PROFILE OF INTERNALLY DISPLACED WOMEN BY PREDISPOSING, ENABLING AND REPRODUCTIVE NEEDS CHARACTERISTICS

4.1 Introduction

In this chapter, the profile of the survey population which comprised of 422 Internally Displaced Women (IDW) is presented and described. The profile variables included are those that are relevant to the Health Behaviour Model (HBM) which are hypothesized to influence access to and uptake of Reproductive Health Services (RHS) in the context of marginalization by poverty and population disruption by conflict or natural disasters or both. The basic assumption in this study is that IDW have low access to and therefore have low levels of uptake of RHS, which is in line with the assumption that some sectors of society receive less health care provision than others (R. Andersen & Newman, 1973).

The model was based on the premise that uptake of health services is a result of decisions made by an individual based on their attributes; uptake of RHS is constrained or enhanced by the position of individuals in society and the availability of health care services; and the knowledge, experience or perceptions of individuals regarding the need for RHS. According to HBM, the factors that influence individual uptake of health services are categorized into three: the predisposing variables which are those that enable or inhibit individuals from making decisions to utilize health services; the enabling variables which are those that promote or impede utilization health services even if they are able to make correct decisions; and the need variables which are the

variable or set of variables that make individuals want to use or demand a health service.

The characteristics of the study subjects are presented using frequency distributions. The understanding of these characteristics facilitates the analysis and identification of the predictors of uptake of three main RHS including family planning, antenatal care and delivery care by IDW in the subsequent chapters. The characteristics are divided into predisposing variables, enabling variables and needs variables of IDW.

4.2 Predisposing factors

This section presents the percentage distribution of the IDW by the selected predisposing characteristics of the women. The selection of key background characteristics which could influence uptake of RHS was guided by the conceptual framework established earlier from the literature. The predisposing characteristics of the women described here are age, marital status, education, religion, place of residents and camp of displacement of the women.

Age of the women is one of the important predisposing factors mainly because women of different ages need for RHS vary as some of the health services women require are age dependent. According to Stephenson et al.(Stephenson et al., 2014) observed that younger women under the age of 18 years and older women over the age of 34 years have an increased need for RHS mainly because of the higher risk of maternal complications. Santos(Santos, Ferreira, Duarte, & Ferreira, 2018)and Andi et al. (Andi, Wamala, Ocaya, & Kabagenyi, 2014)also found that found that the need for contraceptive uptake increased with age of women, mainly because older women have

already achieved their family size desires and therefore are more likely to use contraceptives. In this study, the age distribution of the women shows that the majority were in the 25-34 years age group (42%) followed by those in the youngest aged of 15-24 years (40%). Older women, in the 35 years or older, comprised of only 18% of the study group. Overall, the median age of the women was 26 years indicating that they are young and the age distribution of the women shows the expected age pattern.

The level of education is another predisposing factor known to influence uptake of RHS. This is because education is an empowerment factor that has been associated with higher odds of reproductive decision making by women. Previous studies have found that non-use of contraceptives, low antenatal care attendants and non delivery in health facilities is more prevalent among women with no or low education. Previous studies (Silumbwe et al., 2018) and (Kabakian-Khasholian & Portela, 2017) have also revealed that higher education plays a crucial role in overcoming the barriers to RHS by women mainly because of the empowerment women with higher education get through better knowledge and increased ability to access RHS. This study, therefore, assessed the distribution of the women by educational attainment. Table 4.1 shows that about 4 in 10 of the women had no education and 30% each had primary and secondary or higher education respectively. The distribution of the women by level of education will enable the testing of the general hypothesis that IDW with higher education are significantly more likely to have used RHS than women with no education irrespective of their displacement status.

Marital status of women has been associated with reproductive health outcomes (Santhya, 2011). Women who are married or in union have been identified as those at

higher risk of conception and therefore in need of various RHS. Data presented in Table 4.1 shows that most (91%) of the women in the study are in union. The distribution of the women by marital or union status suggests that being in union is nearly universal for women who have ever given birth in the study population.

Furthermore, previous studies have established associations between uptake of RHS and religious affiliations (Bankole et al., 2015; Lassi et al., 2015). For example, a study in Pakistan found that in some areas such as the ethnically Pashtun-dominated area where radical Islam is practiced, women are discouraged from using RHS services provided by trained health workers because of suggestions that their services are un-Islamic. Additionally, conservative religious and cultural norms also do not allow women to travel unaccompanied by their husbands or receive services from male providers, which are impediments to utilizing health services by women (Lassi et al., 2015). Consequently, religious affiliation of IDW was assessed to examine its effects on uptake of RHS in this study. The distributions of the women by religious denominations show that more than 5 in 10 of the women are Christian and only 41% of the women are Muslim. This suggests that Christians were the largest population in terms of religious affiliations among IDW.

The place of residence is an important predictor of utilization of various RHS. Previous studies indicated that women who live in urban areas are more likely to utilize RHS (Kehinde Okanlawon et al., 2010a). This is mostly attributed to availability of not only the facilities, but also the health workers with the right set of skills to provide comprehensive RHS. It is also important to note that living in urban areas is selective such that most people in poor societies who live in urban areas are the so called privileged education

people who are amenable to urban way of life through education and therefore have a more negative attitude to tradition and embrace modern lifestyles. The attitude changes have favourable effects on uptake of RHS (Denno, Hoopes, & Chandra-Mouli, 2015). In this regard, the distribution of IDW by their place of residence was assessed. The data presented in Table 4.2 shows that more than 6 in 10 of the women lived in urban areas compared to only 37% who lived in rural areas.

Table 4.1 Profiles of internally displaced women by predisposing factors

Predisposing variables	%	N
Age group		
<25	40.28	170
25-34	42.18	178
35+	17.54	74
Level of education		
No education	40.28	170
Primary	29.86	126
Secondary or higher	29.86	126
Marital status		
In union	91.23	385
Ever married	8.77	37
Religious beliefs		
Christians	59.08	244
Muslims and others	40.92	169
Place of residence		
Urban	62.56	264
Rural	37.44	158
Current camp		
Gurku	37.44	158
Durumi	42.89	181
New-Kuchingoro	19.67	83
Total	100.0	422

The distribution of the women by camp of displacement was also assessed. This is because of the assumption that some camps are better positioned to provide RHS than others. In this regard, women who lived in camps that have capacity to provide RHS services routinely are expected to be more likely than those those that did not, to have received RHS services. Data presented in Table 4.2 shows that the majority of the IDW lived in Durumi camp (43%) followed by those who lived in Gurku camp (37%). Only 20% of the IDW lived in New Kuchingoro camp.

4.3 Enabling factors

In this study, the enabling factors comprise of the variables that either facilitates or have the potential to impede utilization of RHS. The main ones examined in this study are access to information about health services. Others are attitude of health workers, proximity to health facilities and availability of reproductive RHS.

Studies have described how access to information has influenced reproductive health among women (Clarke et al., 2016; Martin, Bulmer, & Pettker, 2013; Redmond, Baer, Clark, Lipsitz, & Hicks, 2010). For instance, a study conducted in Uganda which explores displaced persons' perceptions of their access to health services by information, found that most of the respondent's main sources of information was UN/NGOs and radios (Orach et al., 2013). To assess the women's access to information in this study, they were asked about their access to TV, the radio and newspapers/magazines as sources of information and the results are presented in Table 4.2. The table shows that the predominant number of the women did not have access to any source of information. The table shows that 83% did not have access to

TV; just over 7 in 10 reported having no access to the radio; and nearly 8 in 10 said they did not have access to newspapers or magazines. From the results, it can be concluded that the IDW did not have access to RHS information through the mass media. This situation therefore could have impeded uptake of RHS.

Another enabling factor to uptake of RHS by women is the attitude of and skills of health workers (Chilinda, Hourahane, Pindani, Chitsulo, & Maluwa, 2014; Tilahun, Mengistie, Egata, & Reda, 2012). Previous studies have found that health worker attitude can significantly influence uptake of RHS. For example, two study conducted in Nigeria found that poor and discriminatory attitudes of health workers towards women negatively affected uptake of RHS (B. Jacobs, Ir, Bigdeli, Annear, & Van Damme, 2012; Oyerinde et al., 2012). Conversely, studies conducted in Ethiopia revealed that majority of the health workers had generally positive attitudes toward sexual and reproductive health to adolescents which lead to easy and frequent access to health facilities (Binu, Marama, Gerbaba, & Sinaga, 2018; Motuma, Syre, Egata, & Kenay, 2016). In this regard the attitude of health workers according to IDW was examined and the result is presented in Table 4.2. The table shows that slightly more than half (51%) of the women attests to the fact that health providers had good and wellcoming attitudes. However, upto half (49%) of the women also reported that health workers have poor attitudes towards patients. Based on this atyitudes, it is anticipated that the perceptions of health worker attitudes by the women could influence uptake of RHS by the IDW.

Another important factor that could influence utilization of RHS is proximity to health facilities. It is generally assumed that women with close proximity to health services are more likely than those who live far away from health facilities to use RHS. Three main

reasons have been advanced for this observations: firstly a short distance to health facilities increases utilization even during emergencies such as in conflict situation (Kabakian-Khasholian & Portela, 2017; Lassi et al., 2015); secondly, a close health facility also reduces the cost of transportation incurred during routine services(Shrime et al., 2017); and thirdly, a close health facility also reduces time spend in seeking RHS services so that women have time for other pressing household engagements (Chimbindi et al., 2015). In this study proximity to health facilities was assessed by asking women to report distance to the nearest health facilities in Kilometers (KMs) and the result is presented in Table 4.2. The result shows that more than one third (37%) of the women reported that they lived more than 5 KMs to the nearest health facility; about 27% reported they lived within 1 KMs to the nearest health facility; and only 35% said they lived within 5 km to the nearest health facility. The results presented in this study shows that the majority of the women lived outside the 5 KM radius recommended by WHO, which could negatively affect their use of RHS.

Table 4.2 Profiles of internally displaced women by enabling factors

Enabling variables	%	Numbers
Access to TV		
No access	82.94	350
At least once a week	17.06	72
Access to radio		
No access	71.80	303
At least once a week	28.20	119
Access to newspapers/magazines		
No access	77.01	325
At least once a week	22.99	97
Attitude of health provider		
Poor/not welcoming	49.05	207

Good/welcoming	50.95	215
Proximity to health facility		
Within 5 KM	27.25	115
Within 10 KMs	37.44	158
10 or more KMs	35.31	149
Availability of reproductive services		
No	40.00	168
Yes	30.48	128
Don't know	29.52	124
Availability of referral systems		
Yes	16.6	70
No	83.4	352
Total	100.0	422

Furthermore in addition to the proximity to health facilities, availability of RHS services to women is an important enabling factor to uptake of RHS. It is not enough to have access to health facilities for women. What is more important is the ability of the health facilities to provide RHS (Abekah-Nkrumah, 2018; M. M. Islam & Gagnon, 2016). In this regard, the women were asked about the availability of RHS in their neighbourhood at the time of their most recent pregnancy. The data in Table 4.2 revealed that 40% and 30% of the women reported they had no RHS and had RHS in their neighbourhoods respectively. However, another one third of the women said they did not know whether or not they had RHS in their area of residence at the time they were pregnant with their most recent child. The above results suggests that women who reported not knowing and those who reported no RHS in their neighbourhoods were last likely to have used any RHS during their most recent pregnancy.

Additionally, the availability of referral services is important for the uptake of RHS. This is important in the event of pregnancy and delivery complications (B. Jacobs et al., 2012; Oyerinde et al., 2012). Previous studies have showed that access to referral services did not only greatly increase uptake of delivery care in health facilities (Gudu & Addo, 2017)), but also greatly improve pregnancy and delivery outcomes mainly by reducing the delay in reaching health facilities (Adegoke & Broek, n.d.; M. M. Islam & Gagnon, 2016). Referral services can be an indispensable need in the event of delivery complications. The data presented in Table 7.2 showed that more than 80% of the IDW said they did not have access to referral systems.

4.4 Needs factors

According to the HBM, the perceived and actual needs factors are important to make individuals seek health services. This is because of the presumption that for an individual to seek health services, there must be either a clear need which suggests that the individual is already sick and therefore in demand for care or the individual is aware of the risks of getting a health problem if appropriate action to prevent it is not taken. In this regard, in this study it is assumed that IDW would seek RHS either because they are in a situation that requires the service or are aware that not receiving routine RHS services can put them in situation of health adversity. Two of the important factors that can motivate women to attend RHS considered in this study are: a history of pregnancy complications and a history of delivery complications. These two conditions are most likely to motivate women to seek RHS during their most recent pregnancy and child birth regardless of their humanitarian emergency situation.

Women who have experienced pregnancy complications during previous pregnancies or are aware that pregnancy complications can occur are more likely to attend the continuum of RHS (Enuameh, Okawa, Asante, Kikuchi, Mahama, Ansah, Tawiah, Adjei, Shibanuma, Nanishi, et al., 2016; Gitonga & Muiruri, 2016; Newell, Spillman, & Newell, 2017). These services include antenatal care (ANC) and delivery care (DC). For example a study conducted in rural South Africa found that most women do not perceive significant health threats during pregnancy, and in turn view more than one antenatal care visit as unnecessary (Myer & Harrison, 2003; Sarker et al., 2016). In this regard, the women were asked about previous experience of pregnancy and delivery complications and the results are presented in Table 4.3. The table shows that the majority or two-thirds of the women did not experience any pregnancy complications previously. Only one-third of the women reported ever experiencing pregnancy complications. The table also shows that just under 5 in 10 of the IDW previously experienced delivery complications. The result shows that a small proportion of the IDW experienced pregnancy complications, which makes it reasonable to expect that many women in the study population could take pregnancy as a normal risk free experience and neglect uptake of RHS. However, the slightly higher proportion of IDW experienced some kind of delivery complications, which makes the need for HFD important. However, the lack of referral facilities could have contributed to the failure of a large number of women to take up HFD even if they wanted to do so.

Table 4.3 Profile of internally displaced women by perceived or actual reproductive health needs

Needs variables	%	Numbers
Previous pregnancy complications		
Yes	33.9	143
No	66.1	279
Previous delivery complications		
Yes	47.4	200
No	52.6	222
Total	100.0	422

4.5 Summary

This chapter presented the distributions of the IDW by selected predisposing, enabling and needs characteristics. The findings show that on the predisposing factors, the majority of the women were young and in the 25-34-year age group; were uneducated and in union or marriage at the time of their most recent birth; mostly Christians and lived in rural areas at their last birth. Additionally, most IDW lived in urban areas, but there was almost no difference in the population of IDW by camps of displacement. The findings also show that on the enabling factors, the majority of the women reported having no access to mass media; a good attitude of health workers; and were relatively proximate to health facilities and had no RHS services in the neighbourhoods. Regarding the need factors, the findings show that the majority of the IDW did not have a history of pregnancy and delivery complications which suggests that many of them did not have a compelling need for RHS during their most recent pregnancy and delivery, which could have affected their need for RHS.

Previous studies have shown that among the predisposing factors age, level of education and place of residence were significant predictors of uptake of RHS;

furthermore, a number of enabling factors including availability of sources of health information, proximity to health facilities, availability of referral services, availability of RHS, attitudes of Health workers were identified as significant predictors of RHS; and the having a history of pregnancy and delivery complications were also identified as significant predictors of uptake of RHS. In the present study, therefore, it is hypothesized that the above predisposing, enabling and needs factors are significant predictors of contraceptives, ANC and delivery care even the situation of humanitarian crisis as experienced by the IDW from North Eastern Nigeria. In the next chapters, the study will focus on analyzing and presenting results on the predictors of contraceptive uptake, family planning uptake and place of delivery as the main components of RHS.

CHAPTER FIVE

THE PREVALENCE OF AND PREDICTORS OF CURRENT USE OF CONTRACEPTIVE AMONG IDW IN NIGERIA

5.1 Introduction

The importance of family planning in addressing a wide range of health and socioeconomic problems in poor countries is now widely accepted. As a result, the Sustainable Development Goals (SGD) has included family planning as one of the important strategies for reducing the high preventable maternal and new born mortality in poor countries (Osotimehin, 2015). This is because family planning can prevent unintended pregnancy and the need for illegal abortion in countries where access to elective abortion is either prohibited or strictly restricted. Family planning can also contribute to women empowerment by enabling them participate in economic activities which bring along greater independence for women (Mitchell, 1972; PRATA et al., 2017). However, in a number of poor countries, especially those in sub-Saharan Africa, the unmet need for contraception continues to be high, mostly among married women (Tsui et al., 2017).

There are a number of factors that can explain the high unmet need for contraception in sub-Saharan African countries. These factors include the socio-cultural beliefs and values of patriarchy that continues to impose a high demand for children (Machiyama et al., 2017; Wulifan et al., 2017); structural factors associated with the availability, access and supply of contraceptives (Maïga et al., 2015); and persistent mistrust in the safety of contraceptives that encourages women to continue using traditional less effective methods of fertility regulation (Rossier & Corker, 2017). Another factor is the inadequate

awareness of the benefits of contraception such as improved health (Ringheim, Gribble, & Foreman, 2007) and economic status of households associated with longer birth spacing and fewer children (Onarheim, Iversen, & Bloom, 2016; Sonfield, Hasstedt, Kavanaugh, & Anderson, 2013). Structural problems caused by political, social and environmental emergencies have also significantly increased unmet need for contraception (Casey, Chynoweth, Cornier, Gallagher, & Wheeler, 2015; Undie, Khosla, & Blanchet, 2017).

Internally Displaced Women (IDW) in Internally Displaced Persons camps (IDP) due to the widespread conflicts in many sub-Saharan African countries are some of the population groups with no or little access to contraceptives. These camps are often characterized by high and spontaneous population movements which expose women to a lot of health risks and sexual violence (Seifert, 1996; Wood, 2006). The effects of these risks and violence are also compounded by the collapse of health systems and the challenges in accessing and using Reproductive Health Services (RHS) (Black, Bouanchaud, Bignall, Simpson, & Gupta, 2014; Gasseer, Dresden, Keeney, & Warren, 2004). One of the RHS that are impeded by displacement is contraceptive services. This is because IDW face several challenges, including disruption in the supply of contraceptive commodities (McGinn et al., 2011); difficulty of accessing health facilities for contraceptives (Peters et al., 2008); and also because health investments and focus during humanitarian emergencies shift to the management of trauma and post traumatic stress disorders (PTSD) (Silove, Ventevogel, & Rees, 2017), prevention of infectious diseases and malnutrition (Boyd et al., 2017).

However, because women make up a significant proportion of IDPs, and are exposed to the risk of unwanted pregnancy and childbearing, addressing their need for contraception should therefore be one of the major priorities in emergency situations such as wars, political disruptions, social conflicts and environmental disasters. This will inadvertently contribute to reducing the high maternal and new born mortality during emergencies. This chapter therefore assessed the prevalence of current use of contraceptives by IDW and identified its predictors in one of Africa's most brutal insurgencies led by the Boko Haram in North-Eastern Nigeria. Identifying these predictors could help develop appropriate strategies to not only increase utilization of contraceptives by IDW in Nigeria, but also in other population groups facing similar emergencies around the world.

5.2 The Health Behaviour Model

The Health Behaviour Model (HBM) (R. Andersen & Newman, 1973) was used to examine the prevalence and predictors of current use of contraceptives. The model was developed to examine the effect of inequality to access to health services. The premise of the model is that access to health services is a result of decisions made by individuals; is constrained by their position in society and the availability of health care services; and their perceived needs or actual need for health care based on the assessment of their health situation. The model therefore proposed that an individual's access to and use of health services is a function of three sets of factors: The first are predisposing factors influence health care decisions; the second are enabling factors enable or impede implementation of health care decisions; and the third are needs

factors which are the perceived or actual health challenges and conditions that make individual want to seek health care.

In this study, the predisposing factors are the socio-demographic characteristics of IDW which include: age groups, level of education, religious affiliation, and marital status, place of residence and camp of displacement. The enabling factors are: access to the mass media including newspapers, the radio and TV; health related factors including distance to health facilities, attitudes of health workers and availability of RHS. Regarding the needs factors, three factors were regarded to be important and these are: fertility intentions of the women; previous experience of pregnancy complications; and previous experience of delivery complications. Based on the above HBM and the attributes of IDW, in this chapter, three hypotheses were tested:

“The humanitarian situation notwithstanding, younger IDW in the <25 year age group were more likely than the older IDW in the 35 year or older age group to have been using contraceptives”;

“The humanitarian situation not withstanding, IDW living within one kilometers to a health facility were more likely than those living more than 5 kilometers from a health facility to have been using contraceptives”;

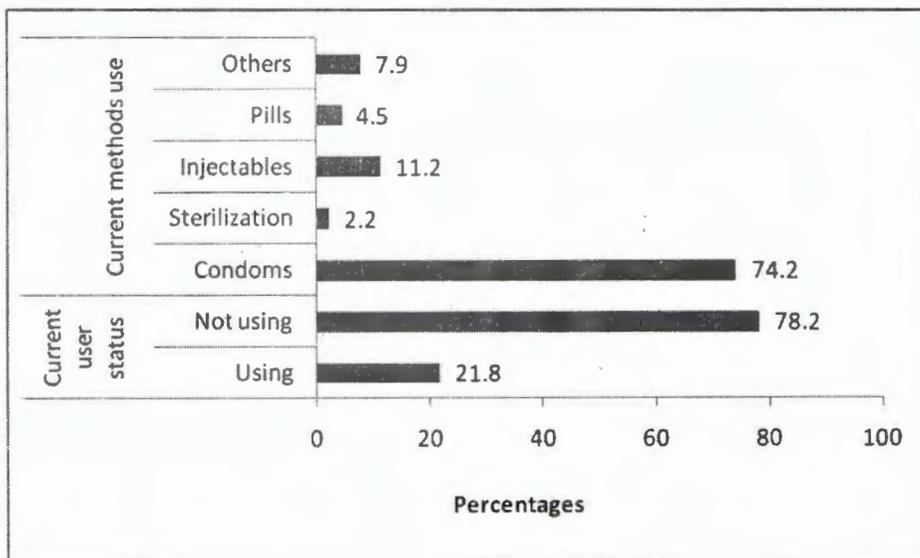
“The humanitarian situation notwithstanding, IDW who do not want to have any additional children were more likely than those who want to have a child sooner to have been using contraceptives”.

5.3 Uptake of modern contraceptives

In this section, uptake of modern contraceptives by the IDW is presented and described. The result in Figure 5.1 shows that only 21.8% of IDW in this study reported they were

using any form of modern contraceptives at the time of the study. This result indicates that contraceptive use in the study population is low probably because of lack of access to contraceptive services due to insurgency and displacement. The finding in this population is consistent with a similarly conflict ridden population in Somalia (A. A. Ahmed, Mohamed, Guled, Elamin, & Abou-Zeid, 2014) which suggests that conflict situations impede utilization of contraceptives probably because of lack of access.

Figure 5.1 Percentage distribution of IDW by any modern contraceptive uptake and method use



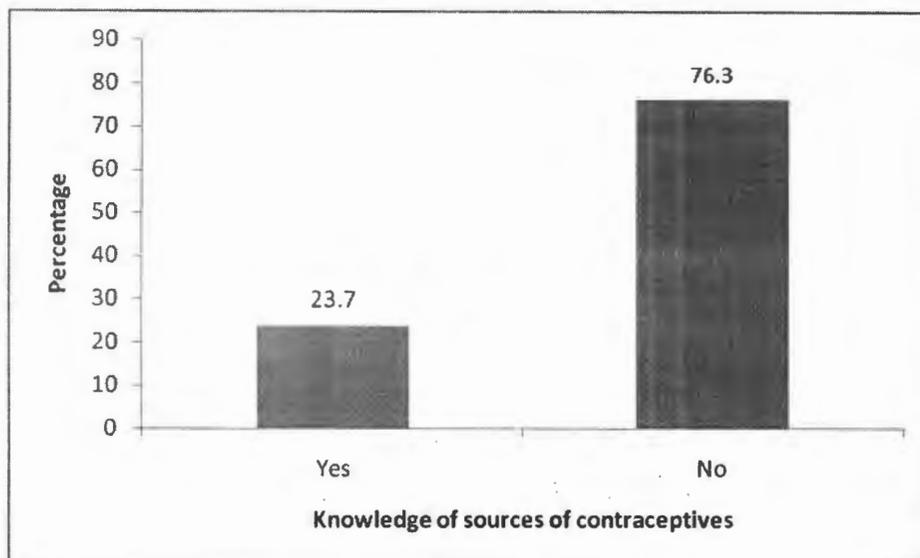
Nevertheless, the result is also consistent with the low prevalence of contraceptives reported among currently married women in Nigeria, which was attributed to lack of support for contraceptives by their spouses (Blackstone & Iwelunmor, 2017). A study on uptake of contraceptives in a refugee camp in Nigeria (Kehinde Okanlawon et al., 2010a) and elsewhere ((Aptekman et al., 2014) also revealed that utilization of contraceptives is low because of several reasons including lack of access to contraceptives; misconceptions regarding contraceptive safety; and religious prohibition.

Figure 5.1 also presents data on the current use of contraceptives by the IDW by type of method at the time of the survey. The figure shows of the 89 IDW who reported using a modern contraceptive, the condom with 74.2%, was the most used contraceptive method followed by injectables (11.2%), Pills (4.5%) and sterilization (2.2%). Other moderns of contraceptives together comprised of 7.9%. It was surprising to find that the pill, which is a common contraceptive in poor settings, was the least used. This is probably because of limited access to health facilities and the cost of pills. Although the condom was reported as the most common method used by this study population, it is likely that it was also used as a method to prevent sexually transmitted infections (STIs) mostly at the behest of men. Previous studies have suggested that condoms are not used consistently and therefore are not reliable for pregnancy prevention (Cleland & Ali, 2006; Hearst & Chen, 2004). Another study also observed that condom use decreases with age and marital status, which suggested that older couples and married couples who are the subject of this study were less likely to have used condoms (Adetunji, 2000; Maharaj & Cleland, 2004).

The knowledge of IDW regarding sources of modern contraceptives was assessed to better understand contraceptive prevalence. The result presented in Figure 5.2 shows that knowledge of sources of modern contraceptives among IDW is low. Only 24% of the IDW reported knowledge of sources of modern contraceptives, which compares very poorly with the 84% reported in the general population of women by the 2013 Nigeria Demographic Health Survey Report (Osaro, Tobin-West, & Mezie-Okoye, 2017). A study in another population ravaged by conflict, Somalia, also revealed low knowledge of sources of contraceptives, which was attributed to low education and

rural residence, which could have also explained the low prevalence of contraceptives among married women in that population (Ahmed et al., 2014).

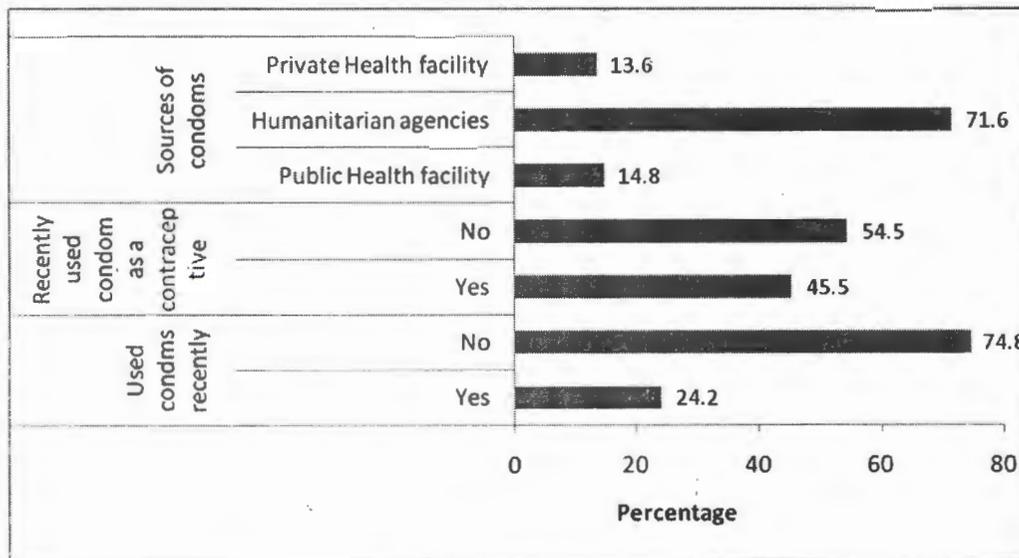
Figure 5.2 Percentage distribution of IDW by knowledge of sources of modern method of contraception



Because of the importance attached to the condom as a contraceptive and STI prevention, the prevalence of condoms use and the use of the condom as a contraceptive and its sources was assessed and presented in Figure 5.3. The figure shows that overall, only 24.2% of the IDW reported they ever use condoms, which is very low for a population in humanitarian emergency in which sexual norms are violated frequently. Of the women who reported they used the condom recently, only 45.5% reported that their recent use of the condom was to prevent pregnancy. This finding appears to support previous studies on reasons for the use of condoms in general mostly as a method for preventing STIs and not as a contraceptive (Agha, Kusanthan, Longfield, Klein, & Berman, 2002; Cleland & Ali, 2006). Furthermore, the main source of the condom was also assessed and the results are also presented in Figure 5.3

showing that of the 406 IDW who responded to the question, the majority of 71.6% said Humanitarian agencies are the main sources of condoms followed by 14.8% who said condoms are provided by public health facilities and 13.6% reported private health facilities as the sources of condoms.

Figure 5.3 Percentage distribution of IDW by current use of condom as a contraceptive and sources of condoms



5.4 Differentials in current use of contraceptives

This section presents and described results on the differentials in the current use of contraceptives. The description has been presented in the three components of the Health Behavioral Model, which are differentials by predisposing factors, enabling factors and needs factor.

5.4.1 Differentials in current use of contraceptives by predisposing factors

Contraceptives are at the center of effective family planning. However, its use can be shaped by several factors. In this sub-section, the differentials of the current use of contraceptives by predisposing characteristics of the IDW were examined and the results are presented in Table 5.1. The predisposing characteristics of women considered are age groups, religious affiliation, level of education and marital status. Others were place of residence and camp of displacement. The table shows that among the IDW in the <25-year age group, were the lowest users of contraceptives (13.6%) and more than one quarter (28%) and one quarter (25%) of the women age 25-34 and 35 or above were currently using a contraceptives at the time the study. The result indicates that age is significantly associated with the current use of contraceptives at $p < 0.05$. The finding appears to be consistent with some findings of previous studies which indicated that age is positively associated with contraceptive use (Chipeta, Chimwaza, & Kalilani-Phiri, 2010).

There have been mixed findings on the relationship between religious affiliation and the use of contraceptives among displaced and refugees women. A study conducted among Somali refugees in Finland revealed that religious affiliation of displaced women did not influenced their contraceptive use status (Degni, Koivusilta, & Ojanlatva, 2006). However, another study by Kiura (Kiura, 2012) revealed that religious beliefs played a significant role in the use of contraceptives among displaced women in Somalia. Furthermore, studies in stable populations also found contradicting findings in contraceptive use among Muslims and Christians. While some studies found that Muslim women used contraceptives more than Christians, especially Catholics,

because contraception is accepted in Islam (Nyarko, 2015), others found the reverse mainly because of the influence of modernization (Obasohan, 2015). The results in differentials in current contraceptive use by religion presented in Table 5.1 shows that more Christians IDW (24.5%) were using contraceptives at the time of the study than Muslim IDW (17.6%). However, religious affiliation was found to be weakly associated with the current use of contraceptive status of the IDW at $p < 0.1$.

Furthermore, previous studies in developing countries, including those in sub-Saharan Africa, found that the use of contraceptives increased by the level of education of women (Blackstone & Iwelunmor, 2017; Larsson & Stanfors, 2014). Another study among IDW also found that the use of contraceptives increased with the level of education (Gebremichael et al., 2014). In this regard, the effect of education on current use of contraceptives was examined and the result is presented in Table 5.1. The table shows that current use of contraceptives varied by the level of education of women. Only about 20% of the women with no or primary education used a contraceptive compared to nearly one quarter (24.5%) of those with secondary or higher education. The result indicates that the level of education was weakly significantly associated with the current use of contraceptives at $p < 0.1$. The differentials in uptake of modern contraceptive by educational attainment appear to be consistent with that observed by previous studies (Benage et al., 2015; Gebremichael et al., 2014).

The differential in current use of contraceptives by marital status is presented in Table 5.1. The table shows that regardless of women's marital status, the majority of the IDW were not using any modern contraceptives. The table shows that more currently in

union IDW (22.3%) followed by formerly in union IDW (19.5%) and never in union IDW (19.2%) women were using a contraceptive method at the time of the study. The test result for the association between marital status and current use of contraceptives shows that marital status was not significantly associated with the current use of contraceptives by IDW.

Table 5.1 Percentage distribution of women by contraceptives uptake and predisposing characteristics

Predisposing variables	Uptake of contraceptives		X ²	Total
	Using	Not using		
Age group				
<25	13.7	86.4	11.00; p=0.004	162
25-34	28.7	71.8		170
35+	25.0	75.0		76
Religious beliefs				
Christians	17.6	82.4	2.69; p=0.065	159
Muslims and others	24.5	75.5		249
Level of education				
No/Primary	19.7	80.3	2.74; p=0.065	290
Secondary or higher	27.1	72.9		118
Marital status				
Never in Union	19.2	80.8	0.27; p=0.872	26
In union	22.3	77.7		341
Ever in Union	19.5	80.5		41
Total	21.8	78.2		408

5.4.2 Differentials in modern contraceptives uptake by enabling factors

The differentials in current use of contraceptives was also examined by enabling factors some of which are structural in nature such as place of residence and camp of

displacement. Other factors examined include sources of information such as access to newspapers, the radio and TV; and knowledge related contraception and health facility related factors such as knowledge of sources of contraceptives, distance to health facilities and availability of reproductive health services at health facilities.

Previous studies have found that place of residence is an important enabling factor in the uptake of contraceptives mainly because it is a structural variable that places individuals to differential access to RHS in general and contraceptives in particular (Creanga, Gillespie, Karklins, & Tsui, 2011; Haq, Sakib, & Talukder, 2017; Osmani, Reyer, Osmani, & Hamajima, 2015). In this regard, differential in contraceptives use by place of residence was assessed and the result is presented in Table 5.2. The table revealed a surprising result which shows that more women from rural areas (26.2) used contraceptives than those from urban areas (19.4%). This is possible as many of the women displaced from rural areas might have relocated in urban camps, thereby distorting the contraceptive use prevalence in urban areas. A study by Beguy found that the contraceptive use prevalence is lower among poor urban women than women in rural areas, which corroborates the finding of this study (Beguy, Ezeh, Mberu, & Emina, 2017). However, the test of association between place of residence and contraceptive use showed that the place of residence was weakly significantly associated with uptake of contraceptives at $p < 0.1$.

Table 5.2 also presents differentials in contraceptive use by the camp of displacement. The result shows that more IDW in Gurku camp (26%) followed by Durumi camp (20.6%) and only 17% of IDW in New-Kuchingoro camp used contraceptives at the time of the study. The above results suggest that displacement during humanitarian crisis

undermines utilization of contraceptives by IDW and refugees. The result is consistent with the findings of a previous study which found that unmet need for contraceptives is high among IDW and refugees (Ackerson & Zielinski, 2017a; Solanke, 2017). However, the result of the analysis revealed that the current camp of displacement is not statistically significantly associated with the current use of contraceptives.

Differentials in exposure to information were examined by access to newspapers, the radio and television (TV) and the results are presented in Table 5.2. The major source of exposure for modern contraceptives can be the mass media and interpersonal communication messages. This is because information about public exposure to messages through specific means allows policymakers in ensuring the use of the most versatile medium of communication for various target groups in the population, especially those in difficult to reach areas.

To assess the effectiveness of dissemination of contraception information through different media among IDW, respondents were asked if they had been exposed to any contraceptives message in the past few months. Questions were asked if IDW had access to newspapers, radio and TV. Table 5.2 presents differentials in uptake of contraceptives by access to newspapers, radio and TV. The result shows that the majority of women using any contraceptives had a regular access to the radio (30.3%). The result further revealed that access to the radio was significantly associated with the current use of contraceptives status. Conversely, about one quarter (25%) of the women with regular access to newspapers and 22.4% of the women with a regular access to TV used contraceptives at the time of the survey. However, access to

newspapers and TV were not significantly associated with the current use of contraceptives status. A previous research in Kenya on the influence of the media on contraceptive use found that indeed the media is an important source of information on contraceptive and family planning for women (Babalola, Figueroa, & Krenn, 2017; J. Jacobs, Marino, Edelman, Jensen, & Darney, 2017). A study in Uganda in conflict setting found that 25% of the women reported the mass media as a source of information on contraceptives. The radio has been suggested as the most effective channel for mass communication as it is cost effective, requires no literary abilities and can be used in any condition including conflict and post conflict conditions (Cave & Wayne, 2017).

The knowledge of source of contraceptive is important for the utilization of contraceptives. Lack of knowledge of where to obtain contraceptives has been reported as one of the main predictors of unmet need for contraceptives. Previous studies in sub-Saharan Africa identified lack of knowledge of sources of contraceptives as a major factor impeding the use of contraceptives (Alege et al., 2016; Oye-Adeniran et al., 2005). Another study by Geary et al. (2016) found that actual knowledge of source and preferred source of contraceptives has a powerful bearing on actual use of contraceptive especially by young adults. In this study, the knowledge of the source of contraceptives and its effect on contraceptive use was examined. The result, presented in Table 5.2 shows that Over 28% of IDW who knew the source of contraceptives, were using contraceptives compared to only 18% among IDW who reported lack of knowledge of sources of contraceptive. The result is consistent with studies conducted in conflict settings which found that lack of knowledge of where to obtain contraceptive

was common and can exacerbate challenges women face in accessing contraceptives. A study among women in conflict suggest that part of the challenges in accessing contraceptives is a result of lack of knowledge of where to obtain the service (Obwoya et al., 2018; Tanabe et al., 2017).

Furthermore, differentials in utilization of contraceptives were examined by distance to health facilities and the results are presented in Table 5.2. The result shows that the prevalence of contraceptive use decreased with the distance to health facilities. The table shows that uptake of contraceptives decreased from a high of nearly 29% among women who live within 1km to nearly 22% among women who lived 1-5kms. Only 17.3% of the women who live more than 5 kms from a health facility used contraceptives. The result shows that distance to a health facility is weakly associated with the use of contraceptives ($p=0.054$). Although weakly associated, the result appears to support the view that closure distance to a health facility increases the use of contraceptives (Ettarh & Kyobutungi, 2012; Shiferaw et al., 2018). A study conducted in areas greatly affected by the Lords' Resistance Army (LRA) in Northern Uganda also found that longer distances to health facilities reduced the prevalence of contraceptive use (Namasivayam, González, Delgado, & Chi, 2017; Ouma et al., 2015).

The attitude of health professionals on utilization of contraceptives is very important in encouraging women to utilize the services. This is particularly important for young and unmarried women. Previous research findings suggest that young and unmarried women do not use contraceptives because of unfriendly and negative attitudes towards those who seek contraceptive services (Ahanonu, 2014; Tshitenge et al., 2018). In this

regard the IDW were asked to report their perceptions regarding the attitude of health workers and the results are reported in Table 5.2. The table revealed a narrow difference between IDW who reported good and poor attitudes of health workers. Nevertheless, slightly more IDW who reported good attitudes used contraceptives at the time of the study. However, attitude of health workers did not have a significant association with utilization of contraceptives.

Table 5. 2 Percentage distribution of women by modern contraceptives uptake and enabling characteristics

Enabling variables	Use of contraceptives		X ²	Total
	Using	Not using		
Place of residence				
Urban	19.4	80.6	2.54; p=0.042	263
Rural	26.2	73.8		145
Camp of residence				
Durumi	20.6	79.4	2.99; p=0.223	180
Duruku	26.2	73.8		145
New-Kuchingoro	16.9	83.1		83
Access to newspapers				
Always/sometimes	25.0	75.0	0.63; p=0.256	84
No access	21.0	79.0		324
Access to radio				
Always/sometimes	30.3	69.7	7.39; p=0.007	122
No access	18.2	81.8		286
Access to TV				
Always/sometimes	18.5	81.5	0.51; p=0.475	65
No access	22.4	77.6		343
Knowledge of sources of contraceptives				
No	28.4	71.6	3.19; p=0.043	95

Yes	19.8	80.2		313
Proximity to health facility				
Within 1 km	27.8	75.2	4.29; p=0.049	115
Within 1-5 kms	21.9	78.1		137
More than 5kms	17.3	82.7		156
Attitude of health workers				
Good	22.5	75.5	0.11; p=0.414	209
Poor	21.1	78.9		199
Availability of reproductive services				
No	24.3	75.7	0.81; p=0.218	144
Yes	20.5	79.5		264
Total	21.8	78.2		408

Availability of reproductive health services is an essential enabling factor in the utilization of RHS, including utilization of contraceptives. In this regard, the IDW were asked about the availability of RHS in camps and communities. The result presented in Table 5.2 shows that the majority, more than 24%, of IDW who were using contraceptives at the time of the survey reported that there were no RHS in their communities. The results presented in Table 5.2 show that availability of RH services is not significantly associated with uptake of ANC at $p < 0.05$. This is rather surprising and contradicts previous research findings from stable populations such as those by Kabaganye et al., Andi et al., and Ali et al. (M. Ali, Farron, Dilip, & Folz, 2018; Andi et al., 2014; Kabagenyi, Habaasa, & Rutaremwa, 2016). These studies found that there was a high correlation between utilization of contraceptives and availability of contraceptives services. The higher uptake of contraceptives in settings where services are reported to be unavailable suggests that the women sought contraceptive services

outside their communities. If this is true, the finding suggests that women are more likely to use contraceptives if they are available.

5.4.3 Differentials in the current use of contraceptives by need factors

The health behavioral model (HBM) proposed that apart from the predisposing and enabling factors, the decision to engage in a particular health behavior is dependent on the perception of or the actual need for that behavior. In this regard, the present study proposed that the need for contraceptives arises from three main dimensions. The first is the unmet need for contraceptives which is the inability to use contraceptives even if a woman would like to do so (Jacqueline E. Darroch, Sedgh, & Ball, 2011). Unmet need for contraceptives depend on a number of factors including, but not limited to the lack of knowledge of contraceptive methods, lack of access to contraceptive commodities, partner resistance to contraceptive adoption and the perceived negative risks of contraceptive (J. E. Darroch, Sedgh, & Ball, 2011). The second dimension of contraceptive use is the knowledge and understanding of the need for contraceptives in terms of appropriate assessment of the health benefits of contraceptives such as the prevention of risks in pregnancy and delivery complications associated with frequency and number of children ever born (CEB) (S. Ahmed, Li, Liu, & Tsui, 2012; Chola, McGee, Tugendhaft, Buchmann, & Hofman, 2015; Stover & Ross, 2010). The third dimension is the demand for children which is influenced by a number of factors including socio-cultural and economic factors (Brunson, 2010), and experience of child mortality (Creanga et al., 2011; Perin, Amouzou, & Walker, 2017), which are common features in fertility decisions in sub-Saharan Africa in general and humanitarian emergencies in particular. In this section therefore, we hypothesized that in settings

where unmet need for contraceptives is high; there is a lack of knowledge on the risks of childbearing; and demand for children is high, contraceptive prevalence would be low.

In this study, IDW were asked about their perception of and/or actual need for contraceptives. This was assessed by asking the women about their fertility intentions, previous experience of pregnancy and delivery complications. The effects of the above three attributes of need factors on contraceptive uptake were then assessed and the results are presented in Table 5.3. Fertility intentions was coded as wants a child soon, wants a child later and do not want any more children. Of the 408 women who responded, 53.4% of the IDW said they wanted a child soon, 34.1% said they wanted a

Table 5.3 Differentials in current contraceptive use by selected need factors

Need factors	Contraceptive use status		X^2	Total
	Using	Not using		
Fertility intentions				
Want a child soon	16.1	83.9	13.86; p<0.001	218
Want a child later	24.5	75.5		139
Do not want any more children	39.2	60.8		51
Experience of pregnancy complications				
Yes	15.8	84.2	4.79; p<0.05	133
No	23.0	72.0		275
Experience of delivery complications				
Yes	25.9	74.1	3.70; p<0.05	197
No	18.0	82.0		211
Total	21.8	77.2		408

child later and only 12.5% said they do not want any more children. Differentials of children by utilization of contraceptives status show that current use of contraceptives varies by the fertility intentions of the women. While nearly 40% of the women who did not want any more children said they were using a contraceptive, only 16.1% of the women who said they wanted a child soon used a contraceptive. The above finding is consistent with those of previous studies in stable populations that suggested that fertility desires and intentions have significant influence on contraceptive prevalence. These studies found that women who have not attained their fertility desires were less likely to use contraceptives as opposed to those who did not want any more children (Ahmed, 1987). The finding above also appears to be consistent to other studies which found that the demand for children increased and as a result lowered the need for

contraceptives in post conflict settings (Elmusharaf, Byrne, & O'Donovan, 2017; Orach et al., 2015). Additionally, a similar finding by a previous study suggested that the desire for large families was one of the factors that contribute to the low utilization of contraceptives by populations affected by social and political emergencies in sub-Saharan Africa (Ackerson & Zielinski, 2017a).

Furthermore, the risk of pregnancy complications or previous experience of pregnancy complications is expected to help women in determining their need for contraception. In this regard, the effect of previous experience of pregnancy complication on the current use of contraceptives was assessed and the result is presented in Table 5.3. The table shows that the current use of contraceptives varies by the women's previous experience of pregnancy complication. More women who said they have not experienced pregnancy complications (23.0%) were using a contraceptive than women who said they have ever experienced a pregnancy complication (15.8%). The result shows that previous pregnancy complication status was significantly associated with the current use of contraceptives at $p < 0.05$. The finding is a surprise as it is inconsistent with expectations and previous findings (Prata, Sreenivas, Vahidnia, & Potts, 2009; Tsui, McDonald-Mosley, & Burke, 2010). Nevertheless, it is also likely that some of the women who experienced pregnancy complications were low parity women, have not attained desired family size or have lost a pregnancy that they wanted to replace. This assertion is consistent with the findings of some previous studies which found that contraceptive prevalence was low among women of low parity, those who have experienced miscarriages and or infant mortality (Perin et al., 2017; Solanke, 2017).

Additionally, and similar to the experience of pregnancy complications, this study examined the effect of previous delivery complications on the current use of contraceptives by the IDW. The assessment is based on the proposition that women who have previously experience delivery complications are more likely to choose contraception as a method of averting future similar complications. The result presented in Table 5.3 show that as expected more women who experienced delivery complications were using contraceptives than women who did not experience delivery complications. Nearly 26% and 18% of the women who experienced and did not experience delivery complications respectively were using contraceptives at the time of the study. The result also shows that experience of delivery complications is significantly associated with current use of contraceptives by the IDW at $p < 0.05$.

5.5 Predictors of current use of contraceptives

To identify the significant predictors of current use of contraceptives by IDW, the nested binary logistic regression model was used. This was necessitated by the binary nature of the dependent variable and the need to control for the effects of the predisposing, enabling and other need factors at each model. In this regard, the dependent variable was categorized as currently using a contraceptive method coded "1" and currently not using a contraceptive method categorized "0". In the analysis, currently not using a contraceptive method was used as the reference category. All covariates that were found to be significantly associated with current contraceptive use status at $p < 0.1$ at the bivariate level of analysis were included in the models. Altogether four models were used test the following hypotheses while controlling for the effects of other covariates simultaneously at the adjusted models:

“The humanitarian situation notwithstanding, younger IDW in the <25 year age group were more likely than the older IDW in the 35 year or older age group to have been using contraceptives”;

“The humanitarian situation notwithstanding, IDW living within one kilometers to a health facility were more likely than those living more than 5 kilometers from a health facility to have been using contraceptives”; and

“The humanitarian situation notwithstanding, IDW who do not want to have any additional children were more likely than those who want to have a child soon to have been using contraceptives”.

Model 1 is the unadjusted model which aimed to test the three hypotheses without controlling for the effects of other factors. The results of the model presented in panel 1 of Table 5.4 show that the IDW were significantly less likely to have been using contraceptives if they were in the 25-34 year age group (OR=0.40; CI=0.23-0.70) and 35 year or more age group (OR=0.47; CI=0.24-0.93). The women were also significantly less likely to have been using contraceptives if they lived within 1-5 km from a health facility. Conversely, the women who said they did not want another child were 53% (OR=0.47; CI=0.15-0.58) significantly less likely to have been using contraceptives. The results in Model 1 confirmed the hypotheses that “the humanitarian situation notwithstanding, younger IDW in the <25 year age group were more likely than the older IDW in the 35 year or older age group to have been using contraceptives” and “the humanitarian situation notwithstanding, IDW living within one kilometer to a health facility were more likely than those living more than 5 kilometers from a health facility to have been using contraceptives”. However, the hypothesis that “the humanitarian

situation notwithstanding, IDW who do not want to have any additional child were more likely than those who want to have a child soon to have been using contraceptives" was rejected. These women could be categorized as those having unmet need for contraceptives.

In Model 2, the effects of age, distance to health facility and fertility intentions of the women on current use of contraceptives was controlled for by selected predisposing factors. These include religious affiliation of the women, level of education and the current place of residence. The results presented in the model show that the effect of age group 25-34 on current use of contraceptives increased by 4% and remained a significant predictor of current use of contraceptives. However, the significant effect of living within 1-5 kms from a health facility on current use of contraceptives was lost. However, unexpectedly, women who lived more than 5 kms from a health facility were 1.94 (CI=1.05-3.58) times significantly more likely to have been using contraceptives at the time of the study than women who lived with 1 km to a health facility. Additionally, the effect of not wanting an additional child on current use of contraceptives increased by 1% when controlled for the effects of the selected predisposing factors. The results show that none of the controlled predisposing factor was a significant predictor of current use of contraceptives.

Table 5.4 Logistic regression model showing factors predicting current use of contraceptive among IDW

Predictors	Unadjusted model				Adjusted models			
	Model 1		Model 2		Model3		Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Age groups of women								
<25	1.00		1.00		1.00		1.00	
25-34	0.40****	0.23-0.70	0.44**	0.25-0.79	0.44**	0.24-0.81	0.49**	0.26-0.91
35+	0.47**	0.24-0.93	0.58	0.28-1.21	0.56	0.26-1.22	0.58	0.26-1.25
Distance to health facility								
Within 1 km	1.00		1.00		1.00		1.00	
1-5 km	0.54**	0.30-0.97	1.55	0.85-2.84	1.63	0.86-3.10	1.72	0.89-3.32
More than 5 km	0.74	0.42-1.33	1.94*	1.05-3.58	2.09***	1.11-3.93	2.13***	1.12-4.03
Fertility intensions								
Want a child soon	1.00		1.00		1.00		1.00	
Want a child later	0.51*	0.35-1.00	0.59*	0.34-1.04	0.56*	0.32-1.02	0.61	0.34-1.09
Do want a child	0.29****	0.15-0.58	0.28***	0.14-0.57	0.29****	0.14-0.61	0.34***	0.16-0.71
Religious affiliation								
Christian			1.00		1.00		1.00	
Moslem and others			0.79	0.46-1.36	0.57*	0.39-1.08	0.57*	0.39-0.89
Level of education								
No/primary			1.00		1.00		1.00	
Secondary or higher			0.65	0.38-1.12	0.72	0.40-1.27	0.73	0.41-1.31

Place of residence						
Urban	1.00		1.00		1.00	
Rural	1.01	0.38-1.13	1.02	0.52-2.03	1.04	0.51-2.14
Access to the radio						
Not at all			1.00		1.00	
Frequently			1.87*	1.09-3.21	1.89**	1.09-3.26
Knowledge sources of contraceptives						
No			1.00		1.00	
Yes			1.51	0.84-2.71	1.72	0.94-3.18
Camp of displacement						
Duruku			1.00		1.00	
Durumi			2.46**	1.06-5.70	2.81**	1.15-6.88
New-Kachinguro			0.32**	0.14-0.69	0.30**	0.14-0.67
Experience of pregnancy complications						
Yes					1.00	
No					0.55	0.29-1.02
Experience of delivery complications						
Yes					1.00	
No					1.33	0.77-2.27

®= reference category; OR=Odds Ratio; CI=Confidence of interval; Level of significance *<0.10; **<0.05; ***<0.01; ****<0.001; *****<0.0001.

Furthermore, the effects of age groups, distance to health facility and fertility intentions on current use of contraceptives was investigated in Model 3 after controlling for the effects of selected predisposing and enabling factors simultaneously. The results are presented in Table 5.4 pannel 3 and shows that age group 25-34 remained a significant predictor of current use of contraceptive at 0.44 (CI=0.25-0.79) times; the effect of living more than 5 km from a health facility remained a significant predictor of current use of contraceptive and increased by 15% from 1.94 in Model 2 to 2.09 in Model 3; and the effect of wanting another child later was attenuated by 3% and that of not wanting another child at all increased by 1% in Model 3 up from the level in Model 2 and both remained significant predictors of current use of contraceptives by the IDW. However, among the control factors, the effects of being a Muslim was reduced by 57% (CI=0.39-0.98) and having access to the radio was increased by 87% (CI=1.09-3.21) and both remained significant predictors of current use of contraceptives. Being displaced in Durumi camp was also a significant predictor of increased current use of contraceptives by 2.46 times (CI=1.06-5.70). However, being displaced in New-Kachinguro camp significantly reduced the prevalence of current use of contraceptives by 0.37 (CI=0.14-0.69) times.

In Model 4, the last adjusted model presented in the last pannel of Table 5.4, the results show that age group 25-34 remained a significant predictor of current use of contraceptives and its effect increased by 5% of the level in Model 3; living more than 5 km from a health facility also remained a significant predictor of current use of contraceptives and its effect was increased by 4% of the level in Model 3; and not wanting another child also remained a significant predictor of current use of

contraceptives by IDW and its effect was increased by 5% of that in Model 3. The control factors that remained significant predictors of current use of contraceptives were being a Muslim, having access to the radio, and living in Durumi and New-Kachinguro camps. Whereas the effects of being a Muslim and living in New-Kachinguro camp were attenuated by 7% and 2% respectively, the effect of having access to the radio and living in Durumi camp were increased by 2% and 35% respectively from the levels in Model 3.

5.6 Summary

The main objective of this chapter was to assess the prevalence of and identify the factors predicting the current use of contraceptives by IDW in the three camps of Durku, Durumi and New-Kachinguro in Nigeria. The IDW are some of the women displaced by the ragging Boko-Haram insurgency in North-Eastern Nigeria, which has created one of the worst humanitarian emergencies in West Africa. Specifically, the chapter attempted to identify the patterns and some of the predictors of current use of contraceptives among IDW. To do so it was hypothesized that the age of the women, distance to health facilities and fertility intentions significantly influenced current use of contraceptives by IDW when other predisposing characteristics of the women, enabling factors that are structural in nature and the need factors that are expected to raise demand for contraceptives, were controlled for.

Overall, the study found that only 21.8% of the IDW were using contraceptives at the time of the study. The most common contraceptive in use was the condom followed by injectables, other contraceptives and the pill. The study also found that although

humanitarian agencies were reported as the main source of contraceptives, especially the condom, only 23% of IDW reported knowledge of the source of contraceptives, which inevitably could have affected the current prevalence of contraceptive uptake among IDW. As expected, the pattern of current contraceptive use shows that women in the middle ages of reproduction; women having secondary education; and women in Durumi camp, those with access to the radio and those who said they did not want another child used contraceptives. However, more women from rural areas reported current use of contraceptives, which is rather inconsistent with previous research findings in sub-Saharan Africa.

The test of the hypotheses for study confirmed that “younger IDW in the <25 year age group were more likely than the older IDW in the 35 year or older age group to have been using contraceptives”. However; the hypothesis that “IDW living within one kilometer to a health facility were more likely than those living more than 5 kilometers from a health facility to have been using contraceptives” and that “IDW who do not want another child were more likely to have been using contraceptives than those who want another child soon”, were not upheld by evidence in the study. The evidence from this study also suggests that living in close proximity to health facilities, wanting a child later and not wanting another child did not guarantee current use of contraceptives.

Other factors that were found to increase current use of contraceptives were access to the radio, knowledge of sources of contraceptives and living in Durumi camp. The study finding therefore suggests a high unmet need for contraceptives in this population of IDW. Considering that populations in humanitarian emergencies and post conflict settings are highly susceptible to sexual abuse and exploitation which lead to high rates

of unwanted pregnancy, increasing access to contraceptives and contraceptive information and commodities for IDW is urgent. This will help to avert the risks of poor maternal health and preventable maternal and infant mortality due to unwanted and mistimed pregnancies among IDW .

CHAPTER SIX

THE PREVALENCE AND PREDICTORS OF THE RECOMMENDED NUMBER OF ANTENATAL CARE VISITS IN NIGERIA

6.1 Introduction

Antenatal Care is a very important prerequisite for a healthy pregnancy and good delivery outcome. During ANC pregnant women are assessed on their general health and foetal health statuses; they are provided with nutrition counseling; and treated for physiological problems common in pregnancy (Organization, W.H, 2016). Additionally, pregnant women are provided with prevention and management services for diseases such as malaria, STIs including HIV and emotional and psychological disorders. Other services provided during pregnancy are iron and folic acid supplementation, tetanus toxoid vaccination; ultrasound scans and counseling against alcohol and tobacco use (Tunçalp et al., 2015).

Lack of, poor timing and in adequate number of ANC visits in developing countries has been blamed for the high rate of maternal and new-born mortality in these countries (Yaya et al., 2017a). Women who initiate ANC attendance late or attend fewer than the recommended number of ANC visits have elevated risk of experiencing poor pregnancy and delivery outcomes (group, 2015). A number of previous studies have reported late and inadequate attendance of ANC. For example, a study in Rwanda found that women who attended ANC did so less frequently than the recommended number of visits (Rurangirwa et al., 2017). Another study in DR-Congo also found that women did not only attend less than required number of ANC visits, but they also initiated ANC visits later than recommended (Nsibu et al., 2016b). Similar findings have been reported in

Tanzania (Gross, Alba, Glass, Schellenberg, & Obrist, 2012) and Nigeria (Iyaniwura & Yussuf, 2009).

A study on the predictors underpinning the recommended number of ANC visits is important in the context of humanitarian crisis mainly because it provides stakeholders including government, relief agencies and other human rights defenders the opportunity to respond appropriately in promoting ANC for pregnant women in humanitarian crisis. Previous studies have identified a number of factors that influence uptake of ANC in general, and the number of ANC visits in none crisis settings in sub-Saharan Africa. These factors have been summarized into three; namely predisposing, enabling and need factors.

The predisposing factors that have been examined in none crisis settings include the individual level characteristics of the women such as maternal age, religious affiliation, maternal education, marital status and place of residence. A number of previous studies have suggested that maternal age affects not only uptake of ANC, but also the number of ANC visits. These studies found that younger women are more likely than older women to have attended the recommended four or more ANC visits (Abosse, Woldie, & Ololo, 2010; Neupane & Doku, 2012). The level of education has also been identified as another important determinant of ANC attendance. These studies have observed that women with no or low education initiate ANC attendance late and attend far fewer ANC visits than the recommended four visits (Kawungezi et al., 2015b; Yaya et al., 2017a). The inadequate ANC attendance by women with no or low education has been attributed to lack of information and knowledge on the importance of regular ANC visits and attitudinal resistance (Haddrill et al., 2014).

Another factor that was found to influence the uptake and number of ANC attendance is religion affiliation of women. Findings on the effect of religion on ANC attendance have been inconsistent. Although one study found that women affiliated to Christianity are more likely to attend the four or more ANC visits than other religious groups (Rutaremwana, Wandera, Jhamba, Akiror, & Kiconco, 2015), another study in Uganda and Nigeria found that Muslim women attended more ANC visits than Christians (Ebuehi & Akintujoye, 2012; Edward, 2011; Kisuule et al., 2013). Although these studies did not explain the underlying cause(s) of the differentials in attendance of ANC by women of various religious groups, it could be associated to differences in access, information and knowledge of ANC. Other studies also found that married women are more likely to attend the four or more ANC visits than unmarried women (Kawungezi et al., 2015b), probably because of the support married women receive from their husbands. Furthermore, women in urban areas are also found to be more likely than women in rural areas to attend the recommended four or more ANC visits, which has been attributed to better access to health facilities in urban areas than rural areas (Tran et al., 2011a).

The enabling factors found to predict the number of ANC visits are access to information, distance to health facilities, attitude of health workers and availability of trained health personnel in neighbourhood health facilities. Most women learn about the importance and availability of ANC through the mass media. Media channels that have been found to play important roles in attending ANC visits are newspapers, the radio and televisions (TV). Previous studies on the role of the mass media revealed that women with access to newspapers, radios and TV are more likely than those with no

access to these mass media channels to have attended the four or more ANC visits (Acharya, Khanal, Singh, Adhikari, & Gautam, 2015; Dansereau et al., 2016b). The distance to the health facility has also been identified as a significant predictor of the number of ANC visits. Women with close proximity to health facilities attend more ANC visits than women who live far away from health facilities (Karanja et al., 2018), which was attributed to lower transport costs to health facilities. The availability of health workers and equipment at health facilities (Gupta et al., 2014) and their attitude to patients including pregnant women (Mannava, Durrant, Fisher, Chersich, & Luchters, 2015; Roberts et al., 2015) were also found to affect the frequency of ANC visits. Some studies found that women who reported absence of health workers and poor attitude of health workers did not attend or attended fewer than the recommended number of ANC visits.

The needs factors are important in ensuring that pregnant women attend ANC visits regularly regardless of their predisposing and enabling characteristics. This is because the actual or perceived need for ANC determines whether or not pregnant women will attend the recommended number of ANC visits. In this regard a number of studies have examined the effects of a history pregnancy complications and a history of delivery complications on uptake of ANC in general and attending the four or more ANC visits in particular. These studies revealed that women with a history of pregnancy complications (Yaya et al., 2017a) and a history of delivery complications (Fisseha, Berhane, Worku, & Terefe, 2017) attended the recommended number of four or more ANC visits compared to women who did not have a history of complications. Other need factors that affected frequency of ANC visits in previous studies are common pregnancy

infections such as STIs and malaria (Asundep et al., 2014a). Pregnant women who experienced these illnesses were more likely than those who did not, to have attended the four or more ANC visits.

However, studies on the prevalence and predictors of the four or more ANC visits are quite limited in the context of humanitarian crisis. From the literature reviewed, very little information on the number of ANC visits in the context of humanitarian crisis was found. It is therefore not known whether or not the predisposing, enabling and need factors outlined above influence the number of ANC visits in humanitarian situations in the same way as in stable populations. This study therefore extends our understanding of the role of the predisposing, enabling and need factors described above on frequency of ANC visits in a humanitarian crisis situation. In this chapter, the prevalence and predictors of attendance of and number of ANC visits by IDW is presented. Accordingly, ANC attendance was measured as no ANC visits, less than 4 ANC visits and 4 or more ANC visits during the last pregnancy. The eligibility criterion for inclusion was the last pregnancy which implies that all women who were pregnant at the survey date and who have never been pregnant were excluded from the analysis.

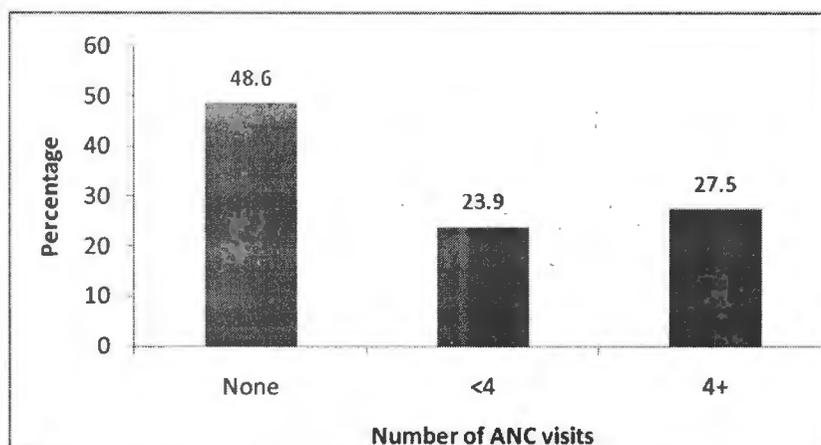
6.2 Uptake of Antenatal care services

In order to experience a healthy pregnancy, avoid the risk of still births, pregnancy complications and prepare mothers for a good delivery outcome, the WHO has recommended that women should have attended at least four ANC visits and at least one visit in each trimester (Organization, W.H, 2016). One of the population groups with the greatest need for ANC is IDW living in countries facing Humanitarian crisis.

Unfortunately, these are also the population group facing daunting barriers to RHS in general and ANC in particular (Wilunda et al., 2017).

In this section, the uptake of ANC visits by IDW was described and the results are presented in Figure 6.1 by presenting the distribution of IDW by the number of ANC visits. The figure shows that 48.6% of the IDW did not attend any ANC visits, nearly 24% and about 27% had less than and four or more ANC visits respectively during the last pregnancy.

Figure 6.1 Percentage distribution of IDW by number of ANC visits during the last pregnancy

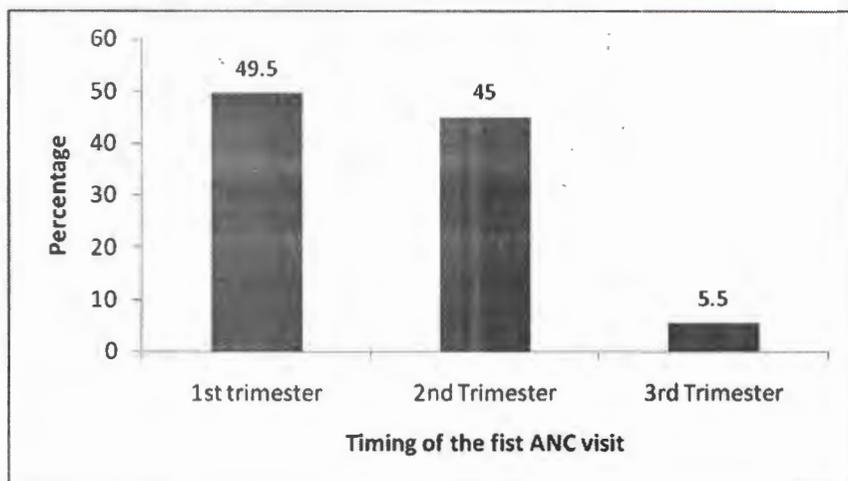


The result revealed that attendance of four or more ANC visits by IDW was low, which is consistent with a number of studies on pregnant women in the general population of women in sub-Saharan Africa (Fagbamigbe & Idemudia, 2017; Taylor et al., 2013). A number of studies in populations ravaged by war and conflict also found that fewer women attended the recommended number of ANC visits, suggesting that war or conflict contributes to reducing access to ANC services (Anastasi et al., 2015; Wilunda et al., 2017). The above studies identified financial barriers, difficulty in accessing health

facilities and lack of trained health personnel as some of the factors impeding uptake of recommended ANC visits. Even where ANC is provided, many women do not receive the complete set of recommended screening and this was attributed to high costs, lack of screening services and husbands' refusal to grant permission to do so (Bocoum, Kouanda, & Zarowsky, 2014).

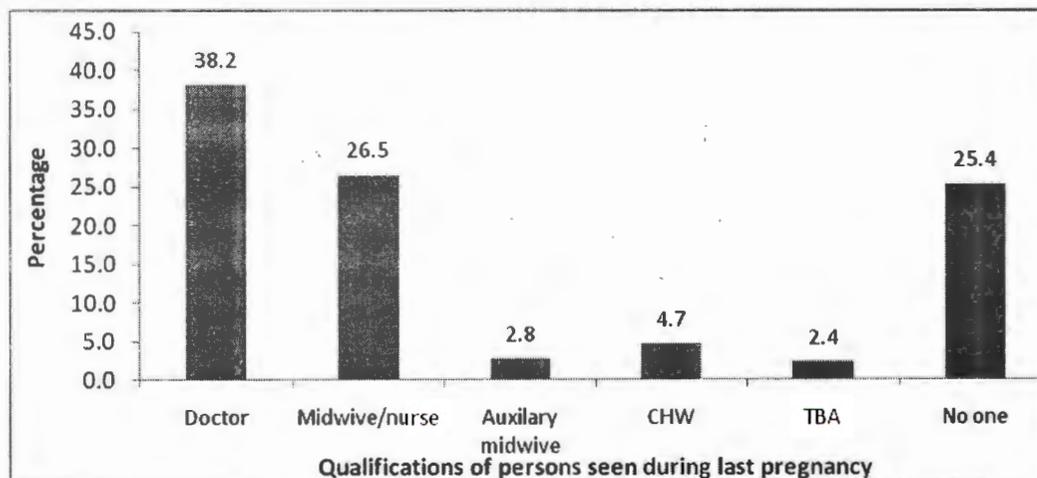
The early timing of ANC is also important for early diagnosis of pregnancy complications and ensuring pregnancy wellness and good pregnancy outcomes for mothers and their infants. A number of studies in developing countries found that the timing of the first ANC is often late (Kamal, Hassan, & Islam, 2015; Paudel, Jha, & Mehata, 2017; Yaya et al., 2017a). For example, a study in South Sudan (Wilunda et al., 2017) and another one in displaced people's camps in Northern Uganda (Edward, 2011) found that most women who attended ANC visits, booked for the first ANC late. In this regard, the present study assessed the timing of the first ANC visit by IDW during the last pregnancy and the result is presented in Figure 6.2. The figure shows that more than 5 in 10 of the IDW did not attend ANC visit during the first trimester. About 45% and more than 5% of IDW attended the first ANC visit in the second and third trimester respectively, which was quite late and could have seriously jeopardised not only the health of the pregnancy, but also the delivery outcome.

Figure 6.2 Percentage distribution of IDW by the timing of the first ANC visit



To get the best result from ANC, the WHO recommends that pregnant women must be assessed by well-trained health personnel. This is because the skills of ANC service providers is important in determining compliance, completeness and future attendance of ANC. They are also important in linking ANC attendees to health facilities for delivery. In this regard the IDW were asked to report the professional status of the persons who attended to them during ANC visits during the last pregnancy.

Figure 6.3 Percentage distribution of IDW by type of ANC service provider



The data presented in Figure 6.3 shows that about 38% and 27% of the IDW were attended by doctors and midwives/nurses respectively. However over a quarter of the IDW did not see any one for pregnancy assessment during the last pregnancy, which was a serious breach of pregnancy management protocol. Another 2.8%, and 4.7% were assessed by auxiliary midwives and Community Health Workers (CHW) respectively who are not well trained health workers; and only 2.4% were attended by Traditional Birth Attendants (TBA). Tebbets (Claire Tebbets, 2008) attributed the low use of trained medical workers for ANC and other RHS during humanitarian emergencies to the lack of trained health workers. Onyango and Heidari (Monica Adhiambo Onyango & Shirin Heidari, n.d.) also observed that most health workers handling RHS cases including ANC during humanitarian emergencies are not appropriately trained. Additionally, Lisam (Lisam, 2014) suggests that in the early stages of humanitarian crisis, RH concerns are given low priority, which may explain the lack of adequate reproductive health workers at the beginning of such crisis.

6.3 Differentials in ANC uptake

In this section, The Health Behaviour Model (HBM) was used as a theoretical framework to examine the differentials in ANC visits. The first sub-section examined the differentials in ANC visits by predisposing factors; the second sub-section examined the differentials in ANC visits by enabling factors; and the third sub-section examined the differentials in ANC visits by needs factors.

6.3.1 Differentials in antenatal care uptake by predisposing factors

The number of ANC visits during any pregnancy is influenced by a number of predisposing factors. The predisposing factors are those that are likely to influence

individual's perceptions of their health(R. M. Andersen, 2008). These factors also influence the individual's decisions and capabilities to seek or not to seek health care.The construct argues that individualswith certain characteristics are more likely to use health services than others. The predisposing factors relevant in this study include individual and structural factors such as age, Religion, level of education, marital status, place of residence and the social and political environment in which individuals live. In this section the roles of the above factors on the number of ANC visits by IDW were examined.

The age of a woman has been identified as one of the predisposing factors influencing uptake of and number of ANC visits in sub-Saharan Africa. A number of studies in this region have suggested that younger women are more likely than older women to attend more ANC visits in any pregnancy (Ochako & Gichuhi, 2016; Rurangirwa et al., 2017)and therefore women facing humanitarian crisis are expected to behave similarly. In this regard, the effect of the age of the IDW on number of ANC visits was assessed and the results are presented in Table 6.1. The table shows that attendance of the recommended four or more ANC visits varied by age group of the women. Nearly one third (32%) of the IDW in the <25 years age group attended ANC visits at least four times compared to only 15% of IDW in the 35 years or older age group. Conversely although the difference was marginal, compared to the older women aged 35 years or older (50%),fewer younger women did not attend ANC visits (48.8%). The result indicates that age is significantly associated with the number of ANC visit at $p < 0.05$. The finding is consistent with the findings of previous studies in the general population of women observed by the studies cited above.

The study also assessed the differentials in the number of ANC visits by the Religious affiliation of the IDW. Previous studies found that differences in religious affiliation were associated with the number of ANC visits. A study in Uganda in which the association between religious affiliation and number of ANC visit was assessed, found that more Muslim women followed by Protestant and Catholic women attended four or more ANC visits (Edward, 2011). Another study in Nigeria also found Muslim women attended ANC more than Christians (Ebuehi & Akintujoye, 2012). In this study the effect of religious affiliation on number of ANC visits was assessed and the results are presented in Table 6.1 showing that indeed the number of ANC visits varied by the religious affiliation of the IDW. The result shows that more Muslim IDW (29%) attended four or more ANC visits compared to Christian IDW (28%). Additionally, the result also shows about 53% of the Muslim IDW did not attend any ANC visits compared to about 45% of Christian IDW. Although fewer Christian IDW did not attend any ANC visits, the reverse is true for Muslim IDW with four or more ANC visits. The result shows that religious affiliation is significantly associated with the number of ANC visits by the IDW at $p < 0.05$.

Education as a means of empowerment does not only help women to make health decisions that ensures the wellbeing of their pregnancy, but also provides them with the capability to access health services. A number of previous studies found that the level of education is an important predisposing factor in attendance of ANC visits. These studies were able to demonstrate that women with tertiary education are more likely to attend the four or more ANC visits than women with no education (Beeckman, Louckx, & Putman, 2010; Ebonwu, Mumbauer, Uys, Wainberg, & Medina-Marino, 2018). In this study, the effect of education on the number of ANC visits by IDW was assessed and

the result is presented in Table 6.1. The table shows that as expected, the proportion of women attending ANC visits and the number of visits varied by the level of education of the women. About 3 in 10 of the women with secondary or higher education attended the four or more ANC visits compared to only 1 in 10 IDW with no education.

Additionally, fewer (46%) women with secondary or higher education did not attend ANC visits compared to the women with no education (55%). The result shows that the level of education is significantly associated with the number of ANC visits at $p < 0.05$. The differential in ANC visit by educational attainment of the IDWs consistent with previous observations, which could be attributed to the better understanding of the importance of ANC for a healthy pregnancy and good pregnancy outcome (Muyunda, Makasa, Jacobs, Musonda, & Michelo, 2016); and better access to information on safe motherhood practices by educated women (Ngilangwa et al., 2016). However, the high proportion of women with secondary or higher education who did not attend ANC suggest that the effect of education on ANC visits might have been mediated by the effects of the humanitarian crisis on access to health facilities.

Table 6.1 Percentage distribution of women by antenatal care uptake and predisposing characteristics

Predisposing variables	Number of ANC			χ^2	Total
	None	<4	4+		422
		%			%
Age group					
<25	49.5	18.8	31.8	10.69; p=0.031	170
25-34	46.6	24.7	28.7		178
35+	50.4	33.8	14.9		74
Religious beliefs					
Christians	45.5	28.2	26.3	6.65; p=0.036	255
Muslims and others	53.3	17.4	29.3		167
Level of education					
No education	55.9	25.3	18.8	12.56; p=0.012	170
Primary	40.5	23.0	36.5		126
Secondary or higher	46.8	23.0	30.2		126
Marital status					
In union	49.5	24.1	26.5	3.41; p=0.184	374
Ever married	41.7	22.9	35.4		48
Place of residence					
Urban	40.9	30.7	28.4	19.91; P=0.000	264
Rural	61.4	12.7	25.9		158
Current camp					
Gurku	61.4	12.7	25.9	28.74; 0.000	158
Durumi	47.0	28.7	24.3		181
New-Kuchingoro	27.7	34.9	37.3		83
Total	48.6	23.9	27.5		422

Marital status is an important predisposing factor for the uptake of ANC visits. This is mainly because husbands could support their pregnant wives to seek ANC services by accompanying them to health facilities (Turyasiima et al., 2014). In this study, differential in number of ANC visits by marital status is presented in Table 6.1. The table shows that the number of ANC visits varied by the marital status of the IDW at the last

pregnancy. The table shows that nearly 50% of the women in union and over two-fifth (41.7%) of the formerly married women did not attend ANC visits. Conversely, only 35% and nearly 27% of the formerly married women and women in union respectively attended the four or more ANC visits. The finding in this study is inconsistent with a previous study in Malawi where more women in union attended the recommended number of ANC visits than previously married women. In that study, the association of marital status and number of ANC visits was also statistically significant (Nkoka, Chuang, & Chen, 2018). Another study in Ghana also found that unmarried women and previously married women were less likely to have attended the four or more ANC visits (Sakeah et al., 2017). It is likely that most of the previously married women in this study population had their last pregnancy when they were married and before the onset of the humanitarian crisis that drove them into the camps and had access to adequate health facilities when they were pregnant with their last birth. However, marital status was not significantly associated with the number of ANC visits in this study.

Previous studies have established a link between the place of residence and the number of ANC visits during pregnancies. The studies found that women in urban areas are more likely than those in rural areas to attend the recommended number of ANC visits (Tran et al., 2011a). Part of the explanation given for this observation was the easy access to health facilities in urban areas compared to rural areas. Additionally, urban women are also more aware and pragmatic in many areas including the need to seek health care, which helps them to attend ANC services regularly. The present study therefore examined the differentials in number of ANC visits by IDW by their place of residence during the last pregnancy and the result is presented in Table 6.1. The table

shows that whereas the differences between urban and rural areas in attending the recommended four or more ANC visits was small, more urban women (28%) than rural women (26%) attended the four or more recommended ANC visits during the last pregnancy. However, the difference between urban and rural women who did not attend ANC visits was high, with 61.4% of rural women reporting they did not attend ANC during the last birth compared to 40.9% of urban women. The table also shows that over 30% of IDW in urban areas and only 13% of IDW in rural areas, attended ANC visits less than four times. The results revealed that place of residence was significantly associated with the number of ANC visits at $p < 0.05$.

Regarding the effects of camps of residence, no studies specifically on number of ANC visits in humanitarian crisis were found. However, in this study the result shows that camps invariably affect uptake of ANC and number of ANC visits. The data presented in Table 6.1 revealed that the majority of IDW did not attend ANC during the last pregnancy irrespective of the camps they lived in. Differentials by camps shows that the majority of IDW in Durku camp (61%) followed by Durumi camp (47%) did not attend ANC visits during their last pregnancy compared to only 28% of women in New Kuchingoro camp. However, of those who attended less than four ANC visits, the prevalence was higher among IDW in New Kuchingoro camp (34.9%) followed by Durumi camp (28.79%) and lowest in Durku camp (12.7%). Furthermore, New Kuchingoro camp, with 37%, had the highest proportion of women who attended the four or more ANC visits. The findings of this study revealed that the camp of residence is statistically significantly associated with the number of ANC visits at $p < 0.05$. The higher uptake of the recommended number of ANC visits by IDW in New Kuchingoro

camp could partly be explained by its close proximity to Abuja City, and therefore has greater access to health facilities than the other two camps.

6.3.2 Differentials in antenatal care uptake by enabling factors

Enabling factors in health care use are factors that facilitate individuals in using health services. These factors are mostly structural in nature because they increase the capacity of individuals in using health care services. Some of the commonly investigated enabling factors include economic status that define the resources base; access to information on why and where to obtain a service; social capital structures that support people in the process of health seeking; availability or proximity to health services; and availability of professional health services workforce (R. M. Andersen, 2008). In this section, the effects of some of the above enabling factors on ANC attendance by IDW were examined.

Understanding why a health service is used and where to obtain it is a function of sources of information. In this section the effect of three sources of information on number of ANC visits were examined. These were access to newspapers, access to the radio and access to television. These sources of information were chosen because they are the three most basic mass media channels through which health information is disseminated to patients (Grilli, Ramsay, & Minozzi, 2002; Wright, 1975). In that regard, differentials in number of ANC visits by the three sources of information was examined and the results are presented in Table 6.2.

The table shows the number of ANC visits varied by access to newspapers. As expected, the majority of the IDW with no access to newspapers did not attend ANC

visits (50.1%) and only 22% and 27% of IDW with no access to newspapers attended ANC visits <4 times and 4 or more times respectively. However, 32.7% and nearly 22% of IDW with regular access to newspapers attended ANC visits <4 and 4 or more times in the last pregnancy. The result shows that access to newspapers is not significantly associated with number of ANC visits. This is probably because the number of IDW who reported regular and occasional access to newspapers was only 55 and 42 respectively.

Table 6.3 also presents the differential in number of ANC visits by access to the radio. The result shows that nearly 80%, 13% and 7.4% of the IDW who reported regular access to the radio did not attend ANC visits, attended ANC visits <4 and 4 or more times respectively, which is very surprising. The result also revealed that the proportion of IDW attending ANC visits 4 or more times increased monotonically from 7.4% to 32% for IDW with regular and no access to the radio respectively. The poor attendance of ANC by IDW with regular access to the radio could be attributed to the use of the radio as a channel of entertainment (music) rather than information and education, which is common in sub-Saharan African populations. The result shows that access to the radio and number of ANC visits during the last pregnancy was significantly associated at $p < 0.05$.

Regarding access to television, the data presented in Table 6.3 shows that regardless of whether or not the IDW had access to TV, the majority of the women did not attend ANC visits. However, the proportion of IDW attending the 4 or more ANC visits increased from 16.3% among women with regular access to the TV to 29.4% among women with no access to the TV. This finding is also surprising, which is an indication

that the TV is not being used as a source of information and education. The higher attendance of ANC visits by IDW with no access to the TV could also be explained by other factors other than access to TV. Nevertheless, the result shows that access to TV was significantly associated with the number of ANC visits at $p < 0.05$.

Table 6.3 also presents differentials in attendance of ANC visits by proximity to health facilities and the results are presented in Table 6.3. The table revealed that attendance of ANC visits varied by the distance to health facilities. The proportion of IDW who did not attend ANC increased from 39.1% among women living within one km to a health facility to 65.3% among women living more than five kms from a health facility. Conversely, the proportion of IDW who attended the 4 or more ANC visits reduced monotonically from 31.3% among women living within one km to a health facility to only 23.3% among women living more than five km from a health facility. The result shows that distance to a health facility was significantly associated with the number of ANC visits at $p < 0.05$. The result is consistent with previous studies in stable populations which found that women living far from a health facility were less likely to have attended ANC visits (Karanja et al., 2018).

Furthermore, Table 6.3 also presents differentials in attendance of ANC by attitudes of health workers to patients. The table shows that as expected the majority of the IDW, nearly 6 in 10, who reported poor attitude of health workers did not attend ANC visits during the last pregnancy, which is consistent with the findings of a previous study (Mannava et al., 2015). Only 20% and 22% of the IDW who reported poor attitudes of health workers attended ANC visits <4 and 4 or more times respectively during the last pregnancy. Conversely, nearly 40%, 28% and about one third (33%) of IDW who

reported good attitudes of health workers did not attend ANC visits, attended ANC visits <4 and 4 or more times respectively during the last pregnancy. The results show that attitude of health provider was significantly related with number of ANC visits at $p < 0.05$.

Availability of reproductive health service providers was reported as an important enabling factor in the uptake of RHS by a previous study (Gupta et al., 2014). Table 6.3 presents results on differentials in attendance of ANC services by availability of RH workers in neighbourhood health facilities and the results revealed that the majority of nearly 6 in 10 of IDW who did not attend any ANC visits also reported that there was no RH worker at their neighbourhood health facility. However, 24.7% and 43.2% of the IDW who reported that their neighbourhood health facility had a trained RH worker attended the <4 and 4 or more ANC visits respectively during the last pregnancy. The results presented in Table 6.3 shows that availability of RH worker at the neighbourhood health facility was significantly associated with the number of ANC at $p < 0.05$.

Table 6.3 Percentage distribution of women by antenatal care uptake and enabling characteristics

Enabling variables	Number of ANC			χ^2	Total
	None	<4	4+		
Access to newspapers					
Regular	45.5	32.7	21.8	5.27; p<0.260	53
Occasional	38.1	26.3	35.7		42
Not at all	50.1	22.2	27.4		325
Access to radio					
Regular	79.6	13.0	7.4	27.55; p<0.0001	54
Occasional	44.6	32.3	23.1		65
Not at all	43.9	24.1	32.0		303
Access to TV					
Regular	62.8	20.9	16.3	9.47; p<0.050	43
Occasional	37.9	41.4	20.7		29
Not at all	47.7	22.9	29.4		350
Proximity to health facility					
Within 1 km	39.1	29.6	31.3	36.55; p<0.0001	115
1-5 kms	36.4	34.3	29.3		140
More than kms	65.5	11.4	23.3		167
Availability of RH workers					
Yes	32.2	24.7	43.2	32.31; p<0.0001	146
No	57.2	23.6	19.2		276
Attitude of health provider					
Good	39.4	27.7	32.9	14.46; p<0.001	213
Poor	57.9	20.1	22.0		209
Total	48.6	23.9	27.6		422

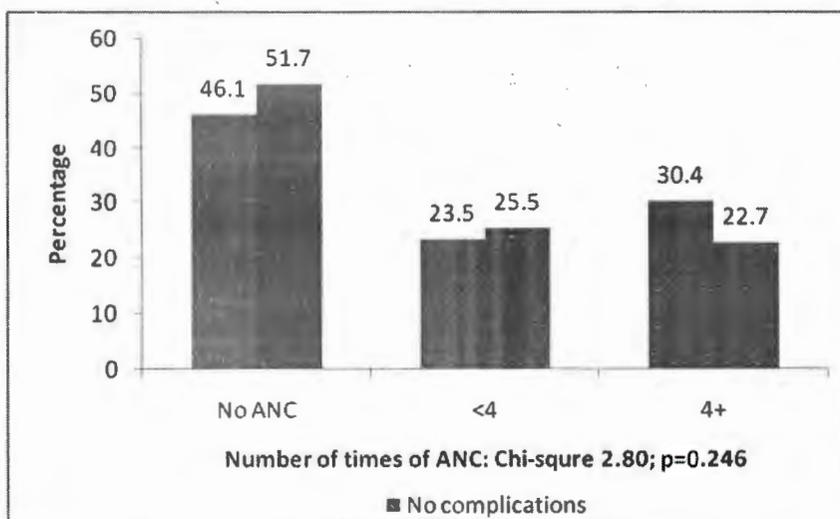
6.3.3 Differentials in antenatal care uptake by perceived or actual need factors

The HBM hypothesized that apart from the predisposing and enabling factors, the decision to engage in particular health behaviour is dependent on the perception of the need or actual need of that behaviour. In this regard, we assume that the decision by

women in disruption conditions to attend ANC 4 or more times is dependent on the perceived need for ANC. We therefore hypothesized that women who have previous experience of pregnancy and delivery complications are more likely than those who have not to have attended the 4 or more ANC visits other factors notwithstanding.

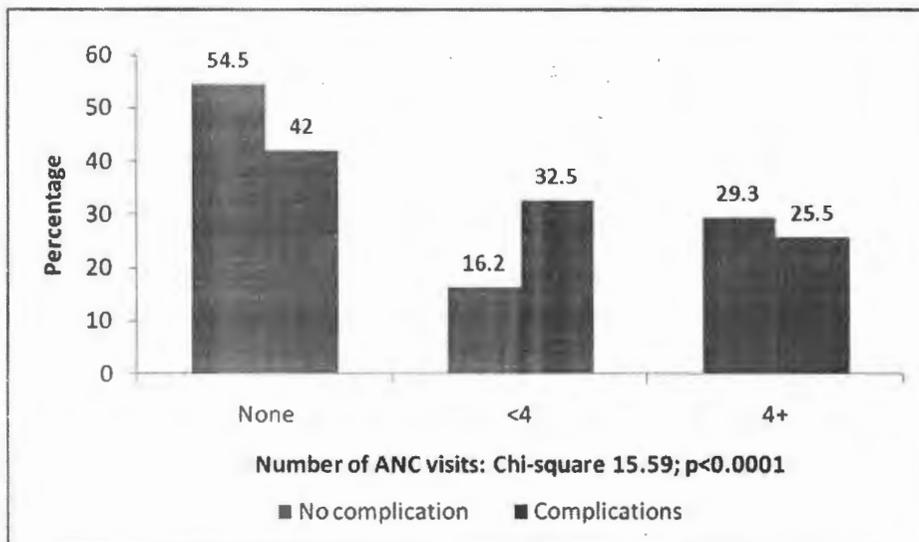
The results in Figure 6.4 shows that among the women who reported they had a history of pregnancy complications, more than half did not attend ANC during their last pregnancy and just one-quarter attended ANC <4 times. Only 22% of the IDW women who reported they had a history of pregnancy complications attended ANC 4 or more times during the last pregnancy. Conversely, and surprisingly so, nearly 24% and 30% of the women who did not have a history of pregnancy complications attended ANC 4 or more times and <4 times respectively during the last pregnancy. However, a history of pregnancy complications was not significantly associated with uptake of ANC visits during the last pregnancy.

Figure 6.4 Percentage distributions of IDW by number of ANC attended during last pregnancy and previous experience of pregnancy complications



Furthermore, Figure 6.5 presents the distribution of women by a history of delivery complications. The figure shows that there was a variation in the number of ANC visits by a history of delivery complications. The data in Figure 6.5 shows that 54.5% of IDW with no history of delivery complications did not attend ANC visits compared to only 29.3% of IDW with a history of delivery complications. The figure also shows that more IDW (42%) with a history of delivery complications did not attend ANC visits compared to only 25.5% of IDW with a history of delivery complications who attended the 4 or more ANC visits. The results show that the status of delivery complications was significantly associated with number of ANC visits at $p < 0.05$.

Figure 6.5 Distribution of IDW by history of delivery complications and attendance of ANC



6.4 Predictors of attending <4 and 4 or more ANC visits

The multinomial logistic-regression model was used to identify the significant, predisposing, enabling and need factors of number of ANC visits by IDW. The model was used to test three hypotheses including:

- i. Notwithstanding the humanitarian crisis, IDW with no education are significantly less likely to have attended the 4 or more ANC visits relative to no ANC visit than IDW with secondary or higher education;
- ii. Notwithstanding the humanitarian crisis, IDW living within one km to a health facility were significantly more likely to have attended the 4 or more ANC visits relative to no ANC visit than IDW living more than five km from a health facility; and
- iii. Notwithstanding the humanitarian crisis, IDW with a history of delivery complications were significantly more likely to have attended the 4 or more ANC visits relative to no ANC visit than IDW with no history of delivery complications.

Two multinomial logistic regression models were run to test the three hypotheses listed above. The first was the unadjusted model testing the effects of the level of education, distance to health facility and a history of delivery complication on attending the <4 and 4 or more ANC visits relative to no ANC visit. The number of ANC visits was defined as: a) no ANC visit if IDW did not attend any ANC visit during the last pregnancy; b) <4 ANC visits if IDW attended 1-3 ANC visits; and c) 4 or more ANC visits if IDW attended 4 or more ANC visits during the last pregnancy.

The results of the unadjusted models are presented in Table 6.5. The -2 log Likelihood ratio, the chi-square value and p value at <0.05 were used to assess the model fit for each model. The model fit for the effect of level of education on the number of ANC visits indicated a good fit with the -2 log likelihood =30.24; chi-square value= 12.80; and p value= 0.0001. The model fit for the effect of distance to a health facility on number of ANC visits indicated a good fit with the -2 log likelihood= 29.99; chi-square value=

38.02; and p value= 0.0001. The model fit for the effect of a history of delivery complications on number of ANC visits also indicated a good fit with the -2 log likelihood= 21.75; chi-square value= 15.80; and p value= 0.0001.

In the first panel of Table 6.3, the results on the effect of the hypothesized predictor variable on attending the <4 ANC visits are presented. The first row of the panel presents the effect of level of education on attending the <4 ANC visits relative to no ANC visit. The data shows that having no education (OR=0.92) and primary education (OR=1.15) were not significant predictors of attending the <4 ANC visits by the IDW. However, IDW with no education (OR=0.92; $p>0.05$) were less likely and those with primary education (OR=1.15; $p>0.05$) were more likely to have attended the <4 ANC visits. The second row of the first panel presents the effect of distance to a health facility on attending the <4 ANC visits. The data in the row shows that relative to attending no ANC visit, IDW living within one km (OR=4.33; $p<0.05$) and 1-5 kms (OR=5.39; $p<0.05$) to a health facility were significantly more likely to have attended the <4 ANC visits compared to IDW living more than five km from a health facility. Furthermore, in the third row, the data shows that the IDW with a history of delivery complications were 2.20 ($p<0.05$) times significantly more likely to have attended the <4 ANC visits than IDW with no history of delivery complications.

The unadjusted logistic regression model predicting the effect of level of education, distance to health facilities and a history of delivery complications on attending the 4 or more ANC visits was also performed and the results are presented in the second panel of Table 6.4. The data in the first row of the panel shows the effect of level of education on attending the 4 or more ANC visits relative to attending no ANC visit. The panel

shows that the IDW were significantly less likely to have attended the 4 or more ANC visits if they had no education (OR=0.54, $p<0.05$). In the second row of the second panel, the result of the effect of distance to health facility on attending the 4 or more ANC visits was presented showing that the IDW were significantly more likely to have attended the 4 or more ANC visits if they lived within one km (OR=2.23; $p<0.05$) and 1-5 kms (OR=2.24; $p<0.05$) to a health facility. In the third row of the second panel, the effect of a history of delivery complications on attending the 4 or more ANC visits was presented. The result shows that although IDW with a history of delivery complications were 13% more likely to have attended the 4 or more ANC visits than those with no history of delivery complications, a history of delivery complications status was not a significant predictor of attending the 4 or more ANC visits.

Table 6.4 Unadjusted multinomial logistic regression model showing Odds Ratios predicting factors influencing attending <4 and 4+ ANC visits relative to no ANC

Factors	No ANC vs <4 ANC visits		No ANC vs 4+ ANC visits	
Level of education				
No education	0.92	0.52-1.63	0.53*	0.29-0.92
Primary	1.15	0.61-2.18	1.40	0.79-2.48
Secondary+ ®	1.00		1.00	
Distance to health facility				
Within 1Km	4.33****	2.24-8.38	2.23***	1.26-3.95
1-5 Km	5.40****	2.88-10.10	2.24***	1.29-3.89
More than 5 Km ®	1.00		1.00	
A history of delivery complications				
Yes	2.20****	1.59-4.26	1.13	0.71-1.79
No ®	1.00		1.00	

Level of significance: ®= Reference category; *= $p<0.05$; **= $p<0.01$; ***= $p<0.001$; **** $p<0.0001$; OR=Odds Ratio; CI= Confidence Interval.

The second model was the adjusted multinomial logistic regression model, which tested for the effects of level of education, distance to health facility and a history of delivery complication on the uptake of the <4 and the 4 or more ANC visits relative to no ANC visit after controlling for the effects of selected predisposing, enabling and need factors. The -2 log Likelihood ratio, the chi-square value and p value at <0.05 were used to assess the model fit for each model. The model fit test revealed a likelihood ratio of -320.98; a chi-square of 212.45; and $p < 0.001$, indicating that the model was a good fit.

The result of the adjusted multinomial logistic regression presented in Table 6.5 shows that after controlling for the effect of selected predisposing, enabling and need characteristics of IDW, the odds of attending the <4 ANC visits relative to attending no ANC visit reduced to 2.78 and 3.45 times if the IDW lived within one km and 1-5 km from a health facility respectively and the effects of living within one km and 1-5 kms on attending <4 ANC visits reduced by nearly 64%. Living within one km and 1-5 kms were also remained significant predictors of attending the <4 ANC visits.

Furthermore, the results also show that the effect of having a history of delivery complications on attending the <4 ANC visits relative to no ANC visit increased significantly from 2.20 ($p < 0.05$) to 2.58 ($p < 0.05$) which was an increase equivalent to 38% after controlling for the effects of other predisposing, enabling and need factors. Conversely, although having no education and primary education had a declining effect on attending the <4 ANC visits, having no education and primary education were not significant in predicting attending the <4 ANC visits by the IDW in this study.

The results of the control factors on attending the <4 ANC visits are also presented in Table 6.5 showing that the IDW were significantly less likely to have attended the <4

ANC visits if they were aged 15-24 years (Odd=0.35; $p<0.005$); and if they had a regular access to the radio (Odd=0.21; $p<0.05$). Conversely, the results of the effects of place of residence and access to the newspaper shows that living in an urban area and having a regular access to newspapers increased the odds of attending the <4 ANC visit by 4.01 ($p<0.05$) and 4.66 ($p<0.05$) times respectively and living in an urban area and having a regular access to the newspaper were significant predictors of attending the <4 ANC visits in the last pregnancy.

In Table 6.5, the adjusted results on attending the 4 or more ANC visits relative to no ANC visit were also presented. The table shows that as expected, IDW with no education were 54% ($p<0.05$) significantly less likely to have attended the 4 or more ANC visits relative to no ANC visit. The table also shows that IDW who lived within one km and had a history of delivery complications were 1.01 ($p<0.05$) and 1.74 ($p<0.05$) times respectively significantly more likely to have attended the 4 or more ANC visits relative to no ANC visit. However, the effect of living within one km and having a history of delivery complications were increased by 113% and 61% respectively after controlling for the effects of predisposing, enabling and needs factors.

The table also presents results of the adjusted multinomial logistic regression on attending the <4 ANC visits relative to no ANC visits for the control variables and reveals that the effect of belong to the 15-24 age on attending the <4 ANC visits increased by 2.2 times and belonging to the 15-24 years age group at the last pregnancy was a significant predictor of attending the 4 or more ANC visit. The result in the table also revealed that the IDW were significantly less likely to have attended the 4

or more ANC visits if they were Christian (Odd=0.45; $p<0.05$); if they lived in Durmi camp (Odd=0.30; $p<0.05$); and if they had a regular access to the radio (Odd=0.12; $p<0.05$). Conversely, the result shows that the IDW were significantly more likely to have attended the 4 or more ANC visits relative to no ANC visit if they lived in an urban area (Odd=3.24; $p<0.05$); if they lived in New Kuchingoro camp (Odd=1.21; $p<0.05$) and

Table 6.6 Adjusted multinomial logistic regression model showing Odds Ratios predicting factors influencing attending <4 and 4+ ANC visits relative to no ANC

Factors	No ANC vs <4 ANC visits		No ANC vs 4+ ANC visits	
	OR	IC	OR	IC
Level of education				
No education	0.76	0.36-4.59	0.46*	0.22-0.94
Primary	0.94	0.41-2.15	1.39	0.68-2.86
Secondary+ ®	1.00		1.00	
Distance to health facility				
Within 1Km	2.78**	1.20-6.47	1.01*	1.47-4.14
1-5 Km	3.45***	1.62-7.35	1.34	0.66-2.73
More than 5 Km ®	1.00		1.00	
A history of delivery complications				
Yes	2.58***	1.40-4.75	1.74*	1.05-3.17
No ®	1.00		1.00	
Covariates				
Age group				
15-24	0.35**	0.15-0.79	2.22	0.91-5.47
25-34	0.46	0.21-1.02	2.04	0.84-7.96
35+ ®	1.00		1.00	
Religious affiliation				
Christian	2.09	0.96-4.54	0.45*	0.22-0.93
Muslin ®	1.00		1.00	
Marital Status				
In union	1.32	0.51-3.45	0.43	0.18-1.01
Ever in union ®	1.00		1.00	
Place of residence				
Urban camp	4.01***	1.73-9.30	3.24***	1.45-7.25
Rural ®	1.00		1.00	
Camp of displacement				
Gurku	1.00		1.00	

Durumi	1.28	0.51-3.22	1.21**	0.12-0.77
New Kuchingoro ®	1.00	0.68-2.56	0.30*	0.91-2.11
Access to newspapers				
Regular ®	4.66**	1.72-12.64	2.08	0.78-5.57
Occasional	1.88	0.71-4.99	2.30	0.93-5.70
Not at all ®	1.00		1.00	
Access to radio				
Regular	0.21**	0.07-0.61	0.12***	0.03-0.46
Occasional	0.71	0.32-1.53	0.46	0.21-1.05
Not at all ®	1.00		1.00	
Access to TV				
Regular	0.48	0.15-1.58	0.91	0.26-3.10
Occasional	1.89	0.66-5.42	0.57	0.16-1.1.9
Not at all ®	1.00		1.00	
Availability of trained health workers				
Yes	1.23	0.60-2.51	3.68****	1.92-7.08
No®	1.00		1.00	
Attitude of health workers				
Good	1.71	0.90-3.25	1.68	0.90-3.12
Poor®	1.00		1.00	
A history of pregnancy complications				
Yes ®	1.00		1.00	
No	0.60	0.31-1.17	0.66	0.35-1.24

Level of significance: ®= Reference category; *= p<0.05; **= p<0.01; ***= p<0.001; **** p<0.0001; OR=Odds Ratio; CI= Confidence Interval.

if they reported availability of trained health workers at their neighbourhood health facility

(Odd=3.68; P<0.05).

6.5 Summary

Overall, the results presented in this chapter shows that the majority of the IDW did not attend the recommended 4 or more ANC visits during the last pregnancy. The results therefore confirm the noncompliance with the WHO recommendations of attending at least 4 ANC visits in a normal pregnancy. This implies that women at risk of pregnancy complications and delivery complications should have attended more than the recommended 4 ANC visits during the pregnancy under review if they were to be appropriately protected against the risk of maternal and new-born mortality, which was not the case in this population of displaced women.

The chapter also shows that the results demonstrated the importance of predisposing, enabling and need characteristics in the compliance to the recommended number of ANC attendants during pregnancy among the IDW such as distance to health facilities, having a history of delivery complications. The IDW with close proximity to a health facility and having a history of delivery complications had a positive effect on attending the <4 and 4 or more ANC visits. In these regards, the hypotheses on the effect of these two variables show that they significantly predicted the attendance of the recommended 4 or more ANC visits. However, the finding of the study suggests that having no education had a negative effect on attending the <4 and the 4 or more ANC visits even in the context of humanitarian emergency.

Among the control factors, living in an urban area, having a regular access to newspapers also had a positive effect on attending the <4 and the 4 or more ANC visits. Another positive predictor to of attending <4 and 4 or more ANC visits was; the

availability of trained health workers. These finds are expected and remain consistent with what has been observed among women in stable populations. The reducing effect of regular access to the radio on attending the <4 ANC visits relative to no ANC visit was a surprise. Nevertheless the reducing effect of a regular access to the radio is possible as IDW could have used the radio for entertainment instead of information and education including on health related matters. The effects of camps of displacement also suggest that there are variations in access to ANC services, probably because some of the camps could have been located in rural settings where health facilities are difficult to access.

From the results presented above, it can be concluded that although the context of humanitarian crisis might have influenced the uptake of ANC visits, the findings indicate that the prevalence of attending the recommended 4 or more ANC visits by the IDW was similar to that in the population of women in stable populations in Nigeria. The findings of this study therefore suggest that the conditions of humanitarian crisis did not distort the ANC behaviour of the IDW in a very significant way.

CHAPTER SEVEN

THE FACTORS PREDICTING THE UPTAKE OF HEALTH FACILITY DELIVERY AMONG IDW IN NIGERIA

7.1 Introduction

Maternal mortality continues to be high in developing countries. It has been estimated that in 2015 alone, maternal mortality was in excess of 300,000 deaths and most of these deaths occurred in the developing world (Alkema et al., 2016). The sub-Saharan Africa region alone contributes more than half of the global maternal mortality cases (Moyer & Mustafa, 2013b) and most of the women who survive pregnancy related deaths suffer long-term health complications and disabilities (Nansubuga et al., 2016). The majority of maternal deaths occur at the time of delivery as a result of obstructed labour, hemorrhage, hypertensive disorder, unsafe abortion and sepsis (Kruk et al., 2010) which can easily be prevented if delivery takes place in health facilities supervised by trained health workers.

The Sustainable Development Goal instructs that by 2030, all countries should have reduced their MMR by two thirds of the 2010 level and no country should have an MMR of more than 140 per 100,000 live births (World Health Organization, 2016). However, this can only be achieved if all births take place in a health facility, which is nearly impossible in humanitarian crisis settings now prevalent in many countries in the world. The rate of increase of populations in humanitarian crisis caused by human-made and natural emergencies such as armed conflict, political instability, natural disasters, epidemics and famine has become unprecedented. Estimate of displaced populations in 2015 alone put the figure at more than 65 million, the highest ever recorded number,

and the majority of these people were women and children who are disproportionately affected in all aspects by humanitarian crisis (Edwards, 2016). One of the commonly reported problems faced by displaced women is preventive reproductive health services. As a result, the risk of maternal mortality presents one of the most serious public health challenges in politically, socially and environmentally fragile countries (Gopalan, Das, & Howard, 2017). This is mainly because of dysfunctional health infrastructure and gross absence of reproductive health services (Chi, Bulage, Urdal, & Sundby, 2015; Urdal & Che, 2013).

The three delays more effectively explain why the prevalence of maternal and new-born morbidity and mortality in humanitarian emergency situations is unprecedented (Barnes-Josiah et al., 1998; Waiswa, Kallander, Peterson, Tomson, & Pariyo, 2010). These delays mainly affect the ability to seek health care and timely diagnosis of complications during pregnancy and delivery (Moyo, Makasa, Chola, & Musonda, 2018); the delay in the time to reach a health facility for emergency care because of lack of referral services and insecurity; and the delay in receiving care at health facilities because of lack of medical supplies, including medicines (Devkota, 2005). As a result of the above delays, the obstetrics risk faced by women increase exponentially.

In 2015, the UNFPA estimated that the MMR in countries in humanitarian crisis was 1.9 times that of the global MMR (UNFPA, 2015). The statistics on maternal and new-born mortality in conflict settings should therefore energize efforts to improve access to reproductive health services in general and delivery services in particular, if efforts to reduce preventable maternal and new-born mortality is to be realized. However

studies on delivery care in conflict zones are limited and the only way to assess the dynamics of delivery care in such situations is by the use of retrospective studies, many of these are inadequate in clearly unravelling how emergency settings impede delivery care in real time. Nevertheless, these studies, where they have been conducted, have given country specific insights on factors impeding uptake of delivery care in these country settings.

In sub-Saharan Africa, populations displacements due to conflict is widespread in a number of countries. The most affected countries in this world region are Burundi, Central Africa Republic, DR Congo, Nigeria, Somalia and South Sudan (Samarasekera & Horton, 2017). In Nigeria, the Boko-Haram insurgency in North-Eastern Nigeria has affected more than 26 million people and displaced millions of people, mostly women and children (United Nations Office for the Coordination of Humanitarian Affairs, 2017). This people, especially women are in dire need of Reproductive Health Services (RHS) in general and delivery care in particular, but have either no access or limited access to these service, often at a high survival costs as access to reproductive health care in this region is a matter of life and death. The lack of or inadequacies of RHS has inevitably increased maternal and new-born mortality among war displaced populations in Nigeria (UNICEF, 2017). Unlike in other countries experiencing similar conflict situations, the choice of place of delivery and factors influencing that choice among displaced women from Northern Nigeria is not well documented. This chapter therefore documents information on the places of delivery of the most recent birth, reasons for choice of such place and factors predicting the choice of health facilities for delivery by.

7.1.2 Theoretical framework

The Andersons (R. M. Andersen, 2008) Health Behaviour Model of Health service use (HBM) was used as a theoretical framework to guide the study. The choice of the model is based on the assumption of inequality to RHS in general and delivery services in particular by the IDW based on their individual, household, community and health needs. The main justification for the choice of the model is the presumption that individual IDW chose a place of delivery based on their assessment of their risks. Delivering in a particular place was influenced by predisposing and enabling factors which either constrained or facilitated the delivery of the last birth in that place. Accordingly, the place of delivery was either at a health facility or at home, where a health facility includes all such places where professional health services are available and delivering at home implies any place other than a health facility.

The HBM is also useful in modelling the effects of hierarchical factors on individual outcomes. In this study, the predisposing factors are mainly population factors that can either impede or promote delivery in a health facility relative to delivering at home and they include individual characteristics of IDW such as demographic, socioeconomic and cultural factors. For example, younger women are generally better educated, less conservative, more likely to have lived in an urban setting and therefore more likely to take risks in pregnancy and child birth seriously and seek health facility delivery than older women. The enabling factors are mostly out of the purview of the individual and are external, normally in the community. These are factors that facilitated or constrained IDW in delivering in a health facility, and they include health facility related factors such

as distance to health facilities, quality of services including attitudes of health workers and availability of health workers, access to health service information through the mass media, antenatal care during pregnancy and availability of referral services. For example, women with access to health information through the media, are proximate to health facilities, have access to referral services, and attended the required number of antenatal care are more likely to assess their pregnancy and delivery risks better and choose health facility delivery.

On the other hand, the need factors are the personal perceived or actual health risk the individual IDW faced that informed the decisions on choice of place of delivery. Two main risks were used in this study and they include a history of pregnancy complications and a history of delivery complications. We proposed that women with previous pregnancy and delivery complication would know the need and obligation to seek health facility based delivery more than those with no previous pregnancy and delivery complications. However, we are also aware of the potential limitation of this proposition if a woman was having her first pregnancy and delivery.

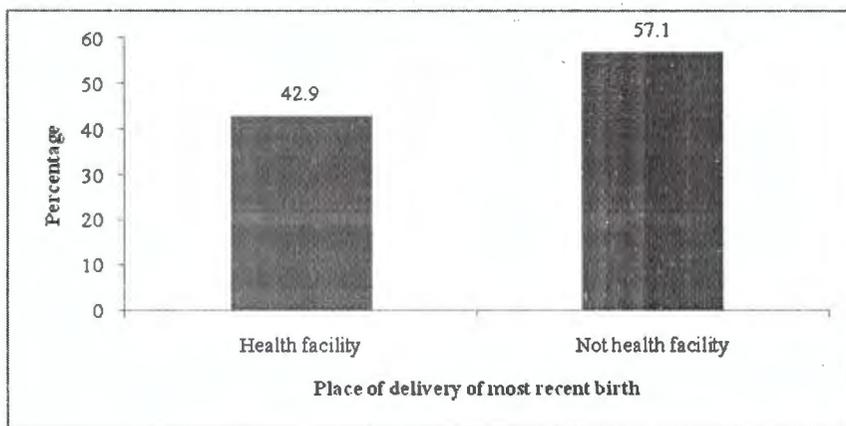
7.2 Place of delivery

Delivering in a health facility has been identified as one of the prerequisites for reducing the high and preventable maternal and new-born mortality in poor countries. The World Health Organization recommends that all women must deliver in health facilities if the global SDG target on eliminating preventable maternal and new-born deaths are to be achieved by 2030 (World Health Organization, 2016). One of the population groups at high risk of maternal and new born deaths is Internally Displaced Women (IDW) and

their infants. In this regard the place of the delivery of the most recent birth by IDW in Northern Nigeria was assessed and the result is presented in Figure 7.1. The figure shows that more than 57% of the IDWs from Northern Nigeria delivered at home.

The above finding is similar to other similar studies on displaced populations elsewhere (Howard et al., 2014; Kathryn Perrott, 2017; Tatah, Delbiso, Rodriguez-Llanes, Cuesta, & Guha-Sapir, 2016). All these studies suggested that population displacement impedes uptake of health facility deliveries in three main ways: firstly through the disruption and destruction of health infrastructure; secondly, through the lack of health personnel to assist mothers during delivery as many of them also flee for their lives; and thirdly, through the lack of facilities and medicines in health facilities where they are available,

Figure 7.1 Percentage distribution of IDW by place of delivery of the most recent birth

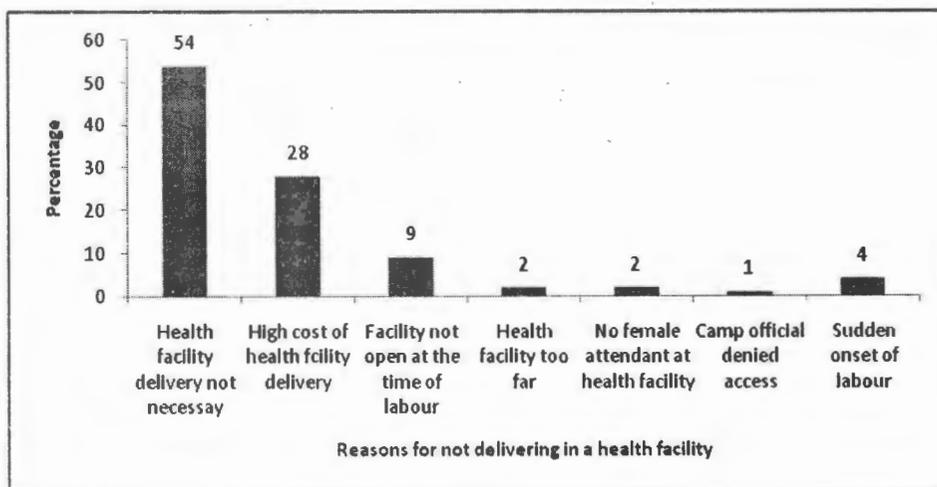


thereby delaying medical assistance during delivery or rendering health facilities ineffective to the population. All the above factors that impede delivery in health facilities contribute to the high easily preventable maternal and neonatal deaths in conflict areas.

7.2.1 Reasons for home deliveries

Apart from the difficulty of accessing health facilities for populations in emergencies, there are other factors that could contribute to the high prevalence of home deliveries by IDW from Northern Nigeria. In this study, the reasons for not delivering in health facilities were probed and the results are presented in Figure 7.2. The figure shows that more than half (54%) of IDW reported that they did not deliver in health facilities because they did not think it was necessary, which points to a deliberate choice not to deliver in a health facility even though the facilities. Another 28% reported the high costs at health facilities as a reason for delivering their most recent birth at home. Furthermore, 9% of the IDW said they did not deliver in a health facility because it had closed at the time of delivery. Other reasons cited for delivering at home were sudden onset of labour (4%), health facility being far from place of residence (2%) and the lack of a female delivery attendant at the available health facilities (2%). A previous study

Figure 7.2 Percentage distribution of IDW by reasons for delivering at home



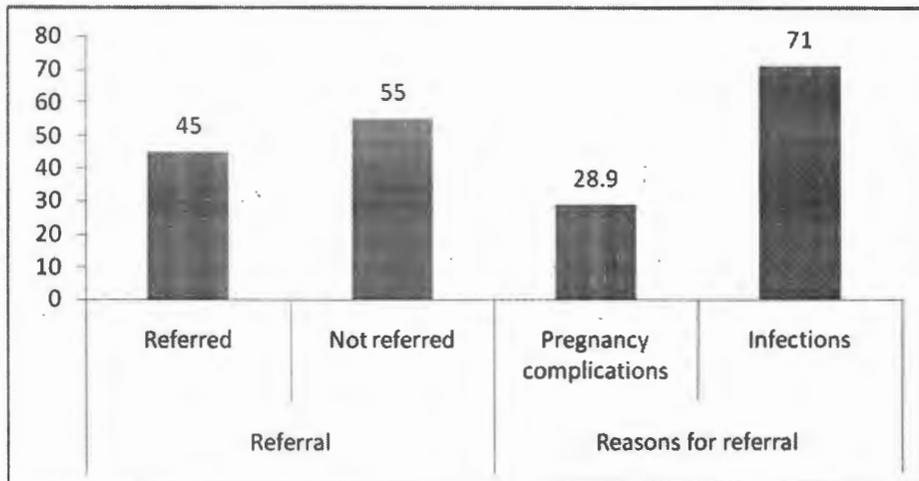
suggested that in some populations in sub-Saharan Africa, women who did not experience previous pregnancy related complications and multiparous mothers do not deliver in a health facility because they perceived pregnancy and child birth as a normal process (Nansubuga et al., 2016). The results observed in this study are therefore consisted with previous studies in many poor countries. By not delivering at health facilities many of these women put their lives and those of their new-born babies at risk.

7.2.2 Reasons for delivery in a health facility

Every delivery should normally be effectively handled as a primary health care function. This type of function is provided at the lower levels of health care service delivery not only because of its prevalence and associated services, but also to lower costs at the required level of expertise (Jayanthi, Suresh, & Padmanaban, 2015). In a situation of emergency such as that being experienced by the study population, delivery at local health facility would be the most preferred not only because of lower transport costs but also fewer risks during travels to far flung health facilities. In this regard, the reasons for delivery in a health facility were assessed to understand the factors that informed decisions to deliver in a health facility, and the results are presented in Figure 7.3. The figure shows that just over half (55%) of the IDW in this study delivered in a local health facility. However, about 45% of IDW were referred to higher level health facility for management before and during delivery for several reasons. Of those referred, nearly 30% were referred due to pregnancy related complications while about 70% were referred due to infections such as syphilis, HIV and other conditions, which could have put the lives of mothers and their babies at risk. It is important to note that referrals for

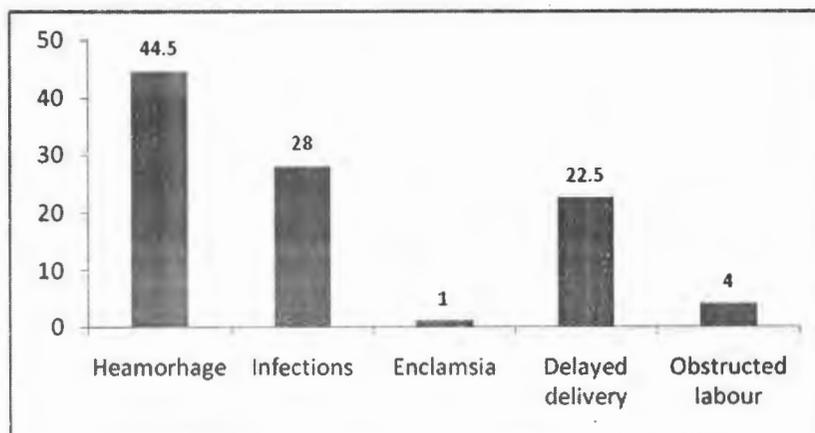
the above reasons have significant implications for the survival of mothers and their new-born babies.

Figure 7.3 Percentage distribution of IDW by reasons for delivery in a health facility



Delivery complications were reported as the most important single cause of referrals to health facilities for delivery. Figure 7.4 shows the health problems the women faced during pregnancy and delivery. These were haemorrhage (44.5%), infections (28%), delayed delivery (22.5%) and obstructed labour (4%).

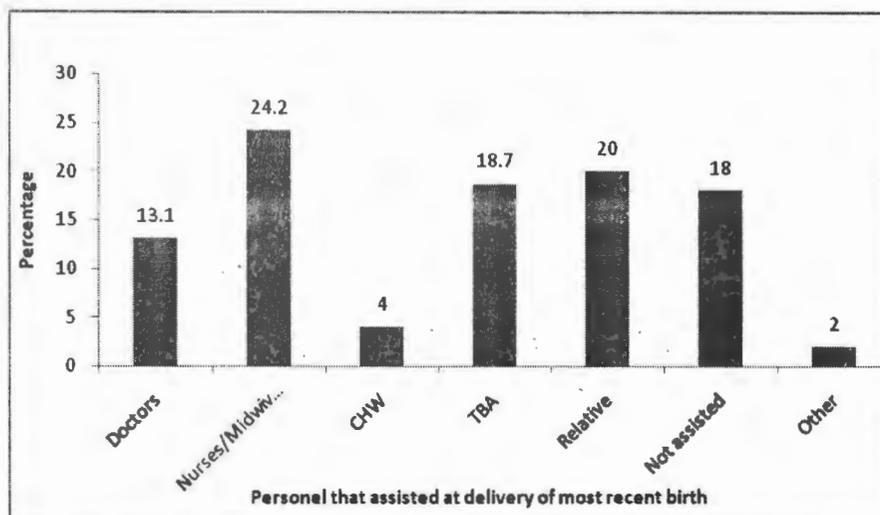
Figure 7.4 Percentage distributions of women by type of complications



7.2.3 Personnel who assisted at delivery

A previous study suggested that the skill of health personnel is important in determining patient care outcomes (Brasaitė, Kaunonen, Martinkenas, & Suominen, 2016). In addition to the place of birth, the skill of the delivery attendant is an important predictor of delivery outcomes. Women whose deliveries are assisted by professional delivery attendants have better delivery outcomes than women who are assisted by untrained delivery assistants (Campbell, Graham, & group, 2006a; Filippi et al., 2006; Graham, Bell, & Bullough, 2001). In this regard, the study assessed the personnel who assisted the IDW in the delivery of their most recent births, and the result is presented in Figure 7.5. The figure shows that the majority of the IDW were assisted by untrained personnel indicating that they did not deliver in a health facility. However, about one third of the births (13%) were assisted by doctors, 24% were assisted by nurses/midwives and only 4% were assisted by Community Health Workers (CHWs). Of these IDW who delivered at home, 20% were assisted by relatives, 18.7% were assisted by Traditional Birth Attendants (TBAs), and 18% delivered without assistance. The result suggests that the women who delivered at home were at a high risk of maternal and new-born mortality as they could have not been professionally assisted if delivery complications were to occur.

Figure 7.5 Percentage distribution of IDW by attendant at the most recent birth



7.3 Differentials in place of delivery

This section analysed and described in three sub-sections based on the Health Behavioural Model that was used as a theoretical framework for the chapter. The first part examined the differentials in place of delivery by predisposing factors; the second part examined the differentials in place of delivery by enabling factors; and the third examined the differentials in place of delivery by needs factors.

7.3.1 Differentials in place of delivery by predisposing factors

In the previous section, data on the place of delivery was analysed and presented. In this section, result on differentials on place of delivery is presented with the view of identifying the factors that could have significantly influenced the place of delivery of IDW. The place of delivery was categorized as delivery in health facility and delivery at home. The factors that were examined were predisposing factors which comprised of the characteristics of the IDW which included age, religious affiliation, level of education,

marital status, place of residence and camp of displacement. The results of the analysis are presented in Table 7.1.

The differentials by age groups show that the proportion of women delivering at health facilities was higher at the younger ages than older age groups. The data shows that while a greater percentage of younger women under 35 years delivered at health facilities, older women aged 35 years or older did delivered at home. For example, compared to 42.2% and 50.4% of the women aged under 25 years and 25-29 years respectively who delivered at health facilities, only 32.7% and 41.4% of the women aged 35-39 and 40 years or older respectively delivered at home. The finding of this study appears to be consistent with previous studies in the general population of women in Nigeria (Envuladu, Agbo, Lassa, Kigbu, & Zoakah, 2013; S. H. Idris, Gwarzo, & Shehu, 2006) and other poor countries especially in sub-Saharan Africa (Campbell, Graham, & group, 2006b; Manandhar et al., 2004) which found a similar age pattern of place of delivery. Although older grand multipara and primiparous women in sub-Saharan Africa with no previous pregnancy and delivery complications have also been found to deliver at home, these women are at higher risk of pregnancy and delivery complications than other women (Duckitt & Harrington, 2005; Geidam, Audu, & Oummate, 2011; Nelson, Telfer, & Anderson, 2012). However, in this study age was not significantly associated with place of delivery.

Religious beliefs have a significant bearing on reproductive behaviour and reproductive health care utilizations leading to disparities on reproductive health outcomes (Arousell & Carlborn, 2016; Esscher et al., 2014). In this study it is assumed that religious

affiliation of IDW could have influenced type of place of delivery. For example, a study conducted on displaced persons in Somalia found that compared to other religious groups, the majority of women who delivered in religious homes, which are informal outfits, were Muslim (Deyo, 2012). In this regard, IDW were asked about the place of delivery and the analysis examined by the two major religious groups (Christianity and Islam) is presented in Table 7.1. The data presented in the table show significant disparity in place of delivery of the IDW by their religious affiliation. The table shows that while 50.2% of Christians delivered at health facilities, only 30.4% of Moslem IDW delivered at health facilities. The finding of this study appears to be consistent with Islamic and traditional religious beliefs and values regarding Western medical practices. A study by Al-Mujtaba et al. (Al-Mujtaba et al., 2016) suggests that Muslims are less inclined to using Western maternal health services than Christians, which is consistent with the findings of this study. Differentials in place of delivery by religious affiliation was found to be significant at $p < 0.0001$.

Additionally, Table 7.1 presents the differentials in place of delivery by the level of education of the IDW. The table shows that overall, the proportion of IDW delivering at health facilities increased with the level of education. Whereas 63.6% of the women with tertiary education delivered their last birth at health facilities, only 42.3% of the IDW with no education delivered their last birth at health facilities. The result also shows that the level of education is significantly associated with the place of delivery of the IDW at $p < 0.001$. Furthermore, the effect of education on the place of delivery observed in this study is consistent with that of previous studies among IDW in Cameroon and Guinea (Howard et al., 2008, 2011; Tatah et al., 2016). It also confirms the important role

education plays in delivery decisions observed in non-emergency settings(Scarf et al., 2018).Education as the most powerful force of empowerment does not only provide women with information and knowledge, but also with the resources they need in making the right reproductive health decisions, including where to deliver their babies.

Table 7.1 Percentage distribution of IDW by place of delivery and selected predisposing factors

Predisposing variables	Place of delivery		χ^2	Total Number
	Health facility	Home		
Age group				
<25	42.2	57.8	5.55; P<0.235	166
25-29	50.4	49.6		123
30-34	32.7	67.3		55
35-39	38.8	61.2		49
40+	41.4	58.6		29
Religious beliefs				
Christians	50.2	49.8	16.24; P<0.0001	255
Muslims	30.4	69.6		158
Others	55.6	44.4		9
Level of education				
No education	42.3	57.7	11.65; P<0.005	168
Primary	33.3	66.7		132
Secondary	53.2	46.8		111
Tertiary	63.6	36.4		11
Marital status				
Never married	50.0	50.0	0.63; P<0.728	28
Currently In-union	42.5	57.5		353
Ever married	41.5	58.5		41
Place of residence				
Urban	36.4	63.6	12.26; P<0.0001	264
Rural	53.8	46.2		158

Camp of displacement	53.8	46.2	25.96; P,0.0001	158
Gurku	28.7	71.3		181
Durmi	53.0	47.0		83
New Kuchingoro				
Total	42.9	57.1		422

Furthermore, Table 7.1 presents differentials in place of delivery by marital status. Marital status is believed to provide women with differential support systems in reproductive health decision processes and behaviour. In this study it is hypothesised that compared to women in-union, those never in-union and ever in-union are less likely to take up HFD because of lack of support from their spouses which becomes increasingly vital in conditions of humanitarian emergency. The data presented in Table 7.1 shows that the majority of the women who have never been in-union (50.0%) and those currently in-union (42.5%) had their last birth at health facilities. However, only 41.5% of the ever in-union IDW had their last birth at health facilities, which is an indication that they lacked or were denied certain capabilities because of their current marital status. The result partially validates findings in Kenya in respect of ever married women in the general population who were found to be less likely to have delivered at health facilities (Kitui et al., 2013). The reproductive health outcomes of IDW suffer mainly because they miss out on the social support provided by family. However, result shows that marital status was not significantly associated with place of delivery.

The time of birth is not only a time of anxiety because of the anticipated arrival of a new family member, but also because of the risk of complications that can quickly obscure the joy that a new birth brings. The anxiety due to risks is known to be higher in rural

areas than urban areas due to differential access to health facility care between the two places of residence. In sub-Saharan Africa, because most of the population live in rural areas with poor access to health facilities, most births in rural areas take place at home (Envuladu et al., 2013; Nanang & Atabila, 2014). In this regard, the survey of IDW who mostly come from Northern Nigeria probed the place of residence of the IDW when they had their most recent birth. The data presented in Table 7.1 shows that surprisingly, more IDW in rural areas delivered their most recent birth at health facilities than IDW in urban areas. The table shows that nearly 54% and only 36.4% of IDW living in rural and urban areas respectively delivered at health facilities. The finding is inconsistent with several other studies in sub-Saharan Africa which found that more women in urban areas deliver at health facilities than women in rural areas (Appiah-Kubi, 2004; Babalola & Fatusi, 2009). The main cause of the differences was attributed to improved access to health facilities in urban than rural areas (Nansubuga et al., 2016). However, in humanitarian emergencies, the provision of health facilities in rural based camps could improve health behaviour in rural areas. Additionally, large numbers of IDW who were displaced from urban areas could have sought refuge in rural camps. This could explain the increased proportion of rural based HFD observed in this study. Examining the place of delivery for IDW by type of camps also appears to explain why most women in rural areas delivered in a health facility in this study. Data in Table 7.1 shows that nearly 54% and 53% of the IDW in Durku and New Kuchingoro camps which are mostly rural delivered at health facilities. The result also shows that place of residence and camp of displacement are both significantly associated with place of delivery at $p < 0.0001$.

7.3.2 Differentials in place delivery by enabling factors

This section presents differentials in place of delivery by enabling factors. The enabling factors are divided into two main groups. The first group are socioeconomic factors that are likely to increase the likelihood of HFD through access to health information. These enabling factors are sources of information including access to news papers, access to the radio and access to television (TV), and the results are presented in Table 7.2 showing that regardless of the humanitarian emergencies they faced, all IDW with some access to information regardless of source, had a higher likelihood of delivering in a health facility. Previous studies in developed and developing settings found that access to information on reproductive services including delivery care increased the uptake of health facility delivery (Ensor & Cooper, 2004; Ngilangwa et al., 2016; Setianti, Dida, Puspitasari, & Nugraha, 2017). The table shows that 58%, 52% and 59.4% of IDW with some access (always or sometimes) to news papers, radios and television respectively delivered in health facilities. The result also shows that some access to news papers, the radio and television are significantly associated with uptake of HFD at $p < 0.05$. The findings confirm the importance of the mass media as a source of information for reproductive health care for the general population of women and women in humanitarian emergencies. Provision of RHS services in the news paper, on the radio and television could increase uptake of delivery care and many women and new-borns could be saved.

Table 7.2 Percentage distribution of IDWby place of delivery and sources of information

Enabling variables	Place of delivery		X ²	Total
	Health facility	Home		
Access to news papers				
Some access	58.0	42.0	10.30; p<0.001	88
Not at all	39.9	61.1		324
Access to radio				
Some access	52.0	48.0	6.01; p<0.010	125
Not at all	39.1	60.9		297
Access to TV				
Some access	59.4	40.6	9.20; p<0.002	96
Not at all	39.7	60.3		353
Total	42.9	57.1		422

Health facility related enabling factors are among the most important determinants of maternal and new-born survival in hard to reach areas of developing countries(Darmstadt et al., 2005;Yemisrach B. Okwaraji, Mulholland, et al., 2012; Yemisrach Behailu Okwaraji & Edmond, 2012). These are factors that increase a wide range of maternal and new-born care services as part of the comprehensive package of primary health care. These factors include distance to health facilities, number of ANC services attended, and attitude of health workers and availability of health workers capable of providing the wide range of maternal and new-born care. In humanitarian emergencies which involve the displacement of populations, these enabling factors are critical for preventing preventable deaths in humanitarian emergencies.The most common causes of preventablematernal and new-born deaths are pregnancy and delivery complications which are often fatal in the absence of immediate and effective

medical interventions (Filippi et al., 2006; Ngoc et al., 2006; Ronsmans, Graham, & group, 2006).

In this regard, this study examined the effect of access to health facilities as an important enabling factor of place of delivery. The data presented in Table 7.3 shows that uptake of HFD varies by access to health facilities. The table shows that the proportion of IDW who delivered in health facilities decreased with the increase in distance to the nearest health facility. About 60.0% of the IDW who lived within 1 km to a health facility delivered in a health facility compared to only about 23.4% of IDW who lived more than 5 km from a health facility. The result shows that distance to health facility is significantly associated with place of delivery at $p < 0.05$. In conflict situations such as the one faced by the study population, living far away from a health facility is an important impediment to seeking health services including delivery care mainly because of the dangers patients face in travelling to health facilities in conflict areas. For many of these women despite the potential risks of home delivery, it is likely to be the only option.

Another important enabling factor for HFD is uptake of ANC. Previous studies have identified the uptake of ANC as an important predictor of health facility delivery. This is mainly because of the encouragement provided to pregnant mothers regarding HFD and the early diagnosis of potential pregnancy related complications and the timely linkage of women at risk with health facilities for timely management (Eruameh, Okawa, Asante, Kikuchi, Mahama, Ansah, Tawiah, Adjei, Shibanuma, & Nanishi, 2016; Obago, 2013; Obago, Ouma, & Owino, 2013). Although the effect of ANC attended by women in

humanitarian emergencies on HFD has not been previously examined, in this study it is hypothesized that IDW who have attended 4 or more ANC services are more likely to deliver in a health facility than women who have not attended ANC at all. In this regard, the study examined the effect of ANC attendance on HFD delivery among IDW. The data presented in Table 7.3 shows that the proportion of IDW delivering in health facilities increased with the number of ANC services attended. Over 60% of the women who attended at least 4 ANC services delivered in a health facility compared to only half (33.2%) of women who did not attend any ANC service during the pregnancy in question. The result shows that the number of ANC attended is significantly associated with place of delivery at $p < 0.05$. The finding is consistent with that of another study in Kenya which found that women who attended 4 or more ANC visits delivered at health facilities compared to those who attend less than the recommended number of ANC visits (Gitonga & Muiruri, 2016).

Humanitarian emergencies affect everyone including health workers. In such situations health workers often flee from their posts leaving patients and potential patients on their own survival devices. Evidence in recent conflict settings around the world indicate that despite the protection accorded under international law, health facilities and medical workers have been routinely attacked forcing many of them to flee or rendering their services ineffective in saving lives (Patel, Gibson-Fall, Sullivan, & Irwin, 2017). In this regard, the study examined the effect of perceived availability of health workers on place of delivery and the result is presented in Table 7.3. The table shows that over 7 in 10 IDW who said professional health workers were available delivered in health facilities compared to just over 2 in 10 of the IDW who said there were no health workers

respectively in the health facilities nearest to them. The finding appears to support the view that availability of skilled birth attendants could increase prevalence of institutional delivery (Joseph et al., 2016). The findings suggest two likely challenges IDW face: the first is that health facilities available to them were no longer functional at the time they had their last birth because of the conflict; the second is that the camp of displacement did not have functional health facilities at the time they had their last birth if it occurred in a camp setting. In both cases, the risks of maternal and new-born mortality were increased for this group of women.

Attendance of RHS in sub-Saharan Africa has been associated with attitudes of health care providers. Previous studies observed that in settings where attitude of health care workers towards patients and clients is poor, attendance to RHS such as family planning, ANC and delivery care have been low especially among young women. Delivery in a health facility has particularly been low among women who have not attended ANC because of the perceived fears or actual experience of harassment by health care providers (Jonas, Crutzen, van den Borne, & Reddy, 2017; Tilahun et al., 2012). Unfortunately, conflicts impact directly on quality of health care through its effects on attitudes of health workers. The stresses health workers face could make them appear to have poor attitude to their patients and clients. In this regard, the effect of the perceived attitude of health workers on uptake of HFD by IDW was assessed. The data presented in Table 7.3 shows that more IDW who reported that health workers have good attitudes towards them delivered in health facilities compared to those who reported that health workers have poor attitudes towards patients and clients. The table shows that nearly 53% of the IDW who said health workers have good attitudes

delivered their last birth in health facilities compared to only 28.7% of those who said health workers have poor attitudes. The result shows that attitude of health workers is significantly associated with place of delivery at $p < 0.05$. Although attitude of health workers are important considerations for health facility delivery safety could be an important consideration for seeking health facility delivery. A study in Guinea among displaced women found that safety was given as a major reason for delivering in a health facility (Howard et al., 2011). This has been attributed to the reduced risk of maternal mortality and improved birth outcomes for women who deliver in a health facility (Biemba et al., 2014; Joseph et al., 2016).

Table 7.3 Percentage distribution of IDW by place of delivery by selected enabling factors

Enabling variables	Place of delivery		X ²	Total
	Health facility	Home		
Distance to health facility				
<1 km	60.0	40.0	44.66; $p < 0.0001$	115
1-5 km	52.1	47.9		140
More than 5 km	23.4	76.6		167
Number of ANC's last pregnancy				
No visit	33.2	66.8	22.62; $p < 0.0001$	190
<4 visits	40.5	59.5		111
4 or more visits	60.3	39.7		121
Availability of delivery staff				
Yes	76.7	23.3	104.2; $p < 0.0001$	146
No/Don't know	25.0	75.0		276
Attitude of health workers				
Good	56.8	43.2	34.00; $p < 0.0001$	213
Poor	28.7	71.3		209

Total	42.9	57.1	422
-------	------	------	-----

7.3.3 Differentials in place of delivery by need factors

The health behaviour model (HBM) adapted for this study hypothesized that apart from the predisposing and enabling factors, the decision to engage in particular health behaviour is dependent on the perception of the need or actual need of that behaviour. In this regard, we hypothesised that complications during previous labour, risks of complications diagnosed during ANC or complications during pregnancy and mode of referral system for the previous deliveries could influence the decisions on the place of delivery. The most commonly reported pregnancy complications are infections, hypertension, diabetes and haemorrhage while the most commonly reported complications during delivery include haemorrhage, prolonged labour and obstructions. A previous study in rural Bangladesh found that regardless of the risk of complications, most births occur at home (M. M. Islam & Gagnon, 2016). A systematic review of health facility delivery studies by Chinkhumba et al. (Chinkhumba, De Allegri, Muula, & Robberstad, 2014) found that delivery in a health facility reduces maternal mortality in sub-Saharan Africa mainly because HFD mitigates the risks associated with pregnancy and delivery.

Table 7.4 Percentage distributions of IDW by place of delivery and selected needs factors

Needs variables	Place of delivery		χ^2	Total
	Health facility	Home		
Pregnancy complication				
Yes	57.3	42.7	18.44; p<0.0001	143
No	35.5	64.5		279
Complications during delivery				
Yes	36.5	63.5	6.34; p<0.005	200
No	48.6	51.4		222
Referral during delivery				
Yes	74.3	25.7	33.76; p<0.0001	70
No	36.6	63.4		352
Total	42.9	57.1		422

Table 7.4 presents results on the previous experience of pregnancy and delivery complications. The table shows that indeed nearly 6 in 10 of the IDW who experienced complications during pregnancy delivered in a health facility and only 35.5% who did not experience pregnancy complications delivered in health facilities. Conversely, the table shows that fewer IDW who had complications during delivery eventually delivered in a health facility. About 36% and 49% of the IDW who experienced and did not experience delivery complications respectively delivered in health facilities. The lower proportion of IDW who experienced delivery complications could have been explained by the timing of complications during labour which could have made it difficult to access a health facility for delivery. Health facilities could also be far and risky to access during conflict. The lack of referral systems could have also contributed to the failure to access health facilities for of the women. The results show that experience of pregnancy and delivery

complications was significantly associated with the place of delivery of the IDW at $p < 0.05$.

To reduce the risk of maternal mortality in poor settings, one of the key indicators recommended for tracking is access to referral services. This is important in the event of pregnancy and delivery complications. A number of studies have proven that access to referral services could greatly reduce the risk of maternal mortality and delivery outcomes due to delays in reaching health facilities with the appropriate personnel and facilities to manage complications during labour (Adegoke & Van Den Broek, 2009; M. A. Islam, Chowdhury, & Akhter, 2006). Referral services can be an indispensable need in the event of delivery complications. The data presented in Table 7.4 assessed the effect of availability of referral systems on the place of delivery of the IDW. The table shows that delivery in a health facility increased with the availability of referral systems. Over 7 in 10 of the IDW who reported availability of referral systems delivered in health facility compared to only 37% who reported that referral systems were not available. The result shows that availability of referral systems was significantly associated with place of delivery at $p < 0.05$.

7.4 Predictors of uptake of delivery in health facilities

In this section the predictors of HFD are presented and discussed. The analysis was performed at four levels including unadjusted and adjusted models. The unadjusted models examined four hypotheses which sought to determine the relationship between selected predictor, enabling and needs factors and place of delivery. In the analysis, the

outcome dependent category is health facility delivery (HFD) and the reference category is home delivery. The four hypotheses were tested including:

- i. IDW were more likely to have delivered in health facilities if they had secondary education than if they had no education;
- ii. IDW were less likely to have delivered in a health facility if they believed there were skilled health personnel than if there were no skilled health personnel.
- iii. IDW were more likely to have delivered in health facilities if they lived within one kilometre of health facilities than if they lived more than five kilometres from a health facility; and
- iv. IDW were more likely to have delivered in health facility if they had a history of pregnancy complications than if they had no history of pregnancy complications.

All the above hypotheses assumed that the effects of other predictor factors remained unchanged. In interpreting the results, health facility delivery was considered to be more likely if the odds ratio of the outcome category was greater than one. Conversely, if the odds ratio associated with the category of the predictor variable of interest is less than one, then delivery in a health facility was less likely. The association between the predictor variable was significant if the p value associated with place of delivery was less than 0.05 or 95% confidence interval (CI).

The unadjusted logistic regression results are presented in Model 1 in Table 7.5. The results show that HFD was 48% ($p < 0.05$) significantly less likely if the IDW had no/primary education than if they had secondary or tertiary education. The IDW were

also 70% ($p < 0.05$) significantly less likely to have delivered their most recent births in health facilities if there were no skilled health workers than if there were skilled health workers. Furthermore, IDW were 0.20 ($p < 0.05$) times and 0.40 ($p < 0.05$) less likely to have delivered in health facilities if they lived more than 5 kilometres and never had a history of pregnancy complications respectively than if otherwise. The result observed are expected in humanitarian emergency settings as the difficulties of accessing health facilities are expected to further impede access to services which are often more difficult to access in such settings.

In Model 2, the results of the effect of no education, availability of workers, distance to the nearest health facility and pregnancy complications on HFD were assessed after controlling for the effect of two predictor variables namely religious affiliation and camp of displacement, which were significantly associated with place of delivery at the bivariate analysis. The result shows that although the effect of lack of health workers increased by 9%, it still remained a significant predictor of low likelihood of delivering in a health facility by the IDW by 61%. Similarly, Model 2 shows that HFD also remained significantly less likely by 81% and 75% if the IDW lived 5 or more kilometres from the nearest health facility and did not have a history of pregnancy complications respectively. Conversely, not having any education ceased to be a significant predictor of HFD even though having no education was associated with a low likelihood of HFD. The results of the control variables show that only displacement in Durmi camp was significantly a less likely predictor of HFD.

Furthermore, Table 7.5 Model 3 presents the effects of no education, availability of health workers, distance to the nearest health facility and pregnancy complications on

HFD after controlling for selected predisposing and enabling factors. The results show that only distance to the nearest health facility and a history of pregnancy complications remained significant predictors of HFD. IDW living 5 or more KM from the nearest health facility and having no history of pregnancy complications were 64% ($p<0.05$) and 76% ($p<0.05$) respectively significantly less likely to have delivered in a health facility. Having no education and poor attitude of health workers ceased being significant predictors of HFD for IDW after controlling for the effects of selected predisposing and enabling factors. Of the control variables, being displaced in Durmi camp (OR=0.30; $p<0.05$), having no access to the radio (OR=0.41; $p<0.05$) and poor attitude of health workers (OR=0.16; $p<0.05$) were significantly less likely predictors of HFD for the IDW.

The final adjusted logistic regression model is presented in Model 4 of Table 7.5. The results show that IDW living 5 or more Km from a health facility (OR=0.35; $p<0.05$) and having no history of pregnancy complications (OR=0.24; $p<0.05$) remained significant predictors of being less likely to have had HFD. Of all the control variables in the model, only displacement in Durmi camp and poor attitude of health workers remained significant predictors of HFD. The likelihood of HFD also significantly reduced by 66% ($p<0.05$) for IDW displaced in Durmi camp; and 83% ($p<0.05$) for IDW who reported a poor attitude of health workers.

Table 7.5 Logistic regression model showing odds ratios predicting the health facility delivery of the most recent birth by IDW

Predictors	Unadjusted Model 1		Adjusted: Model 2		Adjusted: Model 3		Adjusted Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Level of education								
No/primary®	0.52***	0.34-0.80	0.67	0.40-1.12	1.15	0.63-2.11	1.11	0.61-2.04
Secondary or higher	1.00		1.00		1.00		1.00	
Availability status of health workers								
No skilled health worker®	0.30****	0.20-0.45	0.39****	0.24-0.63	0.67	0.38-1.17	0.69	0.40-1.22
Killed health worker available	1.00		1.00		1.00		1.00	
Proximity to health facility								
<5 km®	1.00		1.00		1.00		1.00	
1-5 km	0.72	0.44-1.19	0.88	0.50-1.52	1.32	0.69-2.52	1.38	0.72-2.66
More than 5km	0.20****	0.12-0.34	0.19****	0.10-0.14	0.36***	0.18-0.74	0.35***	0.17-0.72
A history of Pregnancy complications								
No®	0.40****	0.27-0.61	0.25****	0.14-0.41	0.24****	0.17-0.44	0.24****	0.13-0.44
Yes	1.00		1.00		1.00		1.00	
Covariates								
Predisposing variables								
Religious affiliations								
Christians®			1.00		1.00		1.00	0.40-1.51
Muslims and others			1.07	0.61-1.91	0.72	0.37-1.38	0.77	

Camp of displacement

Durku	0.34***	0.16-0.72	0.30***	0.13-0.70	0.34**	0.15-0.79
Durmi	1.85	0.94-3.61	1.72	0.79-3.68	1.74	0.80-3.75
Kuchingoro	1.00		1.00		1.00	

Enabling variables**Access to newspapers**

Sometimes ®			1.00		1.00	
Not at all			0.84	0.44-1.59	0.85	0.45-1.63

Access to radio

Sometimes ®			1.00		1.00	
Not at all			0.41***	0.22-0.75	0.41***	0.22-0.75

Level of significance *<0.10; **<0.05; ***<0.01; ****<0.001; *****<0.0001; OR=Odds Ratio; CI=Confidence of interval

Table 7.5 Continues

Predictors	Unadjusted Model 1		Adjusted: Model 2		Adjusted: Model 3		Adjusted Model 4	
	OR	CI	OR	CI	OR	CI	OR	CI
Access to TV								
Sometimes					1.00		1.00	
Not at all®					0.62	0.32-1.27	0.63	0.31-1.26
Perception of attitude of health workers								
Good					1.00		1.00	
Poor®					0.16***	0.08-0.30	0.17****	0.09-0.31
Number of ANC visits								
No ANC					0.62	0.32-1.21	0.61	0.31-1.18
Less than 4 times					0.53	0.28-1.01	0.55	0.27-1.10
4 times and more®					1.00		1.00	1.00
Availability of referral services								
Not available ®					0.64	0.31-1.31	0.68	0.33-1.40
Available					1.00		1.00	1.00
Perceived needs variable								
Risk of complications at labour								
No®							1.47	0.85-2.53
Yes							1.00	

Level of significance: **<0.05; ***<0.01; ****<0.001; *****<0.0001; OR=Odds Ratio; CI=Confidence of interval

7.5 Summary

The chapter assessed the prevalence of health facility and home deliveries by IDW from Northern Nigeria. It also examined the predictors of health facility delivery by the women. The inclusion criterion for the analysis was the most recent birth regardless of age of child and marital status of the women. Women who have not yet given birth were therefore excluded from the analysis. The results show that although more than 40% of the IDW delivered in health facilities, the majority of the IDW delivered at home. Perception that pregnancy is a normal process was the main reason for home delivery. Other reasons were high cost of delivering in a health facility, long distances to health facility and the sudden onset of labour. On the other hand, experience of pregnancy complications and infections during pregnancy were some of the reasons advanced for health facility delivery.

Four hypotheses involving the levels of education, availability of skilled health workers at the nearest health facility; the distance to the nearest health facility and a history of pregnancy complications on health facility delivery were tested. The effects of these predictors were controlled for the effects of selected predisposing, enabling and needs variables that were significantly associated with place of delivery at the bivariate level of analysis. The results in Table 7.5 show that the level of education and availability of health workers at nearby health facilities did not affect the likelihood of HFD. However the other two alternative hypotheses were confirmed in the context of the humanitarian emergency namely:

- i. IDW were significantly less likely to have delivered in health facilities if they lived within 5 or more kilometres of a health facility than if they lived

within one kilometre of a health facility, other factors remaining constant;
and

- ii. IDW were significantly less likely to have delivered in health facility if they had no history of pregnancy complications than if they had a history of pregnancy complications, other factors remaining constant.

Among the controlled variables, three, including being displaced in Durmi camp, having some access to a radio as a source of health information and having a poor perception of health workers' attitudes towards patients negatively predicted health facility delivery.

Overall, this study can conclude that home deliveries are still popular among the IDW. This could have been influenced by the perception that pregnancy is not a disease. Therefore, for many women, seeking health facility delivery becomes a need only because of an infection that may threaten the pregnancy outcome or a history of pregnancy and delivery complications that may threaten both the pregnancy and delivery outcomes. Another set of factors that appears to influence health facility delivery are proximity to health facilities and the perceived attitudes of health workers to patients. The latter is an important consideration especially for women who have a history of experiencing "harassment" by medical workers for not complying with ANC attendance. This situation has been reported by previous studies as a barrier to HFD in sub-Saharan Africa. Importantly, however, education, place of residence and religion as predisposing factors that are known to influence HFD were not significant predictors in this study. The effects of these factors could have been undermined by the state of conflict. The role of these variables could have also been impaired by the effect of high parity older women who prefer home deliveries, but are at a higher risk of maternity complications. In light of the above findings, and the conflict situation which could undermine emergency response to delivery complications, information and education regarding the importance of HFD in preventing

maternal and new-born deaths is required. Additionally, delivery services and skilled health workers should be deployed in areas of conflict and camps for displaced populations to address their health needs in general, and those of mothers in need of delivery assistants in particular.

CHAPTER EIGHT

THE PERSPECTIVES OF IDW ON UTILIZATION OF AND BARRIERS TO REPRODUCTIVE HEALTH SERVICES IN NIGERIA

8.1 Introduction

The previous chapters assessed the status and examined the patterns of use of contraceptives, antenatal care (ANC) and place of delivery among Internally Displaced Women (IDW) from North-Eastern Nigeria using a quantitative approach. This chapter used the qualitative approach to examine the perspectives of IDW on utilization of and barriers to Reproductive Health Services (RHS). In this study we postulate that IDW are significantly impeded in accessing and utilizing RHS. In that regard, improvement of RHS utilization by IDW should be based on the thorough needs assessment that explores the IDWs' perceptions on RHS and access to and utilization of RHS. However, there is paucity of knowledge on the current perspective of IDW on access to RHS and barriers to RHS utilization.

Despite the improvements in the RHS in many sub-Saharan African countries, most of these countries are still far behind in terms of quality and coverage of RHS (Doctor et al., 2018; Tsui et al., 2017). Previous studies have consistently revealed that many women in these countries have inadequate access to quality RHS, which in this study includes access to modern contraceptives (MC) (M. F. Muanda, Ndongo, Messina, & Bertrand, 2017; Tsui et al., 2017); attending the recommended number of ANC visits (Chandra-Mouli, McCarraher, Phillips, Williamson, & Hainsworth, 2014; Kanyangarara, Munos, & Walker, 2017; J. Sharma, Leslie, Kundu, & Kruk, 2017; Williamson, Parkes, Wight, Petticrew, & Hart, 2009); and delivery in health facilities (Kumbani et al., 2013;

Yaya et al., 2017a), which have led to the high maternal mortality rates (Kalipeni, Iwelunmor, & Grigsby-Toussaint, 2017; Nyamtema et al., 2016).

The RHS situation in Nigeria is not different from those experienced in other sub-Saharan African countries. A review of available research reports suggests that uptake of RHS in Nigeria is low. For example, recent studies found that nearly 47% of women in Nigeria did not attend ANC (Adewuyi et al., 2018b); and ever use of contraceptives was low at less than one third of women in union (Blackstone & Iwelunmor, 2017; Ogboghodo, Adam, & Wagbatsoma, 2017; Osaro et al., 2017). Additionally other studies on place of delivery in Nigeria also found that the majority of deliveries take place at home, some with no one to assist the women (Bukar & Jauro, 2013; S. H. Idris et al., 2006; Nduka & Nduka, 2014). The inadequate access, late or non-utilization of RHS have been blamed for the increased maternal mortality rate observed in some States in Nigeria in the recent past (Ntoimo et al., 2018; Okonofua et al., 2017).

One of the population groups that are likely to experience significant barriers to utilization of RHS in Nigeria is IDW. There is now increasing evidence which shows that the population of Internally Displaced Persons (IDP) is increasing in sub-Saharan Africa, and Nigeria along with Somalia, South Sudan, Democratic Republic of Congo, Central African Republic are the countries' most affected by this phenomenon. Most of the IDPs in these countries are women and children (Edwards, 2016, 2017) and the women face significant challenges in accessing and utilizing RHS (Gopalan et al., 2017).

In the case of Nigeria, women alone constitute a large proportion of IDPs mainly because they are often targeted by insurgents (D. Agbiboa & Maiangwa, 2014; Ernmanuelar, 2015; Osumah, 2013). A previous study by Okanlawon et al. found that

despite the high level of knowledge of modern methods of contraceptives by women, uptake of contraceptives by IDW, especially adolescents in Nigeria, is low (K. Okanlawon, Reeves, & Agbaje, 2010). Another two studies by Owoaje et al. and Odusanya also found that interventions for the health of women in IDP camps was inadequate, which increased their risk and prevalence of unwanted pregnancy and Sexually Transmitted Infections (STIs) (Odusanya, 2016; Owoaje et al., 2016). Furthermore, other recent studies also identified the shortage of trained medical staff and inadequate RHS as some of the main challenges faced by IDW (J. Austin et al., 2008; Leather et al., 2006).

Most of the previous studies on IDW reviewed in this study were limited to assessing the access and utilization of RHS by IDW. However, studies on barriers to utilization of RHS by IDW have been rare. The reproductive health needs of women are diverse and as a result they face various risks and complications at pregnancy and delivery during the reproductive period. Like other women in stable populations, the IDW in reproductive age groups face reproductive health challenges such as unintended pregnancy, STIs including HIV/AIDs, unsafe abortion, higher rates of maternal death and disability which require preventive and mitigation interventions. Therefore, obtaining the perspectives of IDW and understanding their perceived and actual barriers to RHS is important in improving the reproductive health of women in humanitarian emergencies in Nigeria.

8.2 Methodology

A total of 44 IDW participants, comprising of 16, 15 and 13 IDW from Durumi, New-Kuchingoro and Gurku camps respectively, who have ever given birth, took part in the

study. The three camps are populated by people displaced by the Boko Haram insurgency, which intensified in 2014. The majority of the inhabitants of the camps are women and children. The age range of the IDW in the study was 15-49 years of age. From each camp, participants were stratified by age into two focus groups namely those under 25 and 25 years or older in order to account for the effects of the differences of age groups on reproductive behaviours (Fuentes et al., 2018; Mbeba et al., 2012; Renzaho, Kamara, Georgeou, & Kamanga, 2017b).

The Focus Group Discussion (FGD) method was used to gain in-depth understanding of patterns of RHS utilization and the barriers impeding uptake of RHS by IDW. All together six focus group discussions (FGDs), two in each camp, were conducted and the sample for the FDGs was derived purposively. In conducting the FGDs, members checking technique was used throughout the group discussions. This technique allows the interviewers to understand the participants' explanations by giving other participants opportunity to express their own opinions and ideas. The FGD guide used was structured in sections including exploration of background characteristics of participants; the women's utilization of contraceptives, ANC and place of delivery; and barriers to the utilization of contraceptives, ANC and delivery care. Field notes were taken during the FGDs to document the information provided; body language to observe emotions and behaviors of the participants was documented; and mobile phones were used to record the FGD proceedings.

8.3 Socio-demographic profile of study participants

Table 8.1 presents the profile of the study participants by selected socio-demographic characteristics. The table shows that slightly more (23) study participants were in the

age group 15-24 years compare to 21 in the 25 years or older age group. The median age of the IDW was only 24 years, which indicated that the study population was generally young. The table further shows that the majority of the participants had no formal education (24), 12 participants had secondary education and only 8 had primary education. The educational profile of the IDW suggests that the majority were uneducated, which could have affected their access to and utilization of RHS. Most of the participants were Christians (26) and only 18 participants were Muslims. The majority of the participants (24) have lived in the camps for at least 5 years, 11 participants lived in the camps for 2-3 years, 5 participants spend 1-2 years and only 4 lived for less than one year in the camps.

Regarding the number of living children, the majority of the participants had given birth to 1-3 children (24) and 8 participants had given birth to 7-9 children. Additionally, 7 and 5 participants had given birth to 4-6 and 10 or more children. The mean number of children of the 44 women was 4.7 at the time of the study. Overall, Durumi camp had more IDW in all the attributes examined, which is expected because the camp had more representation in the sample.

Table 8.1 Socio-demographic characteristics of IDW by camps

Selected Socio-demographic characteristics	New-Kuchingoro	Durumi	Gurku	Total
Age groups of IDW				
15-24	8	8	7	23
25+	7	8	6	21
Educational level				
No education	6	10	8	24
Primary	4	2	2	8
Secondary & higher	5	4	3	12
Religious affiliations				
Christian	15	4	7	26
Muslim	0	12	6	18
Traditionalist	0	0	0	0
Number of years in camps				
At least 1 year	0	1	3	4
1-2 years	4	0	1	5
2-3 years	11	0	0	11
37-60 months	0	15	9	24
Number of living children				
1-3	9	8	7	24
4-6	4	3	0	7
7-9	2	3	3	8
10+	0	2	3	5
Total	15	16	13	44

8.4 Utilization of Reproductive Health Services

The distribution of IDW by utilization of the selected RHS is presented in Table 8.2 by type of services and camp of current residence. The table shows that the majority of the IDW in all the 3 camps did not use any modern contraceptive method. Only three of the participants in Gurku camp reported they ever used any contraceptives. Overall, 25 participants reported they have ever attended ANC during their last pregnancy. Of these 8 participants each was in New-Kuchingoro and Gurku camps and 9 participants were in Durumi camp. However, the majority of the participants said they did not attend the recommended four or more ANC visits.

Table 8.2 Number of reproductive health uptake among IDW in northern Nigeria

Camps	Uptake of contraceptives	Uptake of ANC	Uptake of Health Facility Delivery	Total
New-Kuchingoro	0	8	5	13
Durumi	0	9	7	16
Gurku	3	8	4	15
Total	2	25	16	44

Despite more than half of the IDW attending ANC during the last pregnancy, only 16 reported they delivered in a health facility. Of the number that delivered in a health facility, 7 and 5 were in Durumi and New-Kuchingoro camps respectively. Only 4 of the women in Durku camp delivered in a health facility. The data presented in Table 8.2 confirm that utilization of the three types of RHS by the IDW was poor and unsatisfactory.

8.5 Knowledge, perceptions and utilization of modern contraceptives

Contraceptive use is one of the important RHS mainly because it is used to prevent unwanted or miss-timed pregnancies. In conditions of humanitarian emergencies, access to and utilization of contraceptives is important because of the increased risk of sexual abuse and exploitation of women (Marsh et al., 2006; McAlpine, Hossain, & Zimmerman, 2016). In this section data on knowledge and barriers to the utilization of modern contraceptive methods were presented and discussed.

8.5.1 Knowledge of modern contraceptives

The knowledge of modern contraceptive methods was assessed by asking the women to report on their knowledge of different types of contraceptive methods. Overall, the result shows that although most participants have heard of modern methods of contraceptives, the majority have not seen any modern methods of contraception. The above finding appears to be consistent with previous studies that reported inadequate knowledge of contraceptives by IDW as a reason for not using them (Halle-Ekane et al., 2016; Ivanova, Rai, & Kemigisha, 2018; Kisindja, Kimona, Etoy, Dorme, & Benfield, 2017).

The study found that the most known modern methods of contraception by the participants were the pill, IUD and implants. Conversely, the most unknown methods of contraceptives were the condom and female sterilization. For example, in New-Kuchingoro and Gurku camps, the majority of the women did not know that the condom is also a method of contraception. However, in Durumi camp, 9 participants said they knew of the male condom as a method of contraception even though most have not seen a condom in the camp. Regarding knowledge of the female condom, only 2

participants in Gurku camp reported knowledge of modern method of contraception. Only 1 participant in Durumi camp reported that she heard of female sterilization as a method of contraception. A typical statement by the women that emphatically summarized knowledge of modern contraceptives is from Gurku and it states:

I have not seen or used any method of contraception before, but I have heard of some of them like the pill, IUD and implants. (Participant #1, FGD1, Gurku).

The practically low level of knowledge (seeing) of modern contraceptive method suggests that women in IDP camps in Nigeria are at high risks of unwanted pregnancies and childbearing. The particular low level of knowledge of the condom also increases the risk of STIs including HIV among IDW and their partners if they engage in multiple sexual unions, which is culturally and religiously normative in some population groups in Nigeria.

8.5.2 Utilization of modern contraceptives

Information on the uptake of modern contraceptive methods by FGD participants is presented in Table 8.2. The table shows that only a few IDW in the 3 camps ever used a modern method of contraception, which agrees with an earlier study in Nigeria (K. Okanlawon et al., 2010). This is attributed to the low level of knowledge of these methods. Another important contributor to the low use of modern methods of contraception is the restrictions imposed by marriage. For example, when asked to report why they did not use any method of contraceptives, participants from New-Kuchingoro mention being married as a reason for not using any method of

contraception, especially the condom. Two of the statements that clearly illustrate the low use of contraceptives are:

We are married. We only use the natural method of abstinence
(Participant #3, FGD1, New-Kuchingoro)

Yes, because we are married. We don't flirt and our husbands don't flirt so we don't use condom. (Participant #1, FGD2, New-Kuchingoro).

Despite the many having heard about modern contraceptive methods reported by the participants in Durumi camp, the women there also reported they did not use any modern method of contraceptives including condoms. The result from FGDs in Durumi camp indicated that the majority of the IDW reported that their husbands did not use condoms or any other method of contraception suggesting that male disapproval could be a factor in family planning decisions including the use of condoms. The women said:

I agreed with my husband that's why we don't use the condom or any other contraceptives. (Participant #4: FGD2, Durumi).

My husband disapproves the use of family planning methods including the use condoms (Participant #3: FGD1, Durumi).

Similarly, in Gurku camp, uptake of modern contraceptive methods was found to be low among FGD participants. Only 2 of the 13 participants reported they have ever used male condoms. This can be illustrated by the statement:

Yes, I have used contraceptives before and it was the condom. My husband used it because it's for men. I don't know of the female condom.
(Participant #8, FGD2, Gurku).

As the majority of the women did not use any modern methods of contraception, it was not possible to objectively assess their perceptions regarding the effectiveness of these methods. Nevertheless, the women were asked to report their perceptions on the effectiveness of modern contraceptive methods. The discussions in the FGDs indicated that the women did not know or have any ideas on the effectiveness of contraceptive methods, and this was illustrated by the following statement:

Most women here do not use contraceptives then how do we know how it works. (Participant #1, FGD2, New-Kuchingoro).

However, in Gurku camp, out of the 3 participants who reported ever using contraceptives in the past, one of them said she ever used the condom when she was a student and believed that it is effective in preventing unwanted pregnancy as she did not get pregnant on that occasion.

I don't want to get belle (pregnant) but I want to go to school first then I can have children later. That is why I used the condom. (Participant #7, FGD2, Gurku)

We have two children and we use contraceptives to prevent me from getting pregnant with the third. (Participant #7, FGD2, Gurku).

8.5.3 Perceived barriers to uptake of modern contraceptive methods

Unmet need of family planning was identified as one of the main barriers to uptake of modern contraceptive methods. Unmet need for family planning is the proportion of women who would like to use contraceptives to stop childbearing or space their births, but are unable to do so because of lack of access (Casterline, Perez, & Biddlecom, 1997). Unmet need for family planning has been previously studied in stable populations, which found that it is a common problem among women at risk of

pregnancy especially in developing countries (Ajong et al., 2015; Nyauchi & Ormedi, 2014; Sedgh, Ashoford, & Hussain, 2016). However, examining unmet need for contraceptives in IDW settings have been few. One of the main unmet needs identified by the IDW in this study was lack of access to modern contraceptive methods. A number of participants in all the three camps reported that they did not know where to get contraceptives. This implies that if contraceptives were available, they would use them to prevent childbearing. The lack of access to contraceptives was illustrated by the following statement:

I don't know where to get family planning methods. (Participant #16: FGD2, Durumi).

Another barrier to the use of contraceptives methods was the desire for more children by the women. This suggests that the majority of the women have not attained their desired family size. A commonly reported reason for wanting more children was the loss (death) of children due to the ongoing insurgency in the region. Additionally, many of the women were newly married and therefore had not achieved their desired family sizes.

For instance, that lady over there.... (pointing to a participant) she lost her children during the insurgency, this other woman.... (pointing to another participant) gave out her children because of the conflict, some even gave out their children into marriage even though they are not ripe enough for marriage. This one... (pointing to another participant) is not yet 20 years old and she's married. This one.... (pointing to another participant) even had to drop out of school to marry. But me I married at 20 years old so I know what to do with myself. (Participant #1, FGD2, Gurku).

Results of the FGDs found that the overwhelming majority of the women did not know that condom is also a modern method of contraceptives. In this regard, barriers to

uptake of condom as a contraceptive method was investigated and reported in this section. The result shows that the women's perceptions of condom use were surprising. Most of them did not perceive condom use as a means they could use for child spacing or for preventing pregnancies, but only for STI prevention. They mostly thought that the condom was only meant to be used by people who have sex with someone other than their husbands. This perception was illustrated by the following statement:

I don't use condom because I have my husband and as such I give birth frequently and I am not ashamed. But some people use condom because they don't want to get infected when they have sex with someone who is not their husbands. (Participant #3: FGD1, New-Kuchingoro).

Yes, we are married and do not have sex with other men other than our husbands. So we don't use condoms. (Participant #4: FGD2, New-Kuchingoro).

Additionally, women who have not used the condom reported that they only don't use the condom because they don't know about it. Further probes on their perceptions and beliefs on the use of condoms indicated that they just did not want to use condoms and that they don't know the benefits of using condoms.

No, we just don't want to use condom and don't know its benefits. (Participant #4: FGD2, Durumi).

Some of the participants emphatically said they did not use condoms not only because it is not available to them, but also because they do not want it, which suggest inherent negative attitudes to condoms use as a method of contraception.

No, even if the condom is available we don't use and we won't use (yeess...others agreed in an emphatic manner). (Participant #5: FGD1, Durumi).

Furthermore, participants in the FDG also reported that women believe that it is the responsibility of their husbands to initiate condom use. This can be done by the man bringing the condom home. This suggests that women do not have sufficient controls over their sexuality in these societies and have to rely on their husbands to make sexual decisions and the nature they would take. The above perception is illustrated more effectively by the statements below:

My husband has never brought the condom home for us to use and for me I don't want to get it. (Participant #6, FGD1, Gurku).

I have never used it before and I don't know it.... (pauses) my husband has not brought it and so I cannot use it (the condom). (Participant #9, FGD1, Gurku).

8.6 Perceptions and utilization of antenatal care

Antenatal care (ANC) is the regular checkups pregnant women receive from trained health workers. It is recommended that pregnant women must receive at least four antenatal care checkups during each pregnancy and the frequency of checkups increases if the health of the pregnancy is at risk (Organization W.H, 2016). The primary objective of ANC is to ensure the good health of the pregnancy (both mother and foetus) for a good delivery outcome. It comprises of a complex set of interventions including but not limited to screening tests for infections, physiological changes and treatment of diseases that could threaten the health of the pregnancy; advice on nutritional behaviour of mothers; nutrition supplementation especially iron supplementation to prevent anaemia; immunization against tetanus; advise on avoidance of certain behaviours such as use of alcohol and smoking; and assisting

mothers to positively prepare for delivery including effective linkage with health facilities for delivery care (Lincetto, Mothebesoane-Anoh, Gomez, & Munjanja, 2006; Tunçalp et al., 2015). In this section uptake of ANC services and barriers to ANC services was discussed.

8.6.1 Knowledge of antenatal care

Awareness of and knowledge of ANC is important in facilitating the utilization of ANC services. A number of previous studies, especially in developing countries, have shown that lack of ANC attendance or attending less than the recommended number of ANC is partly attributed to lack of awareness about ANC and poor knowledge on the importance of regular ANC visits for a healthy pregnancy (Shafqat, Fayaz, Rahim, & Saima, 2015; Wilunda et al., 2017). This lack of knowledge has encouraged negative perceptions on the utilization of ANC in many settings (Edward, 2011; Mubyazi, 2015). In this chapter, the finding of the FGDs on knowledge of the need for ANC is presented.

The findings revealed that the majority of the IDW participants are aware of ANC services, which is consistent with what other studies have established in Nigeria (Abioye-Kuteyi, Elias, Familusi, Fakunle, & Akinfolayan, 2001; Oladapo, Iyaniwura, & Sule-Odu, 2008). However, most participants are not knowledgeable of the specific benefits of attending regular ANC visits. The finding suggests that poor health information, education and communication strategies on reproductive health in general and ANC in particular explains the poor knowledge of ANC by the IDW, which is also consistent with another previous study in a similar humanitarian context (Wilunda et al., 2017). The poor knowledge by the IDW on the need for ANC could therefore explain the low attendance of ANC visits by the women. The result also shows that the women

perceived ANC attendance as unnecessary indicating their poor knowledge of the need for ANC attendance. The statements below illustrate the poor knowledge of the need for ANC services by IDW participants.

I do not attend ANC but I always feel strong during pregnancy and delivery. I have heard about ANC, but I do not go to the hospital anytime I get pregnant as I do not see the need. (Participant #6, FGD2, Gurku).

Many women here do not attend ANC regularly as they think it is just a formality and a waste of time. They just go once and many will not return until they give birth, if they do not fall sick. (Participant #3, FGD 1, Durumi).

8.6.2 Utilization of antenatal care

Utilization of ANC was explored by asking respondents on whether or not they attended ANC services during their most recent pregnancy. The result revealed that the use of ANC services was not widespread among IDW. Only 8 participants each in Gurku and Durumi camp reported they attended ANC services from a health facility during the most recent pregnancy. In Durumi camp, the figure was only half (8) of the 16 participants. However, none of the women said they attended the four or more ANC visits recommended by the WHO during the reference pregnancy. Some of the statements illustrating ANC services uptake are indicated below:

Most women could not attend ANC visits at the health facilities because the facilities were not working because of the security situation. (#10, FDG 1, Durku).

I am 6 months pregnant and I have gone for ANC only twice. I do not see the need for frequent ANC visits as I do not have any problem with my pregnancy. (Participant #5, FGD2, N.K).

Some of the participants who have attended ANC were also able to mention some of the benefits of using ANC service. The statements below illustrates what the women said about the benefits of ANC.

ANC visits can help prevent or identify and cure sickness women get during pregnancy. (Participant #2, FGD2, Gurku).

I do go for ANC and I enjoy going to ANC (pauses). It can help prevent pregnancy complications that can lead to miscarriages. (Participant #1, FGD2, Gurku).

8.6.3 Perceived barriers to utilization of antenatal care

Previous studies in stable populations identified a number of barriers at the individual, institutional and community levels that impeded the utilization of ANC by pregnant women which have led to delayed or non-uptake of ANC, or attending the recommended number of ANC visits. Some of the individual level factors that impeded utilization of ANC services observed by previous studies were belonging to a young age (Neupane & Doku, 2012), lack of or low level of educational attainment (Yaya et al., 2017a); lack of information about the importance of ANC (Haddrill et al., 2014); religious affiliation of women (Kisuule et al., 2013); and marital status of the women (Kawungezi et al., 2015a). Other factors are structural in nature such as the place of residence of women (Tran et al., 2011a); distance to health facilities capable of providing quality ANC services (Gupta et al., 2014); and the need factors such as infections during pregnancy (Asundep et al., 2014b).

In this study, the IDW identified a number of factors including financial constraints, distance to health facility, language barrier, poor services and non-functional clinics in

camps as the main barriers to the utilization of ANC services. These identified factors were seen by IDW to be leading to lack of attendance of the recommended four or more ANC visits and non-attendance of ANV visits. The fact that displacement comes along with loss of jobs and livelihood makes IDW particularly vulnerable to non-uptake of ANC services because of financial incapacitation. This study revealed that most of the participants are peasant farmers who could barely afford quality reproductive health services because of the high financial implications attached to health care. As a result many IDW seek alternative care such as home remedies from TBAs during pregnancy. The statement below illustrates the effects of lack of money to the utilization of ANC services by IDW.

That question is for people that can afford it right? Because if you can't afford the ANC services how then can you visit the health facilities for services? We rather struggle with TBAs at home. (Participant #1, FGD2, New-Kuchingoro).

Another barrier to uptake of ANC services identified by IDW was the long distances to health facilities and transportation constraints. Participants reported that the means of transport to health facilities are usually not available in displacement settings. As a result, IDW find it very difficult to get to health facilities. In rare occasions where means of transport are available, participants explained that they are discouraged from using them due to the high cost of transport. Most of the participants who attended ANC for the first time did not attend follow up visits because of the high cost of transport due to the long distance to health facilities. A statement from a participant who attended ANC services from the health facility illustrates the transport challenges; thus:

I have gone for my ANC twice now, but I won't be going again because it's too far and I have no money for taxi. (Participants #9, FGD2, Gurku).

The FGD results also revealed that inability to understand the English language discouraged IDW from attending ANC services. This is because most of the IDW in this study either have no education or very low education which impaired their ability to communicate effectively with the available health workers in the camps. Most of them also did not even understand the very common Pidgin English language commonly used in Nigeria. Some of the women reported that their communication experience during the first ANC visit discouraged them from attending later ANC appointments. This suggests that health workers did not encourage the women by addressing their communication challenges. A typical statement in this regard was made by one of the women who said:

They attended to us in the white man's language at the clinic which we do not know and so most of us discontinued going back for ANC visits. (Participant #1, FGD1, Durumi). Participant 2 nodded in agreement. ... Yes, most of us only speak Hausa language and do not understand any other language. (Participant #2, FGD1, Durumi).

Additionally, the women also blamed their inadequate attendance of ANC visits on the incompetence of the health providers. The women reported that some of the health workers wrongly diagnosed pregnancy complications during their ANC visits and those impeded subsequent ANC visits. Furthermore, some women who have pregnancy complications have complained of unimproved health conditions even after attending ANC services, which led to discontinuation of ANC visits. The statements below illustrate the perception of women regarding the skills of health workers:

Me I have a problem with ANC. That time when our camp was at area 1, I haven't started going for ANC but I was pregnant. So, because I noticed I had infection I started going for ANC, then I went to see the doctor and then the doctor gave me injection then I lost my baby, so since then I became scared of ANC. (Participant #4, FGD2, Gurku).

I decided to add one more child to the 2 children I have because I want a female child. So, the time I got pregnant with my female child I gave birth to her but she died. I got pregnant with another, the baby too died.....I go for ANC and still the baby died.....yes I went for ANC and they told me that I am okay and the baby is also okay but I had miscarriage (Participant #2, FGD2, Gurku).

Another factor associated with lack of uptake of ANC services among IDW was the non-functional clinics in the camp. Some of the women in the study reported that they could not access ANC services because the clinics in camps are either not opened at all or only opened just for few hours and usually do not attend to ANC services even when they opened. Additionally, some participants also complained that even when clinics are opened in their camps, they complained about scarcity of nurses or doctors to render the ANC services. Furthermore, the participants complained of lack of equipment to provide ANC services and as such had to opt for another alternative which usually is home care. Some of the women said the following to illustrate the poor state of health services in the camps.

Our clinic is always closed, as you can see for yourself.....(pauses) and (pointing to the locked clinic's direction). (Participant #3, FGD1, N.K).

They open sometimes. Around 10am and close at 2pm. And it's always closed on Sundays. (Participant #3, FGD1, Durumi).

They open our clinic sometimes, but the CHEW on duty told us there is no equipment for ANC services. (Participant #9, FGD2, Gurku).

Even if they open the clinic because we heard there is equipment in our clinic but the CHEW said they don't know how to use the equipment and so we have to trek far out of camp for ANC and it's too stressful and dangerous. (Participant #3, FGD1, Gurku).

8.7 Utilization of delivery care

Delivery in health facilities is an important means of improving delivery outcomes. It contributes significantly in reducing maternal and new-born mortality. The Sustainable Development Goals (SDG) recommends that to avoid preventable maternal and new-born mortality, all births must take place in health facilities attended by professionally trained delivery attendants (Chou, Daelmans, Jolivet, Kinney, & Say, 2015). However, despite the concerted international efforts and commitments, health facility delivery (HFD) has remained elusive for many mothers in poor settings (Enuameh, Okawa, Asante, Kikuchi, Mahama, Ansah, Tawiah, Adjei, Shibanuma, Nanishi, et al., 2016). The likelihood of mothers in such countries delivering in health facilities has been further impeded by structural challenges caused by social and political crisis which reduce or prevent access to professional obstetrics care in health facilities (Black et al., 2014; Chi et al., 2015). In this section the perspectives of IDW on knowledge, uptake of HFD and barriers to HFD was assessed.

8.7.1 Knowledge of health facility delivery

The knowledge of HFD was assessed by asking the women to report on their awareness of the benefits and importance of having a skilled worker present during Labour. Overall, the result shows that even though most participants did not have HFD,

some of the IDW reported they knew the importance of HFD. Participants who expressed knowledge of HFD reported that delivering at a health facility improved the survivability of mothers and their new-born babies. A typical statement by a participant that summarized knowledge of HFD is from Durumi camp and she said:

When we go to clinic they tell us to come and deliver at the hospital (health facility) so that if we develop pregnancy problems it can be properly managed. (Participant #2, FDG2, Durumi).

8.7.2 Utilization of health facility for delivery

Place of delivery was investigated by asking the respondents about the most common places of delivery for women in their communities. Although some of the IDW reported knowledge on the importance of HFD, the results on HFD by the FDG participants revealed that the majority of the IDW in the 3 camps delivered their most recent birth at home. The low uptake of HFD by the women was attributed to the low knowledge of the need to for HFD. Only 7 participants in Durumi camp reported they delivered their last birth at a health facility; in New-Kuchingoro camp, only one third of the participants delivered their last births at a health facility; and only four participants in Gurku camp delivered their last birth at a health facility. A typical statement that illustrates why the IDW delivered at home states:

Many women lack information on why they should deliver in a health facility. This is mainly because many of them do not attend ANC during which women are informed of the need to deliver in a health facility. (Participant #1, FGD2, Durku).

The IDW were also asked to report on the persons who assisted in the delivery of their most recent birth. This was necessitated by the predominant home deliveries in the

camps. The IDW whose deliveries were at home reported that they were assisted by relatives, co-wives or TBAs during their most recent delivery. Two factors stood out as important contributors to home deliveries. One of these is the availability of Traditional Birth Attendants (TBAs) in the camps. Another factor contributing to home deliveries was the sudden onset of labour, which did not allow for the women to be rushed to a health facility for delivery. The following two statements by IDW from New-Kuchingoro and Durumi camps appropriately identified the persons who assisted during home deliveries and their competencies:

I delivered at home alone. Nobody assisted me. I delivered by myself because labour was sudden and fast. It was too late for me to go to the hospital as it was far. (Participant #2, FGD2, New-Kuchingoro).

I was delivered by a TBA in the camp (pointing at a fellow participant). (Participant #2, FGD2, Durumi).

Yes, I delivered her baby because I am a TBA... (pause). Since we came here, I have successfully delivered 59 babies in this camp. There are many TBAs here and the women trust us. (Participant #1, FGD2, Durumi).

One other factor which impeded delivery at health facility was friends and families having the skills and experience to manage home deliveries. The following statements attest to the perceived skills and competencies of TBAs and other women in providing delivery assistance:

My mother was the one who assisted me at the delivery of my baby because she is very experienced and has delivered many babies including those of my other sisters. (Participant #4, FGD1, New-Kuchingoro).

8.7.3 Perceived barriers to health facility delivery

The FGDs revealed a number of barriers to HFD by IDW. One of the barriers is inadequate or poor communication between mothers and health workers in previous deliveries. The problem of poor communication was particularly emphasized if delivery outcomes were poor characterized by the death of a mother, baby or both. The poor communication also suggests three main problems. Firstly, the delivery process could have become complicated and health workers did not want the patients or their relatives to know what was going on (Stal et al., 2015); secondly, there could have been a problem of delayed referral which lead to poor delivery outcomes (Khanum, de Souza, Sayyed, & Naz, 2017); and thirdly, it could be a case of poor attitude on the part of health workers (Roberts et al., 2015). All the above three contexts have the potential of discouraging women to report for delivery at health facilities. One of the participants had similar experiences in which health workers moved her from one health facility to another without appropriate communication on why she was being referred. In the process of doing so she lost her baby. The statement below illustrates what the woman experienced which eventually made her choose not to deliver her next baby in a health facility.

They did not even tolerate us. They didn't talk to us. They only sent us to another hospital, from the other hospital they sent us to another hospital and then the baby died afterwards. So for my last pregnancy I decided to go to a TBA. (Participant #3, FGD1, New-Kuchingoro).

Two other participants reported what could have amounted to poor attitude and unprofessional conduct by health workers:

I experienced hell. They didn't give me any injection for my bleeding to stop after delivery they just left me there but after so many hours a doctor later came to inject me before the bleeding stopped, and because of that I did not like to deliver in the health facility again. (Participant #11, FGD2, Gurku).

They shouted at me.....and it was because I was in labour for 3 days and my body was weak and I couldn't help myself. Instead of helping, the health workers were shouting at me. (Participant #7, FGD1, Gurku).

Another barrier to uptake of HFD reported by the IDW was poor or in appropriate advise by health workers on the timing of delivery. The participants in the FGDs reported that many women deliver home or alone because health workers advised them it was not yet time for delivery. The statement bellow illustrates this point:

I was told it was not yet time for delivery but on getting home I delivered my baby. (Participant #4, FGD1, New-Kuchingoro).

The long distance to the health facilities is another factor that discourages IDW from delivery in a health facility. The long distance was further exacerbated by lack of money for transport to go to a health facility. This has significantly contributed to home deliveries assisted by family members and neighbours. Woman in Durumi and Durku camps illustrated the challenges caused by lack of money and distance to health facilities as:

At the time when I went in labour we did not have money for transport for me to be taken to the hospital. It was my neighbour who assisted me to deliver my baby. (Participant #3, FGD2, Durumi).

Health facilities are far from our camp. Because we don't have a car, I trek and I get really tired, sometimes we climb a motorcycle and before getting

to the hospital we might have delivered on the way. (Participant #10, FGD2, Gurku).

Lack of functioning health facilities, lack of qualified health workers and medicines in camps were identified as some of the impediments to HFD by the FGD participants. Most women reported that the health facilities in camps are usually inoperative and a few other participants reported shortage of staff or medicines in the camp clinic.

Because we even have scanning machine but no good doctor to operate this equipment. (Participant #1, FGD2, Gurku).

Our clinics are always not open. Even if we want ordinary paracetamol we have to buy from one man who has decided to open a small shop in the camp. (Participant #1, FGD2, New-Kuchingoro).

8.8 Summary

In conflict settings, a vast and complex set of factors affects IDW ability and willingness to access and utilize RHS. These range from the individual level predisposing factors, enabling factors mostly of structural nature and the need for RHS. Contraceptive use is an important service in the prevention of unwanted or miss-timed pregnancies in humanitarian emergencies mainly because of the high risk of sexual abuse and exploitation of women. The findings of this study suggest that although most participants have heard of modern methods of contraception, the majority have not seen any of these methods. The results also shows that the prevalence of contraceptive uptake among IDW was very low, which was attributed to the low level of knowledge of methods, lack of access and marriage. Other barriers reported for the low use of contraceptives were partner disapproval; lack of access; the desire for more children by the women; and lack of control over sexual decisions by the women.

Additionally, a regular attendance of ANC visit is one of the important RHS all pregnant women must attend, to ensure a healthy pregnancy. However, evidence from this study suggests that ANC is one of the RHS least used by pregnant women facing humanitarian emergencies. The study suggests that most women who do not attend ANC visits do not do so because of ignorance of the importance of ANC for a healthy pregnancy. The study also identified some of the barriers impeding the utilization of ANC by the IDW as the lack of money for health charges; long distances to health facility; and communication problems in the forms of language barrier; poor services, lack of trained personnel and non-functional clinics in camps.

Furthermore, despite the concerted international efforts and commitments, uptake of HFD has remained low among women in humanitarian emergencies. The results obtained from the present study suggest that even though most participants did not deliver in a health facility, IDW were aware of the importance of HFD. However, utilization of HFD services by the women was low and the majority of the IDW in the 3 camps delivered their most recent birth at home assisted by relatives, co-wives or TBAs. The availability of TBAs in the camps appears to have encouraged home deliveries in this study population. The low HFD was attributed to a number of barriers including inadequate need for HFD due low ANC attendance by IDW; problems associated with poor communication between patients and health workers; and poor attitude on the part of health workers and unprofessional conduct. Other factors explaining the low uptake of HFD were long distances to health facilities and high transport costs; and lack of functioning health facilities, lack of qualified health workers,

lack of equipment and medicines in the IDP in camps. In conclusion therefore, IDW in this study were significantly impeded in accessing and utilizing RHS.

CHAPTER NINE

SUMMARY OF KEY FINDINGS, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

9.1 Introduction

Chapter nine presents and discusses the main findings of the study. It also presents the conclusions and recommendations emanating from the study using the four specific objectives addressed in the study. These objectives:

- i. assessed the status of the three main domains of RHS including contraception, ANC and HFD among IDW in northern Nigeria;
- ii. examined the patterns of utilization of the three main domains of RHS including contraception, ANC and HFD among IDW in northern Nigeria;
- iii. identified the main predictors of utilization of the main domains of RHS including contraception, ANC and HFD; and
- iv. explored the perspectives of IDW on the main domains of RHS including contraception, ANC and HFD and identified the main barriers to their utilization among IDW in northern Nigeria.

The chapter is sub-divided into four main sections. The first section presents the summary of the main findings; the second section presents the discussions of each of the analytical chapters and these included the discussion on: the prevalence of and predictors of current use of contraceptives among IDW in Nigeria; the prevalence and predictors of attendance of the recommended number of antenatal care visits in Nigeria; the factors predicting the uptake of Health Facility Delivery (HFD) among IDW in Nigeria; and the perspectives of IDW on utilization of and barriers to reproductive health services in Nigeria. Additionally, section three presented the conclusions of the study

and the fourth section presented the recommendations and policy implications of the findings. Some frontiers for future research were also identified.

9.2 Summary of findings

The summary of the study findings are presented in four main sub-sections. These include the profile of the study population; the prevalence of and predictors of current use of contraceptives; the prevalence and predictors of attendance of the recommended number of antenatal care visits; the factors predicting the uptake of HFD among IDW; and the perspectives of IDW on utilization of and barriers to RHS.

9.2.1 The profile of the IDW

The distributions of the IDW by selected predisposing, enabling and needs characteristics revealed that the mean age of the women was about 32 years and the majority of the women belonged to the 25-34-year age group. The finding indicated that the IDW study population general young. The study also found that most of the IDW had no education and only one quarter had secondary or higher education indicating that level of education was low. The profile also shows that the majority of the IDW were ever in union. The study found that although the majority of the women lived in rural areas at the time of their last birth, most of them were displaced in Durmi and Durku camps in Abuja and Nasawara States. The study found that most of the IDW reported that they had no access to channels of mass media such as news papers, the radio and TV.

Furthermore, the study found that on the attitude of health workers, the majority of the IDW reported that health workers had good attitudes to their patients. The result on the

distribution of IDW by health facilities factors revealed that the majority of the IDW lived within 5 km to a health facility had no RHS services and had no access to referral services. Regarding the need factors, the findings show that the majority of the IDW wanted additional children, had no history of pregnancy and delivery complications.

9.2.2 Prevalence of and predictors of current use of contraceptive

The result on the prevalence of current use of contraceptives show that only 21.8% of the IDW were using contraceptives at the time of the study, which suggest that current uptake of contraceptives by IDW, was low. The condom was found to be the most reported conceptive method in use, which suggests that it was also used also as a method of preventing STIs including HIV infection. The finding also indicated that humanitarian agencies were the main sources of condoms. Furthermore, the study found that current use of contraceptives was more prevalent in the 25-34 year age group; among IDW with secondary or higher education; IDW displaced in Durumi camp; IDW with regular access to the radio; and IDW who did not want another child.

At the multivariate analysis, the study found that compared to the <25 year age group, IDW in the 25-34 year age group was significantly less likely to have been using contraceptives. Based on this result, the hypotheses that “younger IDW in the <25 year age group were more likely than the older IDW in the 35 year or older age group to have been using contraceptives, was accepted”. However, on the effect of distance to health facilities on the current use of contraceptives, the study found that IDW living more than 5 kms from a health facility were more than 2 time more likely to have been using contraceptives. The study also found that the IDW who did not want any additional children were significantly less likely to have been using contraceptives than those who

wanted another child soon. Among the control factors, the study found that current use of contraceptives increased with access to the radio; knowledge of sources of contraceptives; and living in Durumi camp. Conversely, the effects of level of education and place of residence, which are usually associated with increased use of contraceptives were found not to significantly affect current use of contraceptive among this group of IDW.

9.2.3 Prevalence and predictors of antenatal care visits

The study found that nearly 49% of the IDW did not attend any ANC visits during their last pregnancy. Only 27.5% of IDW said they attended the recommended 4 or more ANC visits during the last pregnancy. The result of the study shows that indeed having no education significantly predicted reduced attendance of the recommended 4 or more ANC visits. The study also found that IDW who lived within one km and 1-5 km were significantly more likely to have attended the recommended 4 or more ANC visits than those who lived more than 5 km from a health facility. However, previous experience of delivery complications significantly predicted attending only 1-3 ANC visits during the last pregnancy.

The results of the study also found that some control factors significantly increased the attendance of the recommended 4 or more ANC visits. These include living in an urban area, having a regular access to newspapers and availability of trained health workers. Another factor found to increase the attendance of the recommended 4 or more ANC visits was living in Durmi camp. Conversely, the study found that having a regular access to the radio and living in New-Kuchingoro camp reduced the attendance of the recommended 4 or more ANC visits.

9.2.4 Factors predicting the uptake of health facility delivery

The study found that only 43% of the IDW delivered in a health facility. About 45% of the IDW delivered in health facility because they were referred. Of these nearly 29% and 71% reported they had delivery complications and infections respectively at the time of delivery. The study also found that the IDW who delivered at home said they did so because of the perception that pregnancy was not a sickness; the cost of delivering in a health facility was high; distances to health facility were long; and that onset of labour was sudden.

The study found that among the hypothesis tested, the study found that the level of education and availability of health workers at nearby health facilities did not significantly affected the likelihood of HFD. However, the study found that living more than five kilometers to a health facility and having no history of pregnancy complications significantly reduced the likelihood of HFD among the IDW. The study also found that living in Durku camp, having access to the radio and having a poor perception of health workers' attitudes towards patients reduced the likelihood of HFD among the IDW. The study also found that the place of residence and religion did not influence HFD among the IDW.

9.2.5 Perspectives on and barriers to reproductive health services

The findings on awareness of the three RHS domains examined in the study showed that knowledge of RHS services among the IDW was high. However, practical knowledge of the continuums of RHS was low. For example, although many participants said they were aware of contraceptives, the majority have not seen a modern contraceptive. The result on the perception of contraceptives indicated that although

some of the IDW said contraceptives can prevent unwanted pregnancy, the majority remained oblivious on the effectiveness of contraceptives. Furthermore, the study found that the majority of the participants were aware of ANC services, but did not know the importance of or the recommended number of ANC visits. Regarding knowledge of HFD, the study found that the majority of FGD participants knew about HFD and also knew that it improved delivery outcomes. However, many participants also perceived that home deliveries are preferred because of cultural reasons.

The study also found that only 2, 25, and 16 participants in the FDGs were using contraceptives, attended the recommended 4 or more ANC visits during the last pregnancy and delivered the last birth in a health facility respectively. However, New-Kuchingoro and Durku camps reported the lowest number of participants who used any of the above three main RHS services. The findings on the barriers to RHS reported by type are indicated below:

i. Contraceptive use

The FGD participants reported a number of factors that impeded their utilization of contraceptives. The most important ones identified by this study were: lack of access to contraceptives; not attaining their family sizes; lack of knowledge of some contraceptives including the condom as a contraceptive and the unwillingness to use it as a contraceptive; and the dominance of males in sexual and reproductive decisions.

ii. Antenatal care

The study found a number of factors participants said impeded attendance of the recommended number of ANC visits. Key among these are: the low level of knowledge on the importance of receiving ANC services from trained health workers; inadequate information from health systems on the need for ANC services from a trained health worker; poor health delivery systems characterized by long distances to health facilities, inoperative health facilities, poor health worker attitudes and high cost of ANC services. Other factors mentioned were incompetence of health workers and language barriers between clients and health workers.

iii. Delivery in health facilities

The study revealed a number of factors that contributes to the low uptake of HFD. Key among these were structural factors associated with the health service system including: long distances to health facilities; destruction of and inoperative community level health facilities; poor attitudes of health workers and perceived or actual mistreatment of expecting mothers by health workers; and poor communication, lack of or wrong advice from health workers on delivery planning.

9.3 Discussion of main findings

In this section the key findings of the study was discussed. The discussions focused on the prevalence of the three continuums of RHS and the barriers impeding their utilization. The section is divided into in to three sub-sections namely current use of contraceptives, attending the recommended number of ANC visits and health facility delivery.

9.3.1 Current utilization of contraceptives

Contraceptive use is the most effective method of preventing unwanted pregnancy. It is also the only means for preventing induced abortion which could end in maternal death. The need for contraception is particularly important for women in humanitarian emergencies because of the pervasiveness of sexual abuse and exploitation which could end in unwanted pregnancy. The need for contraceptives is also expected to be greater among women facing social and economic vulnerability and uncertainty as a result of conflict such as that caused by the Boko-Haram insurgency. In these regards, chapter five presented the prevalence of current use of contraceptives and the factors predicting the current use of contraceptives by IDW in Nigeria. The chapter tested three hypotheses including:

- i. younger IDW in the <25 year age group were more likely than the older IDW in the 35 year or older age group to have been using contraceptives”;
- ii. IDW living within one kilometers to a health facility were more likely than those living more than 5 kilometers from a health facility to have been using contraceptives”;
- iii. IDW who do not want to have any more children were more likely than those who want to have another child, to have been using contraceptives”.

The result shows that the prevalence of contraceptives by IDW was only 21.8%, which is low. The finding is consistent with that of other similar studies in Nigeria's North-East where Boko-Haram insurgency has been going on now for nearly 10 years (Adewuyi et al., 2018b; Kehinde Okanlawon et al., 2010a). The finding also agrees with other similar conflict settings such as in Somalia (S. Ahmed et al., 2012), South Sudan (Obwoya et

al., 2018) and previously in Northern Uganda (Orach et al., 2013). However, unlike the Somali, South Sudan and Ugandan IDW contexts where the populations were largely displaced in camps within conflict areas, the Nigerian study population is displaced in safer areas where access to contraceptives should be expected to be easier and better. The fact that even in these safer havens, the prevalence of current contraceptives among IDW is low, suggests that contraceptives services are either not available to IDW; there is attitudinal and cultural resistance to current use of contraceptives by the IDW; or the focus of health interventions is in other dimensions of health such as treatment of trauma, control of infectious diseases and under nutrition and RHS is neglected. This finding therefore calls for a thorough review of health programmes in IDP population and prioritization of RHS to eliminate preventable maternal mortality.

The result also revealed that of the IDW who reported they were currently using a contraceptive, the majority (74%) said they used the condom. Only 25.8% used other forms of contraceptives (hormonal and permanent), which is still low and appears to support findings on contraceptive by women in other conflict settings and humanitarian emergencies (Ackerson & Zielinski, 2017b). This finding suggests that the condom is being used as a dual purpose contraceptive to prevent unwanted pregnancy on one end, and prevent STI including HIV infection on the other, which could contributed to the prevention of HIV infection among IDPs. In these regards, the adoption of the condom is a good practice and should be promoted in humanitarian emergencies in which access to other forms of contraceptives is limited due to challenges of access to health facilities and supplies of contraceptive commodities. Apart from challenges of access, the study also revealed that knowledge of the sources of contraceptives by the IDW is low (24%)

which is consistent with the study of IDW elsewhere (Kehinde Okanlawon et al., 2010a) and could have affected the current utilization of contraceptives by the women in this study.

The results of the study further revealed that younger IDW in the 25-34 year age group were significantly less likely than the women aged <25 years of age and older than 35 years of age to have been using contraceptives. The finding supports the results of previous studies in stable populations which found that the use contraceptives among older multiporous women was low (Solanke, 2017). The reduced likelihood of using contraceptives by women in the 25-34 year age group is not surprising as women in this age group are at the peak of their reproductive carriers. However, the findings contradict that of another study among IDW in Angola which found that although the general use of contraceptives was low at only 6%, it was much lower among younger women than older women (Decker & Constantine, 2011). In the context of displacement, younger women are more likely to fear the burden of motherhood more than older women, which could motivate them to postpone childbearing by opting to use contraceptives. The use of contraceptives by younger women could be the effect of other factors such as education which empowers them to adopt contraception more than the older women who are mostly uneducated and trapped in the cultural values and attitudes which impede contraception.

The result of the study on distance to health facility showed that living within one kilometer to a health facility was not a significant predictor of the current use of contraceptives by the IDW in this study. Compared to living within 1 km of a health facility, living more than five km to a health facility was found to be a significant predictor

of increased current use of contraceptives. In this regard, we reject the hypothesis that “IDW living within one kilometers to a health facility are more likely than those living more than 5 kilometers from a health facility to have been using contraceptives.” The findings contradicts what previous studies have always argued on the effect of proximity of health facilities to the utilization of RHS including contraceptives (Asiimwe et al., 2014; Silumbwe et al., 2018). These studies found that the closer the health facility, the more likely the use of contraceptives. A study in Nepal clearly illustrated that distance to health facilities is a major cause of inequality in uptake of family planning services in that country (Mehata et al., 2014). The current finding suggests that shorter distances to health facilities did not affect current use of contraceptives by IDW, which agrees with finding of a previous study (Digitale, Psaki, Soler-Hampejsek, & Mensch, 2017). This is likely because other health facility factors such as availability of contraceptives of choice; availability of health workers; and attitudes of health workers to clients could have contributed to the reduced likelihood of current use of contraceptives by the IDW living within one km to a health facility. We recommend an assessment of health facilities in camps to ascertain their capacity to deliver contraceptive services to clients effectively and satisfactorily.

Futhermore, the study found that IDW who said they did not want any more children were significantly less likely to have been using contraceptives at the time of the study. We therefore rejected the study hypothesis that “IDW who do not want to have any more children are more likely than those who want to have another child to have been using contraceptives”. The finding suggests that the women who did not wish to have more children are among the many women with unmet need for contraception. Their

failure to use contraceptives could be explained by many factors including but not limited to lack of knowledge of contraceptives and access to contraceptives; lack of health workers to provide contraceptives and or poor attitude of health workers to clients seeking contraceptives; partner disapproval to use contraceptives ; and fear of side effects of contraceptives, which previous studies in stable populations found impeded uptake of contraceptives. In these regards, the finding of this study appears to support those of previous studies which found that the above factors impeded the use of contraceptives by women who wanted to space or stop childbearing (A. A. A. Ali & Okud, 2013; Bhusal & Bhattarai, 2018; Lemani et al., 2017). The finding also brings to focus the argument that in humanitarian emergencies, the neglect of RHS over other health services, could explain the unmet need for contraception (Swatzyna & Pillai, 2013; Waldman, 2001). Governments and humanitarian agencies are therefore urged to devote more resources to address the reproductive health needs of IDW.

Among the control factors, this study identified a number of factors that increased the current use of contraceptives. These included frequent access to the radio and living in Durmi camp. The finding suggests that having a regular access to the radio increased the likelihood of using contraceptives by 89%, which is consistent with previous research reports (Lawrence, 2012; Nilsson, 2014). This finding therefore re-enforces the importance of the radio as a channel of communication of health messages including the dissemination of contraceptive knowledge, providing information on the sources of contraceptives and educating IDW on the need to use contraceptives. Previous studies have recommended the radio as a channel for communicating family planning messages mainly because it is cheap and affordable; can reach a large number of

people at the same time; and can be accessed anywhere (Babatope & Olufemi, 2014). The use of the radio should therefore be promoted and replicated to reach IDW with health information even in the hard to reach areas.

Another control factor that was found to cause variations in current use of contraceptives was the camp of placement. Compared to Durku camp, IDW in Durmi camp were significantly more likely to have been using contraceptives. Although there is no theoretical explanation for this observation, it is likely that Durmi camp has better and effective RHS including the availability of contraceptive services. The location of Durmi camp, which is in Abuja the FCT, could also contribute to increased current use of contraceptives probably because of having access to a wide range of contraceptive services provided for the general population. The finding suggests that the urban location of the camp probably more than compensated for the lack of or rather neglect of RHS in rural camps. Previous studies have consistently attributed the higher prevalence of contraceptive uptake in urban areas to increased knowledge, availability and access to contraceptive services (Paul et al., 2015; Tappis et al., 2015). Increasing contraceptive uptake in rural areas therefore requires the replication of urban contraceptive information and supply strategies in rural camps. By doing so the unmet need for contraceptives in rural camps will be addressed and unwanted pregnancies and its health and socioeconomic effects will be averted.

Conversely, the study also found that current use of contraceptives by IDW in New-Kuchingoro camp was less likely than IDW in Durku camp by 70%. Again the reduced likelihood of current use of contraceptives New-Kuchingoro camp was likely determined

by its location in a slum in the outskirts of Abuja the FCT. This suggests that the camp is located in an area where access to contraceptives was limited or none. The result is consistent with other studies done in slum areas in other countries in sub-Saharan Africa (Beguy et al., 2017; Fotso et al., 2013; M. Muanda, Ndongo, Taub, & Bertrand, 2016). The result further re-enforced the argument that unlike in Durmi, the reduced use of contraceptives in New-Kuchingoro is not an isolated event or a culturally motivated negative attitude to contraceptives, but rather a problem of neglect and exclusion from the RHS infrastructure normally experienced in slum areas and rural areas. The unmet need for contraceptives among IDW is therefore a result of lack of RHS services in camps. The finding is therefore consistent with that in other camps such as Oru IDP camp where lack of access to contraceptives was reported as a reason for not using contraceptives (Adinma & Adinma, n.d.; Kehinde Okanlawon et al., 2010a).

The study population comprised of two religious belief systems and these were Christian and Muslim. The finding of the study regarding the effect of religious beliefs revealed that being a Muslim was a negative predictor of current use of contraceptives. The finding was also consistent with previous studies which suggested that although Islam does not prohibit the use of contraceptives, compared to Christians, Muslim women are significantly less likely to use contraceptives (Degni et al., 2006). The reduced likelihood of contraception among Muslim women was linked to the preference of a large number of children (Kiura, 2012). However, the result of this study should be viewed in light of the Boko-Haram insurgency which rides on the notion that anything of Western origin, including modern contraceptives is satanic and against Islamic values. In this regard, it is reasonable to expect that Muslims from North-Eastern Nigeria which is the epicenter

of the Boko-Haram insurgency could intuitively have negative attitudes to contraceptives. This line of thought appears to be consistent with previous studies on use of contraceptives in the Northern and North-Eastern Nigeria where Islam is the predominant religious belief (Obasohan, 2015; Unumeri, Ishaku, Ahonsi, & Oginni, 2015).

In this study, a number of control factors that have been found to significantly increase the use of contraceptives by previous studies, were found not to be significant predictors of current use of contraceptives. Among these variables are the level of education and place of residence. The finding of this study on the effect of education and place of residence were inconsistent with the findings of previous studies in sub-Saharan Africa (Emina, Chirwa, & Kandala, 2014; Larsson & Stanfors, 2014). These studies found that women with higher education (Duru et al., 2018; Gore & Katkuri, 2017) and women living in urban areas are significantly more likely than women with no education and women living in rural areas respectively, to be using contraceptives. However, this is likely to be the direct effect of the humanitarian crisis and emergencies the IDW experienced under the siege of Boko-Haram whose philosophy against western system of education appears to ensure that women do not use contraceptive regardless of their level of education. Additionally, it is also likely that education status of the women does not matter in a situation in which all women are exposed to the same contraceptive regime which is characterized by destruction of the health care system.

Other factors that did not predict the current use of contraceptives were the needs factors including the previous experience of pregnancy and delivery complications. In this study, it was assumed that women who previously experienced pregnancy and delivery complications were more likely to have been using contraceptives. However, the results of the study revealed that relative to having experienced pregnancy and delivery complication, the IDW were significantly less likely and more likely respectively to have been using contraceptives. However, none of the variables was a significant predictor of current use of contraceptives.

9.3.2 Attendance and predictors of attending 4 or more ANC visits

Antenatal Care (ANC) is a critical requirement in maintaining a healthy pregnancy and getting a good birth outcome. During ANC, pregnant women are assessed on the health of the mother and that of the foetus. The mothers are also provided guidance on a number of nutrition and social behaviours that may negatively impact on pregnancy and delivery outcomes. In that regard, chapter six presented the findings on the status and frequency of ANC, and the main predictors of attending the recommended number of ANC visits in the last pregnancy.

In this section, the findings of the study on ANC visits and factors that predict it is presented and discussed, guided by three hypotheses namely:

- i. "IDW with no education are significantly less likely to have attended the 4 or more ANC visits relative to no ANC visit than IDW with secondary or higher education";
- ii. "IDW living within one km to a health facility are significantly more likely to have attended the 4 or more ANC visits relative to no ANC visit than IDW living more than five km from a health facility"; and

- iii. "IDW with a history of delivery complications are significantly more likely to have attended the 4 or more ANC visits relative to no ANC visit than IDW with no history of delivery complications."

The importance of education in the health of women is already well documented and one of the areas that education, as a predisposing factor influences is ANC. The finding of the study on hypothesis on education shows that indeed IDW with no education are significantly less likely by up to 54% to have attended the recommended 4 or more ANC visits during their last pregnancy. In this regard, the hypothesis that "IDW with no education are less likely to attend the 4 or more ANC visit than IDW with higher education" is accepted. This finding is consistent with a number of previous studies listed here under, that found that education plays an important role in uptake of contraceptives and more educated women are more likely to attend the 4 or more ANC visits than those with no education (Finlayson & Downe, 2013; Nsibu et al., 2016b). This is mainly because education has a high private health returns which can be realized through easy access to health facilities, attitudinal change and break down of cultural values and norms that impede better health behaviours. It can also capacitate health services utilization because of the higher financial returns that accrues with each year of education.

Furthermore, the role of distance to health facilities on ANC is well known mainly because distance to a health facility is a structural variable that can either impede or facilitate utilization of health facilities. The current study found that distance to a health facility affects the number of ANC visits. Women living within one km of a health facility

were more likely to have attended the recommended 4 or more ANC visits than those living more than five km from a health facility. In this study, and for example, IDW living within one km were more likely to have attended the 4 or more ANC visits by only 1%, while nearly 178% were more likely to have attended ANC visits between 1-3 times. In this regard, we accept the hypothesis that "shorter distances to a health facility increases uptake of ANC", which is consistent with the findings of many other previous studies in sub-Saharan Africa (Boah et al., 2018; Kyei-Nimakoh, Carolan-Olah, & McCann, 2017; Yaya et al., 2017b). Part of the ways through which shorter distances enhance uptake of the recommended number of ANC visits is by saving travelling time and travelling costs in a way that it enables women participate effectively in social and economic activities within the home and society. Reducing the distance to health facilities is therefore a critical requirement in increasing the uptake of the recommended number of ANC visits during each pregnancy.

The third hypothesis tested was on the experience of delivery complications during previous pregnancies. This is based on the knowledge that frequent ANC visits enable the identification of and the treatment of pregnancy related complications; treatment of infections common during pregnancy; and above all prevention of some of these diseases through vaccinations, life style changes during pregnancy and promotion of good nutrition (Phafoli, Van Aswegen, & Alberts, 2007). The study found that indeed experience of previous delivery complications increased attendance of the recommended 4 or more ANC visits by 74% and attending at least 1 ANC visit by 158%. In this regard the hypothesis that "IDW with a history of delivery complications are significantly more likely to have attended the recommended 4 or more ANC visits

relative to no ANC visit than IDW with no history of delivery complications” has been accepted and upheld. The finding of this study is therefore consistent with that of previous studies (Akpan, Asibong, Ekott, Moko, & Etuk, 2017; Mwase et al., 2018). Antenatal care is therefore an important part of the birth preparedness process for all women and should be attended, to ensure a healthy pregnancy and a good delivery outcome with a particular focus on women facing instability and under conditions of humanitarian emergencies.

A number of control factors have also been analysed in this study. Among the control factors that were examined, the study found place of residence, camp of displacement, availability of health workers, religious affiliation and access to the radio to have been significant predictors of number of ANC visits among the IDW. The study found that as expected, IDW who lived in urban areas during their last pregnancy were significantly more likely to have attended the recommended 4 or more ANC visits and at least 1 ANC visit. The result of the assessment of the effect of place of residence is consistent with that of previous studies in other developing countries (Chauhan & Kumar, 2016; Rahman et al., 2016) and sub-Saharan Africa in particular (Ataguba, 2018). Most of these studies confirmed that women who live in urban areas are significantly more likely to attend the recommended number of ANC visits. The attendance of any ANC visit and the recommended 4 or more ANC visits in urban areas is attributed to a number of factors. First among these are accesses to information about the importance of ANC visits followed by access to quality ANC services. Additionally, urban areas are also more likely to have health facilities with the right number and quality of health workers to provide quality ANC services than rural areas. Increasing uptake of the recommended

number of ANC visits by IDW in rural settings therefore requires access to ANC information, availability of ANC services and capable health workers to provide ANC services to pregnant women.

Another control variable that significantly increased attendance of the 4 or more ANC visits among the IDW was place of displacement. The study found that IDW displaced in Durmi camp were significantly more likely to have attended the 4 or more ANC visits. This finding suggests that this is the effect of the urban location of Durmi camp which is located in Abuja the FCT. The location of the camp could have inadvertently increased access to ANC services available to the general population in the area which IDW could have benefitted from. The result appears to support the result of a previous study which found that urban refugees were more likely to attend the recommended number of ANC visits than rural refugees (Adewuyi et al., 2018b).

Conversely, the result also shows that the IDW were significantly less likely to have attended the 4 or more ANC visits if they were displaced in New-Kuchingoro camp, which is located in a slum area in the outskirts of Abuja FCT. The finding on the differences of attending ANC visits between Durmi and New-Kuchingoro camps demonstrate the inequality between urban slum, urban non slum and rural populations in ANC services coverage. The disparity in ANC attendance between the urban and rural camps reflects the disparity of RHS services between the two places, which have been observed in previous studies (Afulani, 2015; Tran et al., 2011b). Some of these studies have found that lack of ANC services between camps is the main cause of disparities in ANC attendance.

Furthermore, another control variable that significantly increased the attendance of the recommended 4 or more ANC visits among the IDW is availability of trained health workers to provide ANC services. The study found that IDW were more than 3 times significantly more likely to have attended the 4 or more ANC visits if they had trained health workers stationed at their health facility. Previous studies found that the quality of available obstetric care providers increased the attendance of ANC visits (Edward, 2011; Joshua et al., 2016), which agrees with the findings of the present study. This was attributed to the ability to provide the wide range of ANC services by trained attendants. A study on ANC visits in Punjab found that apart from the availability of trained medical staff to provide ANC, the quality of care and attitude of staff significantly affected follow up ANC visits (Majrooh, Hasnain, Akram, Siddiqui, & Memon, 2014).

The role of sources of information on ANC visits has been studied by previous studies and found that regular access to ANC information through the mass media in general and the radio in particular increased attendance of ANC visits (Yaya et al., 2017a). However, in this study, the findings of the effect of regular access to radio on attending the recommended number of ANC visits was negative and therefore surprising. The study found that IDW who reported regular access to the radio were less likely to have attended the recommended 4 or more ANC visits during the last pregnancy. The finding suggests that the radio was not used for receiving health messages. The most likely use of the radio could have been entertainment, as a result even though access to the radio was good, health messages placed through the radio, if any, did not reach the target audience. Integrating health messages within entertainment programmes on the radio

could greatly help increase access to health information and thereby increase uptake of health services including regular ANC visits.

9.3.3 Prevalence of and predictors of health facility delivery

The place of delivery is one of the indicators for assessing the delivery outcomes and is one of the targets for the Sustainable Development Goal (SDG) on eliminating preventable maternal and new-born mortality. In this regard, this study assessed the prevalence of Health Facility Delivery (HFD) and identified the predictors of HFD among IDW. To do this the study tested three hypotheses and the results are discussed below.

These are:

- i. IDW were more likely to have delivered in health facilities if they had secondary education than if they had no education;
- ii. IDW were less likely to have delivered in a health facility if there were skilled health workers in the neighbourhood health facility than if there were no skilled health workers in health facility;
- iii. IDW were more likely to have delivered in health facilities if they lived within one kilometre of a health facility than if they lived more than five kilometres from a health facility; and
- iv. IDW were more likely to have delivered in a health facility if they had a history of pregnancy complications than if they had no history of pregnancy complications.

Overall, the result show that about 47% of the IDW delivered in a health facility. The result shows that the majority of the IDW delivered at home which is a risk factor for increased maternal and new-born mortality. The finding in this regard is consistent with

previous studies in humanitarian emergencies (Adewuyi et al., 2018b). The study revealed that the majority of the women did not deliver in a health facility due to lack of knowledge, cultural antecedents and rapid onset of labour. This explains the high rate of maternal and new-born mortality in Nigeria in general and the North-Eastern Nigeria in particular where social and political instability has been pervasive (V. Sharma, Brown, Kainuwa, Leight, & Nyqvist, 2017).

The study also found that IDW with no experience of delivery complications were significantly less likely to have delivered their last birth in a health facility. This finding suggests that women who experienced delivery complications previously sought HFD to ensure that they get a good delivery outcome. The finding is consistent with previous studies which found that women who have previous experience of delivery complications delivered in a health facility because of knowledge of the risk of home delivery (Boah et al., 2018). It is therefore important to sensitize mothers about the importance of HFD. This sensitization is even more important for women in conditions of instability so that they are able to appropriately plan for delivery to avoid incidences of rapid onset of labour or lack of referral services during complicated labour.

The study also found that the women were less likely to have delivered in a health facility if they lived more than five km from a health facility. Similar results have been observed even in stable populations. These studies attributed the reduced likelihood of delivering in health facility for women who live far from health facilities to lack of delivery preparedness either at the individual and household levels. This lack of preparedness is characterized by delays in decision making on when to access health facilities for delivery, rapid onset of labour and failure in referral systems. The effects of lack of

preparedness for women living far from health facilities are often tragic in humanitarian emergencies as local level health facilities are often nonfunctional and referral systems fail due to insecurity.

From the above results, we can confirm the hypotheses that living 5 or more km from the nearest health facility and not having a history of pregnancy complications were significant predictors of being not delivering in health facilities by the IDW after controlling for selected predisposing, enabling and need factors. The above result appears to be consistent with other previous studies in the general population of women in sub-Saharan Africa. Most of these studies did confirm long distances to health facilities as one of the three delays in seeking health facility delivery (Doctor et al., 2018; Kerber et al., 2007; Nansubuga et al., 2016). Additionally, previous experience of pregnancy complications was also identified as a significant need predictor of HFD. The results of other studies in a number of settings found that women who did not consider themselves at risk of complications did not deliver in health facilities. These women believed that pregnancy is not a disease and cultural dictates require they have traditional births supervised by traditional birth attendants at home (Brudney, 2014; Dodzo & Mhloyi, 2017; Speidel, Rocca, Thompson, & Harper, 2013). The effect of not having a history of pregnancy complications among IDW who did not deliver in a health facility confirms this presupposition. However, having no education and poor attitudes of health workers were found not to be significant predictors of not delivering in health facilities for IDW in the final adjusted model.

A number of control factors were analyzed for to determine whether or not they predicted HFD. These control factors included being displaced in Durku camp, not

having access to the radio and perceiving that health workers have poor attitudes. All the above factors were found to significantly reduce HFD among IDW. As previously discussed, camp of delivery is important in RHS mainly because of its location. Of the three camps included in the study, Durku camp located in Nasawara State is the most rural and difficult to access. The result presented in the adjusted nested logistic regression model revealed that IDW in Durku camp were 64% less likely to have delivered in a health facility, which could have been attributed to its rural hard to reach location. This finding was found to be consistent with the result from similar settings elsewhere (Bohren et al., 2015). The result also supports the belief that because of its rural nature, access to HFD was characterized by lack of appropriate facilities and personnel. Additionally, the lack of an efficient referral system could have affected the low likelihood of delivering in a health facility. Previous studies on access to delivery care suggested that inadequate or inefficient referral system is the most important factor impeding delivery in a health facility for women in hard to reach areas and women in humanitarian emergencies (Ekwochi et al., 2015; Singh, Doyle, Campbell, Mathew, & Murthy, 2016).

Another factor that the study found reduced uptake of HFD is lack of access to information about HFD. The negative effect of lack of information about HFD is greatest for rural populations and populations living in instability that are likely to suffer from lack of exposure to information that makes it difficult to access services even if it is available. One of the sources of information for RHS in general and HFD in particular is the radio. In this study, the findings show that IDW were about 60% less likely to have delivered in a health facility. Similar findings have been observed in other settings regarding the lack

of access to information relevant for HFD (Ugboaja, Oguejiofor, Oranu, & Igwegbe, 2018; C. O. Zamawe, Banda, & Dube, 2016). Providing information on delivery care, especially for hard to reach populations is important for delivery preparedness planning. Furthermore, another control factor found to reduce uptake of HFD in this study was the perceived attitude of health workers to mothers. The result shows that mothers who perceived that health workers have poor attitude towards clients were 82% less likely to have delivered in a health facility. The finding is consistent with several other studies that have been conducted in developing countries where health workers frequently behave unethically. For example a systematic review of studies by Bohren et. (Bohren et al., 2015) found that mistreatment during delivery by health workers was prevalent, which suggests that women who felt they were mistreated could opt for a home delivery in subsequent deliveries. Another study in Namibia also found that women who preferred delivering at home among other factors blamed poor nurse attitudes for their preferences (Muntenda, Nuuyoma, & Stern, 2017). It is therefore important to ensure that health professionals behave responsibly, professionally and humanely towards women seeking delivery care.

9.4 Conclusions

Overall, it can be concluded from the evidence in the study that current use of contraceptives; attending the recommended 4 or more ANC visits during the last pregnancy; and delivering the last birth in health facilities is low among the IDW in this study. From the study it can be concluded that three interrelated factors explains the low uptake of the three continuums of RHS, namely current use of contraceptive; attending the recommended number of ANC visits and having a HFD.

The first of these are the individual characteristics of the women which include age, religious affiliation, level of education, marital status and camp of displacement. These characteristics constitute the predisposing factors which contributed to some extent to the low prevalence of contraceptive use, ANC visits and HFD by the IDW. The second set of factors is enabling factors most of which are structural in nature. These factors discriminate against IDW in the utilization of the three continuums of RHS and perhaps carry the most blame for the low level of utilization of the three continuums of RHS. These structural factors include the neglect in providing IDW with contraceptive services, ANC services and HFD care. This is probably because during humanitarian emergencies, RHS such as contraceptives and ANC are not high priority areas for intervention. Greater focus by governments and humanitarian agencies is given to the short term life threatening needs of IDPs. These needs include the treatment and management of trauma, prevention of infectious diseases and nutrition support aimed at preventing starvation.

Another set of structural factor that impede the utilization of the three continuums of RHS are directly linked to health systems. Key among these is the destruction of health facilities; longer distances to health facility; and lack of trained health workers in IDP camps. Additionally, health workers attitudes to patients and clients and lack of medicines, reagents and facilities for diagnosis, also impede the utilization of RHS in emergency conditions. It is also evident that the failure to involve men as heads of households as well as the custodians of culture in RHS programmes in conditions of instability, negatively affects utilization of RHS. Additionally, many IDPs lose their livelihood and become poor. These people do not have the financial resources to

access quality RHS, which are often expensive. Involving men in RHS utilization and addressing poverty among IDPs are some of the important prerequisite for the utilization of RHS by IDW.

Finally, it can also be concluded that even if the structural conditions were favourable to RHS, lack of knowledge and positive perceptions regarding contraceptives, ANC and HFD are critical in utilizing these RHS. The fact that most IDW came from already vulnerable and ignorant sections of society, lack of knowledge and positive perceptions on the importance of using contraceptives, attending the recommended number of ANC visits and delivery in a health facility, greatly contribute to exacerbating cultural and religious prejudices against RHS.

9.5 Recommendations

To address the findings of the study and improve the RHS situation of IDW in IDP camps, the following actions are recommended:

- i. Health facilities capable of providing all continuums of RHS should be established in all IDP camps. These facilities should be able to assess women for all gynaecological and obstetric health needs and provide appropriate treatments and commodities.
- ii. In the event that health facilities are more than five kilometres from a health facility, community health workers should be trained and equipped with skills to identify cases requiring higher level medical management and posted in camps. An efficient referral system including the use of social media should be integrated as part of the system to provide real time emergency messages.

- iii. Health facilities in IDP camps should be staffed with highly trained medical workers. This will instil confidence in IDPs to use health facilities in camps and refugee settlements.
- iv. Integrating health messages within entertainment programmes on the radio could greatly help increase access to health information and thereby increase uptake of health services including regular ANC visits.
- v. Increasing uptake of all continuums of RHS required continuous information at both health centers and through the mass media. The radio being a channel that can be used to reach all people, including the hard to reach such as IDPs in remote camps should be used to target women. Messages on RHS should be strategically inserted as interludes during news and entertainment programmes aired on the radio.
- vi. Apart from using the mass media and health facility information sessions, IDP leaders and managers should continuously sensitize mothers about the importance of using all the continuums of RHS. This sensitization should aim at enabling mothers implement appropriate plans for contraceptives, ANC visits and HFD.
- vii. Continuous counselling and retraining of health workers operating in humanitarian emergency situations is required to ensure that they exhibit human attitudes and behaviours to patients.

9.6 Areas of future studies

The reproductive health of IDW is important in the lives of women and their families. This is mainly because in conditions of humanitarian emergencies arising out of war or conflict,

women become the main sources of support to their families. This implies that poor health or death as a result of poor RHS is becomes a major source of social and economic instability in families, especially if the woman is the main bread winner. In this regard this study raises new areas for further study including:

- i. The examination of the impact of low utilization of the continuums of RHS on the health status of women;
- ii. Assessment of the impact of low utilization of the continuums of RHS on the socioeconomic status of households; and
- iii. To conduct a Randomized Control Studies (RCS) on improving the reproductive health of IDW.

References

- Abekah-Nkrumah, G. (2018). Spatial variation in the use of reproductive health services over time: a decomposition analysis. *BMC Pregnancy and Childbirth*, 18(1). <https://doi.org/10.1186/s12884-018-1695-3>
- Abioye-Kuteyi, E. A., Elias, S. O., Familusi, A. F., Fakunle, A., & Akinfolayan, K. (2001). The role of traditional birth attendants in Atakumosa, Nigeria. *The Journal of the Royal Society for the Promotion of Health*, 121(2), 119–124.
- Abosse, Z., Woldie, M., & Ololo, S. (2010). Factors influencing antenatal care service utilization in hadiya zone. *Ethiopian Journal of Health Sciences*, 20(2).
- Acharya, D., Khanal, V., Singh, J. K., Adhikari, M., & Gautam, S. (2015). Impact of mass media on the utilization of antenatal care services among women of rural community in Nepal. *BMC Research Notes*, 8(1), 345.
- Ackerson, K., & Zielinski, R. (2017a). Factors influencing use of family planning in women living in crisis affected areas of Sub-Saharan Africa: A review of the literature. *Midwifery*, 54, 35–60.
- Ackerson, K., & Zielinski, R. (2017b). Factors influencing use of family planning in women living in crisis affected areas of Sub-Saharan Africa: A review of the literature. *Midwifery*, 54, 35–60.
- Adedini, S. A., Odimegwu, C., Bamiwuye, O., Fadeyibi, O., & Wet, N. D. (2014). Barriers to accessing health care in Nigeria: implications for child survival. *Global Health Action*, 7(1), 23499.

- Adegoke, A. A., & Broek, N. van den. (n.d.). Skilled birth attendance-lessons learnt. *BJOG: An International Journal of Obstetrics & Gynaecology*, 116(s1), 33–40. <https://doi.org/10.1111/j.1471-0528.2009.02336.x>
- Adegoke, A. A., & Van Den Broek, N. (2009). Skilled birth attendance-lessons learnt. *BJOG: An International Journal of Obstetrics & Gynaecology*, 116, 33–40.
- Adetunji, J. (2000). Condom use in marital and nonmarital relationships in Zimbabwe. *International Family Planning Perspectives*, 196–200.
- Adewale, S. (2016). Internally displaced persons and the challenges of survival in Abuja. *African Security Review*, 25(2), 176–192.
- Adewuyi, E. O., Auta, A., Khanal, V., Bamidele, O. D., Akuoko, C. P., Adefemi, K., ... Zhao, Y. (2018a). Prevalence and factors associated with underutilization of antenatal care services in Nigeria: A comparative study of rural and urban residences based on the 2013 Nigeria demographic and health survey. *PloS One*, 13(5), e0197324.
- Adewuyi, E. O., Auta, A., Khanal, V., Bamidele, O. D., Akuoko, C. P., Adefemi, K., ... Zhao, Y. (2018b). Prevalence and factors associated with underutilization of antenatal care services in Nigeria: A comparative study of rural and urban residences based on the 2013 Nigeria demographic and health survey. *PloS One*, 13(5), e0197324.
- Adinma, J. I. B., & Adinma, E. D. (n.d.). *Contraceptive Use: Knowledge, Perceptions and Attitudes of Refugee Youths in Oru Refugee Camp, Nigeria* Impact of Reproductive Health on Socio-economic Development: A Case Study of Nigeria.

- African Union Commission. (2006). The Maputo plan of action 2016-2030. African Union Secretariate.
- African Union Commission. (2001). Abuja Declaration. African Union Secretariate; Adis Ababa.
- Afulani, P. A. (2015). Rural/urban and socioeconomic differentials in quality of antenatal care in Ghana. *PloS One*, *10*(2), e0117996.
- Agbiboa, D. E. (2013). Ethno-religious conflicts and the elusive quest for national identity in Nigeria. *Journal of Black Studies*, *44*(1), 3–30.
- Agbiboa, D., & Maiangwa, B. (2014). Why Boko Haram kidnaps women and young girls in north-eastern Nigeria. *Conflict Trends*, *2014*(3), 51–56.
- Agha, S., Kusanthan, T., Longfield, K., Klein, M., & Berman, J. (2002). Reasons for non-use of condoms in eight countries in sub-Saharan Africa. *Washington, DC: Population Services International*.
- Ahanonu, E. L. (2014). Attitudes of Healthcare Providers towards Providing Contraceptives for Unmarried Adolescents in Ibadan, Nigeria. *Journal of Family & Reproductive Health*, *8*(1), 33–40.
- Ahmed, A. A., Mohamed, A. A., Guled, I. A., Elamin, H. M., & Abou-Zeid, A. H. (2014). Knowledge Translation in Africa for 21st Century Integrative Biology: The “Know-Do Gap” in Family Planning with Contraceptive Use among Somali Women. *OMICS: A Journal of Integrative Biology*, *18*(11), 696–704. <https://doi.org/10.1089/omi.2014.0080>

- Ahmed, S., Li, Q., Liu, L., & Tsui, A. O. (2012). Maternal deaths averted by contraceptive use: an analysis of 172 countries. *The Lancet*, 380(9837), 111–125.
- Ahmed, Z. D., Sule, I. B., Abolaji, M. L., Mohammed, Y., & Nguku, P. (2017). Knowledge and utilization of contraceptive devices among unmarried undergraduate students of a tertiary institution in Kano State, Nigeria 2016. *The Pan African Medical Journal*, 26.
- Ajibola Amzat. (2017, July 24). Despite decades of funding, literacy level in the northern states remains low. *The Guardian*.
- Ajong, A. B., Njotang, P. N., Yakum, M. N., Essi, M. J., Essiben, F., Eko, F. E., ... Mbu, E. R. (2015). Determinants of unmet need for family planning among women in Urban Cameroon: a cross sectional survey in the Biyem-Assi Health District, Yaoundé. *BMC Women's Health*, 16(1), 4.
- Akintoye, V. A., & Opeyemi, O. A. (2014). Prospects for Achieving Sustainable Development Through the Millennium Development Goals in Nigeria. *European Journal of Sustainable Development*, 3(1), 33–46.
- Akinyemi, A., Adedini, S., Hounton, S., Akinlo, A., Adedeji, O., Adonri, O., ... Amouzou, A. (2015). Contraceptive use and distribution of high-risk births in Nigeria: a sub-national analysis. *Global Health Action*, 8(1), 29745.
- Akowuah, J. A., Agyei-Baffour, P., & Awunyo-Vitor, D. (2018). Determinants of Antenatal Healthcare Utilisation by Pregnant Women in Third Trimester in Peri-Urban Ghana. *Journal of Tropical Medicine*, 2018.

- Akpan, U., Asibong, U., Ekott, M., Moko, B., & Etuk, S. (2017). Awareness and Factors that Influence Birth Preparedness and Complication Readiness among Pregnant Women Attending Antenatal Clinic in the General Hospital Calabar, Nigeria. *Public Health Research*, 7(3), 78–84.
- Alege, S. G., Matovu, J. K., Ssensalire, S., & Nabiwemba, E. (2016). Knowledge, sources and use of family planning methods among women aged 15-49 years in Uganda: a cross-sectional study. *Pan African Medical Journal*, 24(1).
- Ali, A. A. A., & Okud, A. (2013). Factors affecting unmet need for family planning in Eastern Sudan. *BMC Public Health*, 13(1), 102.
- Ali, M., Farron, M., Dilip, T. R., & Folz, R. (2018). Assessment of Family Planning Service Availability and Readiness in 10 African Countries. *Global Health: Science and Practice*, 6(3), 473–483.
- Alkema, L., Chou, D., Hogan, D., Zhang, S., Moller, A.-B., Gemmill, A., ... Mathers, C. (2016). Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group. *The Lancet*, 387(10017), 462–474.
- Al-Mujtaba, M., Cornelius, L. J., Galadanci, H., Erekaha, S., Okundaye, J. N., Adeyemi, O. A., & Sam-Agudu, N. A. (2016). Evaluating religious influences on the utilization of maternal health services among Muslim and Christian women in North-Central Nigeria. *BioMed Research International*, 2016.

- Amoah, P. A., & Phillips, D. R. (2017). Strengthening the referral system through social capital: A qualitative inquiry in Ghana. In *Healthcare* (Vol. 5, p. 80). Multidisciplinary Digital Publishing Institute.
- Anastasi, E., Borchert, M., Campbell, O. M., Sondorp, E., Kaducu, F., Hill, O., ... Lange, I. L. (2015). Losing women along the path to safe motherhood: why is there such a gap between women's use of antenatal care and skilled birth attendance? A mixed methods study in northern Uganda. *BMC Pregnancy and Childbirth*, 15(1), 287.
- Andersen, R. M. (2008). National health surveys and the behavioral model of health services use. *Medical Care*, 647–653.
- Andersen, R., & Newman, J. F. (1973). Societal and individual determinants of medical care utilization in the United States. *The Milbank Memorial Fund Quarterly. Health and Society*, 51(1), 95–124.
- Andersen, Ronald. (1968). A behavioral model of families' use of health services. *A Behavioral Model of Families' Use of Health Services.*, (25).
- Andi, J. R., Wamala, R., Ocaya, B., & Kabagenyi, A. (2014). Modern contraceptive use among women in Uganda: An analysis of trend and patterns (1995-2011). *Etude de La Population Africaine = African Population Studies*, 28(2), 1009–1021. <https://doi.org/10.11564/28-0-553>
- Appiah-Kubi, K. (2004). Access and utilisation of safe motherhood services of expecting mothers in Ghana. *Policy & Politics*, 32(3), 387–407.

- Aptekman, M., Rashid, M., Wright, V., & Dunn, S. (2014). Unmet contraceptive needs among refugees: Crossroads Clinic experience. *Canadian Family Physician*, 60(12), e613–e619.
- Arousell, J., & Carlbom, A. (2016). Culture and religious beliefs in relation to reproductive health. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 32, 77–87.
- Asiimwe, J. B., Ndugga, P., Mushomi, J., & Ntozi, J. P. M. (2014). Factors associated with modern contraceptive use among young and older women in Uganda; a comparative analysis. *BMC Public Health*, 14(1), 926.
- Asplet, M., & Bradley, M. (2012). Strengthened Protection for Internally Displaced Persons in Africa: The Kampala Convention Comes Into Force. American Society of International Law.
- Asundep, N. N., Jolly, P. E., Carson, A., Turpin, C. A., Zhang, K., & Tameru, B. (2014a). Antenatal care attendance, a surrogate for pregnancy outcome? The case of Kumasi, Ghana. *Maternal and Child Health Journal*, 18(5), 1085–1094.
- Asundep, N. N., Jolly, P. E., Carson, A., Turpin, C. A., Zhang, K., & Tameru, B. (2014b). Antenatal care attendance, a surrogate for pregnancy outcome? The case of Kumasi, Ghana. *Maternal and Child Health Journal*, 18(5), 1085–1094.
- Ataguba, J. E.-O. (2018). A reassessment of global antenatal care coverage for improving maternal health using sub-Saharan Africa as a case study. *PloS One*, 13(10), e0204822.

- Austin, J., Guy, S., Lee-Jones, L., McGinn, T., & Schlecht, J. (2008). Reproductive health: a right for refugees and internally displaced persons. *Reproductive Health Matters*, 16(31), 10–21.
- Austin, K. F., Noble, M. D., & Mejia, M. T. (2014). Gendered vulnerabilities to a neglected disease: A comparative investigation of the effect of women's legal economic rights and social status on malaria rates. *International Journal of Comparative Sociology*, 55(3), 204–228. <https://doi.org/10.1177/0020715214543158>
- Awojobi, O. N. (2014). The Socio-Economic Implications of Boko Haram Insurgency in the North-East of Nigeria. *International Journal of Innovation and Scientific Research*, 11(1), 144–150.
- Aziato, L., & Omenyo, C. N. (2018). Initiation of traditional birth attendants and their traditional and spiritual practices during pregnancy and childbirth in Ghana. *BMC Pregnancy and Childbirth*, 18(1), 64.
- Baaz, M. E., & Stern, M. (2013). Fearless fighters and submissive wives: negotiating identity among women soldiers in the Congo (DRC). *Armed Forces & Society*, 39(4), 711–739.
- Babalola, S., & Fatusi, A. (2009). Determinants of use of maternal health services in Nigeria-looking beyond individual and household factors. *BMC Pregnancy and Childbirth*, 9(1), 43.
- Babalola, S., Figueroa, M.-E., & Krenn, S. (2017). Association of Mass Media Communication with Contraceptive Use in Sub-Saharan Africa: A Meta-Analysis

of Demographic and Health Surveys. *Journal of Health Communication*, 22(11), 885–895.

BABATOPE, E., & OLUFEMI, P. (2014). An Assessment of the Use of Radio and other Means of Information Dissemination by the Residents of Ado-Ekiti, Ekiti-State, Nigeria.

Banatvala, N., & Zwi, A. B. (2000). Public health and humanitarian interventions: developing the evidence base. *BMJ: British Medical Journal*, 321(7253), 101–105.

Bankole, A., Adewole, I. F., Hussain, R., Awolude, O., Singh, S., & Akinyemi, J. O. (2015). The Incidence of Abortion in Nigeria. *International Perspectives on Sexual and Reproductive Health*, 41(04), 170–181. <https://doi.org/10.1363/4117015>

Barnes-Josiah, D., Myntti, C., & Augustin, A. (1998). The “three delays” as a framework for examining maternal mortality in Haiti. *Social Science & Medicine*, 46(8), 981–993.

Bartlett, L. A., Jamieson, D. J., Kahn, T., Sultana, M., Wilson, H. G., & Duerr, A. (2002). Maternal mortality among Afghan refugees in Pakistan, 1999-2000. *The Lancet*, 359(9307), 643–649.

Beeckman, K., Louckx, F., & Putman, K. (2010). Determinants of the number of antenatal visits in a metropolitan region. *BMC Public Health*, 10(1), 527.

Beguy, D., Ezeh, A. C., Mberu, B. U., & Emina, J. B. (2017). Changes in Use of Family Planning among the Urban Poor: Evidence from Nairobi Slums. *Population and Development Review*, 43, 216–234.

- Belay, A., & Sendo, E. (2016). Factors determining choice of delivery place among women of child bearing age in Dega Damot District, North West of Ethiopia: a community based cross-sectional study. *BMC Pregnancy and Childbirth*, 16(1), 229.
- Benage, M., Greenough, P. G., Vinck, P., Omeira, N., & Pham, P. (2015). An assessment of antenatal care among Syrian refugees in Lebanon. *Conflict and Health*, 9(1), 8.
- Bhattacharjee, A. (2012). *Social science research: Principles, methods, and practices*.
- Bhusal, C. K., & Bhattarai, S. (2018). Factors Affecting Unmet Need of Family Planning Among Married Tharu Women of Dang District, Nepal. *International Journal of Reproductive Medicine*, 2018.
- Biemba, G., Yeboah-Antwi, K., Semrau, K., Hammond, E. E., & Hamer, D. H. (2014). Who is Assisting Women to Deliver Babies within Health Facilities. *An Analysis of Deliveries in Four Provinces in Zambia. Austin J Public Health Epidemiol*, 1(2), 1007.
- Bilak, A. (2015). *Global overview 2015: people internally displaced by conflict and violence*. Internal Displacement Monitoring Centre, Norwegian Refugee Council.
- Bilyaminu, M., Iya, I. B., & Purokayo, S. G. (n.d.). ANALYSIS OF THE IMPACT OF BOKO HARAM INSURGENCY ON EDUCATION IN ADAMAWA STATE, NIGERIA.
- Binu, W., Marama, T., Gerbaba, M., & Sinaga, M. (2018). Sexual and reproductive health services utilization and associated factors among secondary school

- students in Nekemte town, Ethiopia. *Reproductive Health*, 15. <https://doi.org/10.1186/s12978-018-0501-z>
- Black, B. O., Bouanchaud, P. A., Bignall, J. K., Simpson, E., & Gupta, M. (2014). Reproductive health during conflict. *The Obstetrician & Gynaecologist*, 16(3), 153–160.
- Blackstone, S. R., & Iwelunmor, J. (2017). Determinants of contraceptive use among Nigerian couples: evidence from the 2013 Demographic and Health Survey. *Contraception and Reproductive Medicine*, 2. <https://doi.org/10.1186/s40834-017-0037-6>
- Blackstone, S. R., Nwaozuru, U., & Iwelunmor, J. (2017). Factors influencing contraceptive use in sub-Saharan Africa: a systematic review. *International Quarterly of Community Health Education*, 37(2), 79–91.
- Boah, M., Mahama, A. B., & Ayamga, E. A. (2018). They receive antenatal care in health facilities, yet do not deliver there: predictors of health facility delivery by women in rural Ghana. *BMC Pregnancy and Childbirth*, 18(1), 125.
- Bocoum, F. Y., Kouanda, S., & Zarowsky, C. (2014). Barriers to antenatal syphilis screening in Burkina Faso. *The Pan African Medical Journal*, 17 Suppl 1, 12. <https://doi.org/10.11694/pamj.suppl.2014.17.1.3423>
- Bohren, M. A., Vogel, J. P., Hunter, E. C., Lutsiv, O., Makh, S. K., Souza, J. P., ... Tunçalp, Ö. (2015). The mistreatment of women during childbirth in health facilities globally: a mixed-methods systematic review. *PLoS Medicine*, 12(6), e1001847.

- Bongaarts, J. (2017). The effect of contraception on fertility: Is sub-Saharan Africa different? *Demographic Research*, 37, 129–146.
- Bowling, M., & Veloso, M. (2003). Simultaneous adversarial multi-robot learning. In *IJCAI* (Vol. 3, pp. 699–704).
- Boyd, A. T., Cookson, S. T., Anderson, M., Bilukha, O. O., Brennan, M., Handzel, T., ... Colorado, C. N. (2017). Centers for Disease Control and Prevention Public Health Response to Humanitarian Emergencies, 2007–2016. *Emerging Infectious Diseases*, 23(Suppl 1), S196.
- Braimah, T. S. (2014). Child marriage in Northern Nigeria: Section 61 of Part I of the 1999 Constitution and the protection of children against child marriage. *African Human Rights Law Journal*, 14(2), 474–488.
- Brasaite, I., Kaunonen, M., Martinkenas, A., & Suominen, T. (2016). Health care professionals' attitudes regarding patient safety: cross-sectional survey. *BMC Research Notes*, 9(1), 177.
- Brudney, D. (2014). "Pregnancy Is Not a Disease" Conscientious Refusal and the Argument from Concepts. *Hastings Center Report*, 44(5), 43–49.
- Brunson, J. (2010). Son preference in the context of fertility decline: limits to new constructions of gender and kinship in Nepal. *Studies in Family Planning*, 41(2), 89–98.
- Bukar, M., & Jauro, Y. S. (2013). Home births and postnatal practices in madagali, North. Eastern Nigeria. *Nigerian Journal of Clinical Practice*, 16(2), 232–237.

- Campbell, O. M., Graham, W. J., & group, L. M. S. S. steering. (2006a). Strategies for reducing maternal mortality: getting on with what works. *The Lancet*, 368(9543), 1284–1299.
- Campbell, O. M., Graham, W. J., & group, L. M. S. S. steering. (2006b). Strategies for reducing maternal mortality: getting on with what works. *The Lancet*, 368(9543), 1284–1299.
- Casey, S. E., Chynoweth, S. K., Cornier, N., Gallagher, M. C., & Wheeler, E. E. (2015). Progress and gaps in reproductive health services in three humanitarian settings: mixed-methods case studies. *Conflict and Health*, 9(1), S3.
- Casterline, J. B., Perez, A. E., & Biddlecom, A. E. (1997). Factors underlying unmet need for family planning in the Philippines. *Studies in Family Planning*, 173–191.
- Cave, E., & Wayne, D. (2017). Obstacles for the Implementation of Fertility and Family Planning Initiatives in Post Conflict Rwanda.
- Chandra-Mouli, V., McCarraher, D. R., Phillips, S. J., Williamson, N. E., & Hainsworth, G. (2014). Contraception for adolescents in low and middle income countries: needs, barriers, and access. *Reproductive Health*, 11(1), 1.
- Chauhan, B. G., & Kumar, A. (2016). Rural-urban differential in utilization of maternal healthcare services in India: a decomposition analysis. *Social Science Spectrum*, 2(1), 49–62.
- Chi, P. C., Bulage, P., Urdal, H., & Sundby, J. (2015). Perceptions of the effects of armed conflict on maternal and reproductive health services and outcomes in Burundi and Northern Uganda: a qualitative study. *BMC International Health and Human Rights*, 15(1), 7.

- Chilinda, I., Hourahane, G., Pindani, M., Chitsulo, C., & Maluwa, A. (2014). Attitude of Health Care Providers towards Adolescent Sexual and Reproductive Health Services in Developing Countries: A Systematic Review. *Health, 06*(14), 1706–1713. <https://doi.org/10.4236/health.2014.614203>
- Chimbindi, N., Bor, J., Newell, M.-L., Tanser, F., Baltusen, R., Hontelez, J., ... Bärnighausen, T. (2015). Time and money: the true costs of health care utilization for patients receiving 'free' HIV/TB care and treatment in rural KwaZulu-Natal. *Journal of Acquired Immune Deficiency Syndromes (1999), 70*(2), e52–e60. <https://doi.org/10.1097/QAI.0000000000000728>
- Chinkhumba, J., De Allegri, M., Muula, A. S., & Robberstad, B. (2014). Maternal and perinatal mortality by place of delivery in sub-Saharan Africa: a meta-analysis of population-based cohort studies. *BMC Public Health, 14*(1), 1014.
- Chipeta, E. K., Chimwaza, W., & Kalilani-Phiri, L. (2010). Contraceptive knowledge, beliefs and attitudes in rural Malawi: misinformation, misbeliefs and misperceptions. *Malawi Medical Journal, 22*(2).
- Choge, M. C. (2012). *Contraceptive Uptake among Women of Reproductive Age in Kakuma Refugee Camp in Turkana County, Kenya* (PhD Thesis). Kenyatta University.
- Chola, L., McGee, S., Tugendhaft, A., Buchmann, E., & Hofman, K. (2015). Scaling up family planning to reduce maternal and child mortality: the potential costs and benefits of modern contraceptive use in South Africa. *PLoS One, 10*(6), e0130077.

- Chou, D., Daelmans, B., Jolivet, R. R., Kinney, M., & Say, L. (2015). Ending preventable maternal and newborn mortality and stillbirths. *Bmj*, *351*, h4255.
- Claire Tebbets. (2008, June 18). Reproductive health in emergencies: new initiatives, renewed commitment.
- Clarke, M. A., Moore, J. L., Steege, L. M., Koopman, R. J., Belden, J. L., Canfield, S. M., ... Kim, M. S. (2016). Health information needs, sources, and barriers of primary care patients to achieve patient-centered care: A literature review. *Health Informatics Journal*, *22*(4), 992–1016. <https://doi.org/10.1177/1460458215602939>
- Cleland, J., & Ali, M. M. (2006). Sexual abstinence, contraception, and condom use by young African women: a secondary analysis of survey data. *The Lancet*, *368*(9549), 1788–1793. [https://doi.org/10.1016/S0140-6736\(06\)69738-9](https://doi.org/10.1016/S0140-6736(06)69738-9)
- Creanga, A. A., Gillespie, D., Karklins, S., & Tsui, A. O. (2011). Low use of contraception among poor women in Africa: an equity issue. *Bulletin of the World Health Organization*, *89*, 258–266.
- Creel, L. (2002). Meeting the reproductive health needs of displaced people. *Middle East*, *46*(7), 20.
- Dansereau, E., McNellan, C. R., Gagnier, M. C., Desai, S. S., Haakenstad, A., Johanns, C. K., ... Zúñiga-Brenes, P. (2016a). Coverage and timing of antenatal care among poor women in 6 Mesoamerican countries. *BMC Pregnancy and Childbirth*, *16*(1), 234.
- Dansereau, E., McNellan, C. R., Gagnier, M. C., Desai, S. S., Haakenstad, A., Johanns, C. K., ... Zúñiga-Brenes, P. (2016b). Coverage and timing of antenatal care

- among poor women in 6 Mesoamerican countries. *BMC Pregnancy and Childbirth*, 16(1), 234.
- Darmstadt, G. L., Bhutta, Z. A., Cousens, S., Adam, T., Walker, N., De Bernis, L., & Team, L. N. S. S. (2005). Evidence-based, cost-effective interventions: how many newborn babies can we save? *The Lancet*, 365(9463), 977–988.
- Darroch, J. E., Sedgh, G., & Ball, H. (2011). *Contraceptive technologies: responding to women's needs*. New York: Guttmacher Institute; 2011.
- Darroch, Jacqueline E., Sedgh, G., & Ball, H. (2011). *Contraceptive technologies: Responding to women's needs*. New York: Guttmacher Institute, 201(1).
- De Lisle, J. (2011). The benefits and challenges of mixing methods and methodologies: Lessons learnt from implementing qualitatively led mixed methods research designs in Trinidad and Tobago.
- Decker, M., & Constantine, N. A. (2011). Factors associated with contraceptive use in Angola. *African Journal of Reproductive Health*, 15(4), 68–77.
- Degni, F., Koivusilta, L., & Ojanlatva, A. (2006). Attitudes towards and perceptions about contraceptive use among married refugee women of Somali descent living in Finland. *The European Journal of Contraception & Reproductive Health Care*, 11(3), 190–196.
- Denno, D. M., Hoopes, A. J., & Chandra-Mouli, V. (2015). Effective Strategies to Provide Adolescent Sexual and Reproductive Health Services and to Increase Demand and Community Support. *Journal of Adolescent Health*, 56(1), S22–S41. <https://doi.org/10.1016/j.jadohealth.2014.09.012>

- Devkota, M. D. (2005). An assessment on impact of conflict on delivery of health services. *Kathmandu, The World Bank*.
- Deyo, N. S. (2012). Cultural traditions and the reproductive health of Somali refugees and immigrants.
- Dickson, K. S., Adde, K. S., & Amu, H. (2016). What influences where they give birth? Determinants of place of delivery among women in rural Ghana. *International Journal of Reproductive Medicine*, 2016.
- Digitale, J., Psaki, S., Soler-Hampejsek, E., & Mensch, B. S. (2017). Correlates of Contraceptive Use and Health Facility Choice among Young Women in Malawi. *The ANNALS of the American Academy of Political and Social Science*, 669(1), 93–124.
- Doctor, H. V., Nkhana-Salimu, S., & Abdulsalam-Anibilowo, M. (2018). Health facility delivery in sub-Saharan Africa: successes, challenges, and implications for the 2030 development agenda. *BMC Public Health*, 18(1), 765.
- Dodzo, M. K., & Mhloyi, M. (2017). Home is best: Why women in rural Zimbabwe deliver in the community. *PloS One*, 12(8), e0181771.
- Duckitt, K., & Harrington, D. (2005). Risk factors for pre-eclampsia at antenatal booking: systematic review of controlled studies. *Bmj*, 330(7491), 565.
- Dunn, G. (2018). The impact of the Boko Haram insurgency in Northeast Nigeria on childhood wasting: a double-difference study. *Conflict and Health*, 12(1), 6.
- Duru, C. B., Nnebue, C. C., Iwu, A. C., Oluoha, R. U., Ndukwu, E. U., & Nwaigbo, E. (2018). Utilization of family planning services among women of reproductive age

in urban and rural communities of Imo State, Nigeria: a comparative study. *Afrimedical Journal*, 6(1), 11–26.

Ebonwu, J., Mumbauer, A., Uys, M., Wainberg, M. L., & Medina-Marino, A. (2018). Determinants of late antenatal care presentation in rural and peri-urban communities in South Africa: A cross-sectional study. *PloS One*, 13(3), e0191903.

Ebuehi, O. M., & Akintujoye, I. A. (2012). Perception and utilization of traditional birth attendants by pregnant women attending primary health care clinics in a rural Local Government Area in Ogun State, Nigeria. *International Journal of Women's Health*, 4, 25.

Edward, B. (2011). Factors influencing the utilisation of antenatal care content in Uganda. *The Australasian Medical Journal*, 4(9), 516.

Edwards, A. (2016). Global forced displacement hits record high. *UNHCR News*, 20.

Edwards, A. (2017). Forced displacement worldwide at its highest in decades. *UNHCR, The UN Refugee Agency*, 19.

Ekwochi, U., Ndu, I. K., Osuorah, C. D., Onah, K. S., Obuoha, E., Odetunde, O. I., ... Amadi, O. F. (2015). Delays in healthcare delivery to sick neonates in Enugu South-East Nigeria: an analysis of causes and effects. *Journal of Public Health*, 38(2), e171–e177.

Elmusharaf, K., Byrne, E., & O'Donovan, D. (2017). Social and traditional practices and their implications for family planning: a participatory ethnographic study in Renk, South Sudan. *Reproductive Health*, 14(1), 10.

- Emina, J. B., Chirwa, T., & Kandala, N.-B. (2014). Trend in the use of modern contraception in sub-Saharan Africa: does women's education matter? *Contraception*, *90*(2), 154–161.
- Emmanuelar, I. (2015). Insurgency and humanitarian crises in Northern Nigeria: The case of Boko Haram. *African Journal of Political Science and International Relations*, *9*(7), 284–296.
- Ensor, T., & Cooper, S. (2004). Overcoming barriers to health service access: influencing the demand side. *Health Policy and Planning*, *19*(2), 69–79.
- Enuameh, Y. A. K., Okawa, S., Asante, K. P., Kikuchi, K., Mahama, E., Ansah, E., ... Nanishi, K. (2016). Factors influencing health facility delivery in predominantly rural communities across the three ecological zones in Ghana: a cross-sectional study. *PloS One*, *11*(3), e0152235.
- Enuameh, Y. A. K., Okawa, S., Asante, K. P., Kikuchi, K., Mahama, E., Ansah, E., ... Owusu-Agyei, S. (2016). Factors Influencing Health Facility Delivery in Predominantly Rural Communities across the Three Ecological Zones in Ghana: A Cross-Sectional Study. *PLoS ONE*, *11*(3). <https://doi.org/10.1371/journal.pone.0152235>
- Envuladu, E. A., Agbo, H. A., Lassa, S., Kigbu, J. H., & Zoakah, A. I. (2013). Factors determining the choice of a place of delivery among pregnant women in Russia village of Jos North, Nigeria: achieving the MDGs 4 and 5. *International Journal of Medicine and Biomedical Research*, *2*(1), 23–27.
- Enwereji, E. E. (2009). Assessing interventions available to internally displaced persons in Abia state, Nigeria. *Libyan Journal of Medicine*, *4*(1), 17–22.

- Eriksson Baaz, M., & Stern, M. (2013). *Sexual violence as a weapon of war?: perceptions, prescriptions, problems in the Congo and beyond*. Zed Books.
- Esscher, A., Binder-Finnema, P., Bødker, B., Högberg, U., Mulic-Lutvica, A., & Essén, B. (2014). Suboptimal care and maternal mortality among foreign-born women in Sweden: maternal death audit with application of the 'migration three delays' model. *BMC Pregnancy and Childbirth*, 14(1), 141.
- Ettarh, R. R., & Kyobutungi, C. (2012). Physical access to health facilities and contraceptive use in Kenya: Evidence from the 2008-2009 Kenya Demographic and Health Survey. *African Journal of Reproductive Health*, 16(3).
- Fagbamigbe, A. F., & Idemudia, E. S. (2015). Barriers to antenatal care use in Nigeria: evidences from non-users and implications for maternal health programming. *BMC Pregnancy and Childbirth*, 15(1), 95.
- Fagbamigbe, A. F., & Idemudia, E. S. (2017). Wealth and antenatal care utilization in Nigeria: policy implications. *Health Care for Women International*, 38(1), 17–37.
- Federal Republic of Naigeria. (2003). AN ACT TO PROVIDE AND PROTECT THE RIGHT OF THE NIGERIAN CHILD AND OTHER RELATED MATTERS, 2003. Federal Republic of Naigeria.
- Federal Republic of Nigeria. (2012). NATIONAL POLICY ON INTERNALLY DISPLACED PERSONS (IDPs) IN NIGERIA. *Federal Republic of Nigeria*, 4(1), 1.
- Feleke, S. A., Koye, D. N., Demssie, A. F., & Mengesha, Z. B. (2013). Reproductive health service utilization and associated factors among adolescents (15–19 years

- old) in Gondar town, Northwest Ethiopia. *BMC Health Services Research*, 13(1), 294.
- Fielden, A. (2008). Ignored Displaced Persons: the plight of IDPs in urban areas.
- Filippi, V., Chou, D., Ronsmans, C., Graham, W., & Say, L. (2016). Levels and causes of maternal mortality and morbidity.
- Filippi, V., Ronsmans, C., Campbell, O. M., Graham, W. J., Mills, A., Borghi, J., ... Osrin, D. (2006). Maternal health in poor countries: the broader context and a call for action. *The Lancet*, 368(9546), 1535–1541.
- Finlayson, K., & Downe, S. (2013). Why do women not use antenatal services in low- and middle-income countries? A meta-synthesis of qualitative studies. *PLoS Medicine*, 10(1), e1001373.
- Fisseha, G., Berhane, Y., Worku, A., & Terefe, W. (2017). Distance from health facility and mothers' perception of quality related to skilled delivery service utilization in northern Ethiopia. *International Journal of Women's Health*, 9, 749.
- Fotso, J. C., Cleland, J., Mberu, B., Mutua, M., & Elungata, P. (2013). Birth spacing and child mortality: an analysis of prospective data from the Nairobi urban health and demographic surveillance system. *Journal of Biosocial Science*, 45(6), 779–798.
- Fuentes, L., Ingerick, M., Jones, R., & Lindberg, L. (2018). Adolescents' and young adults' reports of barriers to confidential health care and receipt of contraceptive services. *Journal of Adolescent Health*, 62(1), 36–43.
- Gabler, S., & Stenger, H. (2012). Design effect of randomized systematic sampling. *Statistics*, 46(1), 131–148.

- Garg, R., Shyamsunder, D., Singh, T., & Singh, P. A. (2010). Study on delivery practices among women in rural Punjab. *Health and Population: Perspectives and Issues*, 33(1), 23–33.
- Gasseer, N. A., Dresden, E., Keeney, G. B., & Warren, N. (2004). Status of women and infants in complex humanitarian emergencies. *The Journal of Midwifery & Women's Health*, 49(S1), 7–13.
- Gatrell, P. (1999). *Whole Empire Walking: Refugees in Russia During World War I (Indiana-Michigan Series in Russian and East European Studies)*. Indiana University Press.
- Gebremichael, H., Haile, F., Dessie, A., Birhane, A., Alemayehu, M., & Yebyo, H. (2014). Acceptance of long acting contraceptive methods and associated factors among women in Mekelle City, Northern Ethiopia. *Science Journal of Public Health*, 2(4), 349–355.
- Geidam, A. D., Audu, B. M., & Oummate, Z. (2011). Pregnancy outcome among grand multiparous women at the University of Maiduguri Teaching Hospital: a case control study. *Journal of Obstetrics and Gynaecology*, 31(5), 404–408.
- Gelsdorf, K., Maxwell, D. G., & Mazurana, D. (2012). *Livelihoods, basic services and social protection in Northern Uganda and Karamoja*. Secure Livelihoods Research Consortium; Overseas Development Institute London.
- Ghana Statistical Service, & ICF. (2018). *Ghana Demographic and Health Survey Report, 2017*.

- Gitonga, E., & Muiruri, F. (2016). Determinants of health facility delivery among women in Tharaka Nithi county, Kenya. *The Pan African Medical Journal*, 25(Suppl 2). <https://doi.org/10.11604/pamj.supp.2016.25.2.10273>
- Gopalan, S. S., Das, A., & Howard, N. (2017). Maternal and neonatal service usage and determinants in fragile and conflict-affected situations: a systematic review of Asia and the Middle-East. *BMC Women's Health*, 17(1), 20.
- Gore, S., & Katkuri, S. (2017). A study to assess contraceptive use among married women in urban and rural areas: a comparative study. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 5(9), 2978–2982.
- Graham, W. J., Bell, J. S., & Bullough, C. H. (2001). Can skilled attendance at delivery reduce maternal mortality in developing countries? *Safe Motherhood Strategies: A Review of the Evidence*.
- Grilli, R., Ramsay, C., & Minozzi, S. (2002). Mass media interventions: effects on health services utilisation. *Cochrane Database Syst Rev*, 1(1).
- Gross, K., Alba, S., Glass, T. R., Schellenberg, J. A., & Obrist, B. (2012). Timing of antenatal care for adolescent and adult pregnant women in south-eastern Tanzania. *BMC Pregnancy and Childbirth*, 12(1), 16.
- group, E. working. (2015). Strategies toward ending preventable maternal mortality (EPMM). Geneva: World Health Organization.
- Gudu, W., & Addo, B. (2017). Factors associated with utilization of skilled service delivery among women in rural Northern Ghana: a cross sectional study. *BMC Pregnancy and Childbirth*, 17. <https://doi.org/10.1186/s12384-017-1344-2>

- Guerrier, G., Oluyide, B., Keramarou, M., & Grais, R. (2013). High maternal and neonatal mortality rates in northern Nigeria: an 8-month observational study. *International Journal of Women's Health*, 5, 495.
- Guliani, H., Sepehri, A., & Serieux, J. (2013). Determinants of prenatal care use: Evidence from 32 low-income countries across Asia, Sub-Saharan Africa and Latin America. *Health Policy and Planning*, 29(5), 589–602.
- Gupta, S., Yamada, G., Mpembeni, R., Frumence, G., Callaghan-Koru, J. A., Stevenson, R., ... Baqui, A. H. (2014). Factors associated with four or more antenatal care visits and its decline among pregnant women in Tanzania between 1999 and 2010. *PloS One*, 9(7), e101893.
- Hadrill, R., Jones, G. L., Mitchell, C. A., & Anumba, D. O. (2014). Understanding delayed access to antenatal care: a qualitative interview study. *BMC Pregnancy and Childbirth*, 14(1), 207.
- Haghparsast-Bidgoli, H., Pulkki-Brännström, A.-M., Lafort, Y., Beksinska, M., Rambally, L., Roy, A., ... Skordis-Worrall, J. (2015). Inequity in costs of seeking sexual and reproductive health services in India and Kenya. *International Journal for Equity in Health*, 14(1), 84.
- Hailu, D., & Gulte, T. (2016). Determinants of Short Interbirth Interval among Reproductive Age Mothers in Arba Minch District, Ethiopia. *International Journal of Reproductive Medicine*, 2016.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis (Vol. 6)*. Upper Saddle River, NJ: Pearson Prentice Hall.

- Halle-Ekane, G. E., Akwa, J. C., Sama, D., Obinchernti, T. E., Tchente, C. N., Nsom, J. B., ... Mbu, R. (2016). Knowledge, attitudes and practice of contraception among refugees in a refugee settlement in Yaoundé, Cameroon. *Int J Trop Dis Heal*, 13(1), 1–10.
- Haq, I., Sakib, S., & Talukder, A. (2017). Sociodemographic Factors on Contraceptive Use among Ever-Married Women of Reproductive Age: Evidence from Three Demographic and Health Surveys in Bangladesh. *Medical Sciences*, 5(4), 31.
- Hearst, N., & Chen, S. (2004). Condom Promotion for AIDS Prevention in the Developing World: Is It Working? *Studies in Family Planning*, 35(1), 39–47. <https://doi.org/10.1111/j.1728-4465.2004.00004.x>
- Hogan, M. C., Foreman, K. J., Naghavi, M., Ahn, S. Y., Wang, M., Makela, S. M., ... Murray, C. J. (2010). Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5. *The Lancet*, 375(9726), 1609–1623.
- Holmes, C. C., & Held, L. (2006). Bayesian auxiliary variable models for binary and multinomial regression. *Bayesian Analysis*, 1(1), 145–168.
- Hosmer Jr, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied logistic regression* (Vol. 398). John Wiley & Sons.
- Howard, N., Kollie, S., Souare, Y., Von Roenne, A., Blankhart, D., Newey, C., ... Borchert, M. (2008). Reproductive health services for refugees by refugees in Guinea I: family planning. *Conflict and Health*, 2(1), 12.
- Howard, N., Woodward, A., Patel, D., Shafi, A., Oddy, L., Veen, A., ... Roberts, B. (2014). Perspectives on reproductive healthcare delivered through a basic

- package of health services in Afghanistan: a qualitative study. *BMC Health Services Research*, 14(1), 359.
- Howard, N., Woodward, A., Souare, Y., Kollie, S., Blankhart, D., von Roenne, A., & Borchert, M. (2011). Reproductive health for refugees by refugees in Guinea III: maternal health. *Conflict and Health*, 5(1), 5.
- Hynes, M., Sheik, M., Wilson, H. G., & Spiegel, P. (2002). Reproductive health indicators and outcomes among refugee and internally displaced persons in postemergency phase camps. *JAMA*, 288(5), 595–603.
- Idris, S. H., Gwarzo, U. M. D., & Shehu, A. U. (2006). Determinants of place of delivery among women in a semi-urban settlement in Zaria, northern Nigeria. *Annals of African Medicine*, 5(2), 68–72.
- Idris, Suleman Hadejia, Sambo, M. N., & Ibrahim, M. S. (2013). Barriers to utilisation of maternal health services in a semi-urban community in northern Nigeria: The clients' perspective. *Nigerian Medical Journal: Journal of the Nigeria Medical Association*, 54(1), 27.
- Islam, M. A., Chowdhury, R. I., & Akhter, H. H. (2006). Complications during pregnancy, delivery, and postnatal stages and place of delivery in rural Bangladesh. *Health Care for Women International*, 27(9), 807–821.
- Islam, M. M., & Gagnon, A. J. (2016). Use of reproductive health care services among urban migrant women in Bangladesh. *BMC Women's Health*, 16(1), 15. <https://doi.org/10.1186/s12905-016-0296-4>
- Ivanova, O., Rai, M., & Kemigisha, E. (2018). A Systematic Review of Sexual and Reproductive Health Knowledge, Experiences and Access to Services among

Refugee, Migrant and Displaced Girls and Young Women in Africa. *International Journal of Environmental Research and Public Health*, 15(8), 1583.

Iyaniwura, C. A., & Yussuf, Q. (2009). Utilization of antenatal care and delivery services in Sagamu, south western Nigeria. *African Journal of Reproductive Health*, 13(3).

Jacobs, B., Ir, P., Bigdeli, M., Annear, P. L., & Van Damme, W. (2012). Addressing access barriers to health services: an analytical framework for selecting appropriate interventions in low-income Asian countries. *Health Policy and Planning*, 27(4), 288–300. <https://doi.org/10.1093/heapol/czr038>

Jacobs, J., Marino, M., Edelman, A., Jensen, J., & Darney, B. (2017). Mass media exposure and modern contraceptive use among married West African adolescents. *The European Journal of Contraception & Reproductive Health Care*, 22(6), 439–449.

Jayanthi, T. P., Suresh, S., & Padmanaban, P. (2015). Primary health centres: preferred option for birthing care in tamilnadu, India, from users' perspectives. *Journal of Health, Population, and Nutrition*, 33(1), 177.

Jolivet, R. R., Moran, A. C., O'Connor, M., Chou, D., Bhardwaj, N., Newby, H., ... Langer, A. (2018). Ending preventable maternal mortality: phase II of a multi-step process to develop a monitoring framework, 2016–2030. *BMC Pregnancy and Childbirth*, 18(1), 258.

Jonas, K., Crutzen, R., van den Borne, B., & Reddy, P. (2017). Healthcare workers' behaviors and personal determinants associated with providing adequate sexual and reproductive healthcare services in sub-Saharan Africa: a systematic review. *BMC Pregnancy and Childbirth*, 17(1), 86.

- Joseph, G., Da Silva, I. C. M., Wehrmeister, F. C., Barros, A. J., & Victora, C. G. (2016). Inequalities in the coverage of place of delivery and skilled birth attendance: analyses of cross-sectional surveys in 80 low and middle-income countries. *Reproductive Health, 13*(1), 77.
- Joshua, I. A., Biji, B. D., Gobir, A. A., Aliyu, A. A., Onyemocho, A., Nmadu, A. G., ... Andrew, K. (2016). Social characteristics and risk factors for diseases among internally displaced persons: A study of stefano's foundation camp in Jos, Nigeria. *Archives of Medicine and Surgery, 1*(2), 42.
- Kabagenyi, A., Habaasa, G., & Rutaremwa, G. (2016). Low Contraceptive Use among Young Females in Uganda: Does Birth History and Age at Birth have an Influence? Analysis of 2011 Demographic and Health Survey. *Journal of Contraceptive Studies, 1*(1). Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5354263/>
- Kabakian-Khasholian, T., & Portela, A. (2017). Companion of choice at birth: factors affecting implementation. *BMC Pregnancy and Childbirth, 17*(1). <https://doi.org/10.1186/s12884-017-1447-9>
- Kalipeni, E., Iwelunmor, J., & Grigsby-Toussaint, D. (2017). *Maternal and child health in Africa for sustainable development goals beyond 2015*. Taylor & Francis.
- Kalule-Sabiti, I., Amoateng, A. Y., & Ngake, M. (2014). The effect of socio-demographic factors on the utilization of maternal health care services in Uganda. *African Population Studies, 28*(1), 515–525.

- Kamal, S. M., Hassan, C. H., & Islam, M. N. (2015). Factors associated with the timing of antenatal care seeking in Bangladesh. *Asia Pacific Journal of Public Health*, 27(2), NP1467–NP1480.
- Kana, M. A., Doctor, H. V., Peleteiro, B., Lunet, N., & Barros, H. (2015). Maternal and child health interventions in Nigeria: a systematic review of published studies from 1990 to 2014. *BMC Public Health*, 15(1), 334.
- Kanyangarara, M., Munos, M. K., & Walker, N. (2017). Quality of antenatal care service provision in health facilities across sub-Saharan Africa: Evidence from nationally representative health facility assessments. *Journal of Global Health*, 7(2).
- Karanja, S., Gichuki, R., Igunza, P., Muhula, S., Ofware, P., Lesiamon, J., ... Binkin, N. (2018). Factors influencing deliveries at health facilities in a rural Maasai Community in Magadi sub-County, Kenya. *BMC Pregnancy and Childbirth*, 18(1), 5.
- Kathryn Perrott. (2017, Narch). Birth in a war zone: Delivering babies and saving women's lives in Afghanistan. ABC News.
- Kawungezi, P. C., AkiiBua, D., Aleni, C., Chitayi, M., Niwaha, A., Kazibwe, A., ... Tukei, C. (2015a). Attendance and utilization of antenatal care (ANC) services: multi-center study in upcountry areas of Uganda. *Open Journal of Preventive Medicine*, 5(3), 132.
- Kawungezi, P. C., AkiiBua, D., Aleni, C., Chitayi, M., Niwaha, A., Kazibwe, A., ... Tukei, C. (2015b). Attendance and utilization of antenatal care (ANC) services: multi-center study in upcountry areas of Uganda. *Open Journal of Preventive Medicine*, 5(3), 132.

- Kenya National Bureau of Statistics, & ICF Macro. (2015). *Kenya demographic and health survey report, 2013–2014*. Kenya National Bureau of Statistics and ICF Macro.
- Kerber, K. J., de Graft-Johnson, J. E., Bhutta, Z. A., Okong, P., Starrs, A., & Lawn, J. E. (2007). Continuum of care for maternal, newborn, and child health: from slogan to service delivery. *The Lancet*, 370(9595), 1358–1369.
- Khanum, S., de Souza, M. de L., Sayyed, A., & Naz, N. (2017). Designing a Pregnancy Care Network for Pregnant Women. *Technologies*, 5(4), 80.
- Kifordu, H. A. (2011). Ethnic politics, political elite, and regime change in Nigeria. *Studies in Ethnicity and Nationalism*, 11(3), 427–450.
- Kisindja, R. M., Kimona, C., Etoy, M., Dorme, F., & Benfield, N. (2017). Family planning knowledge and use among women in camps for internally displaced people in the Democratic Republic of the Congo. *International Journal of Gynecology & Obstetrics*, 138(3), 256–260.
- Kisuule, I., Kaye, D. K., Najjuka, F., Ssematimba, S. K., Arinda, A., Nakitende, G., & Otim, L. (2013). Timing and reasons for coming late for the first antenatal care visit by pregnant women at Mulago hospital, Kampala Uganda. *BMC Pregnancy and Childbirth*, 13(1), 121.
- Kitui, J., Lewis, S., & Davey, G. (2013). Factors influencing place of delivery for women in Kenya: an analysis of the Kenya demographic and health survey, 2008/2009. *BMC Pregnancy and Childbirth*, 13(1), 40.
- Kiura, A. W. (2012). *Constrained Agency: Perceptions, Attitudes and Experiences of Somali Refugee Women on Family Planning*. Erasmus University.

- Kruk, M. E., Paczkowski, M. M., Tegegn, A., Tessema, F., Hadley, C., Asefa, M., & Galea, S. (2010). Women's preferences for obstetric care in rural Ethiopia: a population-based discrete choice experiment in a region with low rates of facility delivery. *Journal of Epidemiology & Community Health, 64*(11), 984–988.
- Kumbani, L., Bjune, G., Chirwa, E., & Odland, J. Ø. (2013). Why some women fail to give birth at health facilities: a qualitative study of women's perceptions of perinatal care from rural Southern Malawi. *Reproductive Health, 10*(1), 9.
- Kyei-Nimakoh, M., Carolan-Olah, M., & McCann, T. V. (2017). Access barriers to obstetric care at health facilities in sub-Saharan Africa—a systematic review. *Systematic Reviews, 6*(1), 110.
- Lafta, R., Aflouk, N. A., Dhiaa, S., Lyles, E., & Burnham, G. (2016). Needs of internally displaced women and children in Baghdad, Karbala, and Kirkuk, Iraq. *PLoS Currents, 8*.
- Larsson, C., & Stanfors, M. (2014). Women's education, empowerment, and contraceptive use in sub-Saharan Africa: findings from recent demographic and health surveys. *African Population Studies, 28*, 1022–1034.
- Lassi, Z. S., Aftab, W., Ariff, S., Kumar, R., Hussain, I., Musavi, N. B., ... Bhutta, Z. A. (2015). Impact of service provision platforms on maternal and newborn health in conflict areas and their acceptability in Pakistan: a systematic review. *Conflict and Health, 9*(1). <https://doi.org/10.1186/s13031-015-0054-5>
- Lawrence, J. J. (2012). *Health Programming and Community-based Radio Stations in Sub-Saharan Africa: An Example from Zambia* (PhD Thesis). University of Pittsburgh.

- Leather, A., Ismail, E. A., Ali, R., Abdi, Y. A., Abby, M. H., Gulaid, S. A., ... Lowe-Lauri, M. (2006). Working together to rebuild health care in post-conflict Somaliland. *The Lancet*, 368(9541), 1119–1125.
- Lemani, C., Tang, J. H., Kopp, D., Phiri, B., Kumvula, C., Chikosi, L., ... Rosenberg, N. E. (2017). Contraceptive uptake after training community health workers in couples counseling: A cluster randomized trial. *PloS One*, 12(4), e0175879.
- Levey, E. J., Oppenheim, C. E., Lange, B. C., Plasky, N. S., Harris, B. L., Lekpeh, G. G., ... Borba, C. P. (2017). A qualitative analysis of parental loss and family separation among youth in post-conflict Liberia. *Vulnerable Children and Youth Studies*, 12(1), 1–16.
- Lincetto, O., Mothebesoane-Anoh, S., Gomez, P., & Munjanja, S. (2006). Antenatal care. *Opportunities for Africa's Newborns: Practical Data, Policy and Programmatic Support for Newborn Care in Africa*, 55–62.
- Lisam, S. (2014). Minimum initial service package (MISP) for sexual and reproductive health in disasters. *Journal of Evidence-Based Medicine*, 7(4), 245–248.
- Lowe, M., Chen, D.-R., & Huang, S.-L. (2016). Social and cultural factors affecting maternal health in rural Gambia: An exploratory qualitative study. *PloS One*, 11(9), e0163653.
- Machira, K., & Palamuleni, M. E. (2017). Health Care Factors Influencing Teen Mothers' Use Of Contraceptives in Malawi. *Ghana Medical Journal*, 51(2), 88–93.
- Machiyama, K., Casterline, J. B., Mumah, J. N., Huda, F. A., Obare, F., Odwe, G., ... Cleland, J. (2017). Reasons for unmet need for family planning, with attention to

the measurement of fertility preferences: protocol for a multi-site cohort study. *Reproductive Health*, 14(1), 23.

Madzimbamuto, F. D., Ray, S. C., Mogobe, K. D., Ramogola-Masire, D., Phillips, R., Haverkamp, M., ... Motana, M. (2014). A root-cause analysis of maternal deaths in Botswana: towards developing a culture of patient safety and quality improvement. *BMC Pregnancy and Childbirth*, 14(1), 231.

Maharaj, P., & Cleland, J. (2004). Condom use within marital and cohabiting partnerships in KwaZulu-Natal, South Africa. *Studies in Family Planning*, 35(2), 116–124.

Maïga, A., Hounton, S., Amouzou, A., Akinyemi, A., Shiferaw, S., Baya, B., ... Friedman, H. (2015). Trends and patterns of modern contraceptive use and relationships with high-risk births and child mortality in Burkina Faso. *Global Health Action*, 8(1), 29736.

Majrooh, M. A., Hasnain, S., Akram, J., Siddiqui, A., & Memon, Z. A. (2014). Coverage and quality of antenatal care provided at primary health care facilities in the 'Punjab' province of 'Pakistan.' *Plos One*, 9(11), e113390.

Manandhar, D. S., Osrin, D., Shrestha, B. P., Mesko, N., Morrison, J., Tumbahangphe, K. M., ... Thapa, B. (2004). Effect of a participatory intervention with women's groups on birth outcomes in Nepal: cluster-randomised controlled trial. *The Lancet*, 364(9438), 970–979.

Mann, C. J. (2003). Observational research methods. Research design II: cohort, cross sectional, and case-control studies. *Emergency Medicine Journal*, 20(1), 54–60.

- Mannava, P., Durrant, K., Fisher, J., Chersich, M., & Luchters, S. (2015). Attitudes and behaviours of maternal health care providers in interactions with clients: a systematic review. *Globalization and Health*, 11(1), 36.
- Marsh, M., Purdin, S., & Navani, S. (2006). Addressing sexual violence in humanitarian emergencies. *Global Public Health*, 1(2), 133–146.
- Martin, D. K., Bulmer, S. M., & Pettker, C. M. (2013). Childbirth Expectations and Sources of Information Among Low- and Moderate-Income Nulliparous Pregnant Women. *The Journal of Perinatal Education*, 22(2), 103–112. <https://doi.org/10.1891/1058-1243.22.2.103>
- Maxwell, D., & Parker, J. (2012). Coordination in food security crises: a stakeholder analysis of the challenges facing the global food security cluster. *Food Security*, 4(1), 25–40.
- Mbeba, R. M., Mkuye, M. S., Magembe, G. E., Yotham, W. L., obeidy Mellah, A., & Mkuwa, S. B. (2012). Barriers to sexual reproductive health services and rights among young people in Mtwara district, Tanzania: a qualitative study. *The Pan African Medical Journal*, 13(Suppl 1).
- Mberu, U. B. (2010). *Nigeria: Multiple Forms of Mobility in Africa's Demographic Giant*. Retrieved February 10, 2012 from <http://www.migrationinformation.org/Profiles/display.cfm>. ID.
- McAlpine, A., Hossain, M., & Zimmerman, C. (2016). Sex trafficking and sexual exploitation in settings affected by armed conflicts in Africa, Asia and the Middle East: systematic review. *BMC International Health and Human Rights*, 16(1), 34.

- McGinn, T. (2000). Reproductive health of war-affected populations: what do we know? *International Family Planning Perspectives*, 26(4), 174–180.
- McGinn, T., Austin, J., Anfinson, K., Amsalu, R., Casey, S. E., Fadulalmula, S. I., ... Mubiru, F. K. (2011). Family planning in conflict: results of cross-sectional baseline surveys in three African countries. *Conflict and Health*, 5(1), 11.
- Mehata, S., Paudel, Y. R., Dotel, B. R., Singh, D. R., Poudel, P., & Barnett, S. (2014). Inequalities in the use of family planning in rural Nepal. *BioMed Research International*, 2014.
- Merdad, L., & Ali, M. M. (2018). Timing of maternal death: Levels, trends, and ecological correlates using sibling data from 34 sub-Saharan African countries. *PloS One*, 13(1), e0189416.
- Mitchell, R. E. (1972). Husband-Wife Relations and Family-Planning Practices in Urban Hong Kong. *Journal of Marriage and Family*, 34(1), 139–146.
<https://doi.org/10.2307/349641>
- Monica Adhiambo Onyango, & Shirin Heidari. (n.d.). Care with dignity in humanitarian crises: ensuring sexual and reproductive health and rights of displaced populations. *Reproductive Health Matters*, 25(51), 1–6.
- Morakinyo, O. M., & Fagbamigbe, A. F. (2017). Neonatal, infant and under-five mortalities in Nigeria: An examination of trends and drivers (2003-2013). *PloS One*, 12(8), e0182990.
- Morgan, D. L. (1998). Practical strategies for combining qualitative and quantitative methods: Applications to health research. *Qualitative Health Research*, 8(3), 362–376.

- Motuma, A., Syre, T., Egata, G., & Kenay, A. (2016). Utilization of youth friendly services and associated factors among youth in Harar town, east Ethiopia: a mixed method study. *BMC Health Services Research*, 16. <https://doi.org/10.1186/s12913-016-1513-4>
- Moyer, C. A., & Mustafa, A. (2013a). Drivers and deterrents of facility delivery in sub-Saharan Africa: a systematic review. *Reproductive Health*, 10(1), 40.
- Moyer, C. A., & Mustafa, A. (2013b). Drivers and deterrents of facility delivery in sub-Saharan Africa: a systematic review. *Reproductive Health*, 10(1), 40.
- Moyo, N., Makasa, M., Chola, M., & Musonda, P. (2018). Access factors linked to maternal deaths in Lundazi district, Eastern Province of Zambia: a case control study analysing maternal death reviews. *BMC Pregnancy and Childbirth*, 18(1), 101.
- Muanda, M. F., Ndongo, G. P., Messina, L. J., & Bertrand, J. T. (2017). Barriers to modern contraceptive use in rural areas in DRC. *Culture, Health & Sexuality*, 19(9), 1011–1023.
- Muanda, M., Ndongo, P. G., Taub, L. D., & Bertrand, J. T. (2016). Barriers to modern contraceptive use in Kinshasa, DRC. *PloS One*, 11(12), e0167560.
- Mubyazi, G. M. (2015). Knowledge and perceptions of antenatal services need and delivery and reasons for seeking such services among women in Tanzania: implications for utilization and coverage of intermittent presumptive treatment of malaria in pregnancy in two districts. *Rwanda Journal*, 2(1), 65–75.

- Mudgway, C. (2017). Sexual exploitation by UN peacekeepers: the 'survival sex' gap in international human rights law. *The International Journal of Human Rights*, 21(9), 1453–1476.
- Muntenda, B. M., Nuuyoma, V., & Stern, R. (2017). The perceptions of women on child birthing in a public-health facility in a peri-urban area in Kavango east region, Namibia. *International Journal of Healthcare*, 3(2), 37.
- Muyunda, B., Makasa, M., Jacobs, C., Musonda, P., & Michelo, C. (2016). higher educational attainment associated with Optimal antenatal care Visits among childbearing Women in Zambia. *Frontiers in Public Health*, 4, 127.
- Mwase, T., Brenner, S., Mazalale, J., Lohmann, J., Hamadou, S., Somda, S. M., ... De Allegri, M. (2018). Inequities and their determinants in coverage of maternal health services in Burkina Faso. *International Journal for Equity in Health*, 17(1), 58.
- Myer, L., & Harrison, A. (2003). Why Do Women Seek Antenatal Care Late? Perspectives From Rural South Africa. *Journal of Midwifery & Women's Health*, 48(4), 268–272. [https://doi.org/10.1016/S1526-9523\(02\)00421-X](https://doi.org/10.1016/S1526-9523(02)00421-X)
- Namasivayam, A., González, P. A., Delgado, R. C., & Chi, P. C. (2017). The Effect of Armed Conflict on the Utilization of Maternal Health Services in Uganda: A Population-based Study. *PLoS Currents*, 9.
- Nanang, M. L., & Atabila, A. (2014). Factors predicting home delivery among women in Bosomtwe-Atwima-Kwanwoma district of Ghana: A case control study. *International Journal of Medicine and Public Health*, 4(3).

- Nansubuga, E., Ayiga, N., & Moyer, C. A. (2016). Prevalence of maternal near miss and community-based risk factors in Central Uganda. *International Journal of Gynecology & Obstetrics*, 135(2), 214–220.
- National Population Commission - NPC/Nigeria, & ICF International. (2014). Nigeria Demographic and Health Survey 2013. NPC/Nigeria and ICF International.
- Nduka, I., & Nduka, E. C. (2014). Determinants of noninstitutional deliveries in an urban community in Nigeria. *Journal of Medical Investigations and Practice*, 9(3), 102.
- Nelson, S. M., Telfer, E. E., & Anderson, R. A. (2012). The ageing ovary and uterus: new biological insights. *Human Reproduction Update*, 19(1), 67–83.
- Neupane, S., & Doku, D. T. (2012). Determinants of time of start of prenatal care and number of prenatal care visits during pregnancy among Nepalese women. *Journal of Community Health*, 37(4), 865–873.
- Newell, R., Spillman, I., & Newell, M.-L. (2017). The Use of Facilities for Labor and Delivery: The Views of Women in Rural Uganda. *Journal of Public Health in Africa*, 8(1). <https://doi.org/10.4081/jphia.2017.592>
- Ngilangwa, D. P., Rajesh, S., Kawala, M., Mbeba, R., Sambili, B., Mkuwa, S., ... Nyagero, J. (2016). Accessibility to sexual and reproductive health and rights education among marginalized youth in selected districts of Tanzania. *The Pan African Medical Journal*, 25(Suppl 2).
- Ngoc, N. T. N., Merialdi, M., Abdel-Aleem, H., Carroli, G., Purwar, M., Zavaleta, N., ... Mathai, M. (2006). Causes of stillbirths and early neonatal deaths: data from 7993 pregnancies in six developing countries. *Bulletin of the World Health Organization*, 84, 699–705.

- Nilsson, A. (2014). *Using mass media as channel for healthcare information: A minor field study of audience's media preferences in Dar es Salaam, Tanzania.*
- Nkoka, O., Chuang, T.-W., & Chen, Y.-H. (2018). Association between timing and number of antenatal care visits on uptake of intermittent preventive treatment for malaria during pregnancy among Malawian women. *Malaria Journal, 17*(1), 211.
- Nsibu, C. N., Manianga, C., Kapanga, S., Mona, E., Pululu, P., & Aloni, M. N. (2016a). Determinants of antenatal care attendance among pregnant women living in endemic malaria settings: experience from the Democratic Republic of Congo. *Obstetrics and Gynecology International, 2016.*
- Nsibu, C. N., Manianga, C., Kapanga, S., Mona, E., Pululu, P., & Aloni, M. N. (2016b). Determinants of antenatal care attendance among pregnant women living in endemic malaria settings: experience from the Democratic Republic of Congo. *Obstetrics and Gynecology International, 2016.*
- Ntoimo, L. F., Okonofua, F. E., Ogu, R. N., Galadanci, H. S., Gana, M., Okike, O. N., ... Abe, E. (2018). Record number of forcibly displaced people lived in sub-Saharan Africa in 2017. *International Journal of Women's Health, 10*, 69.
- Nyamtema, A. S., Mwakatundu, N., Dominico, S., Mohamed, H., Pemba, S., Rumanyika, R., ... Issa, O. (2016). Enhancing maternal and Perinatal health in under-served remote areas in sub-Saharan Africa: a Tanzanian model. *PLoS One, 11*(3), e0151419.
- Nyarko, S. H. (2015). Prevalence and correlates of contraceptive use among female adolescents in Ghana. *BMC Women's Health, 15*(1), 60.

- Nyauchi, B., & Omedi, G. (2014). Determinants of unmet need for family planning among women in rural Kenya. *African Population Studies*, 28, 999–1008.
- Obago, I. T. (2013). DHS WORKING PAPERS.
- Obago, I. T., Ouma, J. O., & Owino, J. A. (2013). Does the quality of antenatal care predict health facility delivery among women in Kenya? Further analysis of KDHS data 2008/09. *International Journal of Child Health and Nutrition*, 2(1), 15–24.
- Obasohan, P. E. (2015). Religion, ethnicity and contraceptive use among reproductive age women in Nigeria. *International Journal of MCH and AIDS*, 3(1), 63.
- Obwoya, J. G., Wulifan, J. K., & Kalolo, A. (2018). Factors Influencing Contraceptives Use among Women in the Juba City of South Sudan. *International Journal of Population Research*, 2018.
- Ochako, R., & Gichuhi, W. (2016). Pregnancy wantedness, frequency and timing of antenatal care visit among women of childbearing age in Kenya. *Reproductive Health*, 13(1), 51.
- Ochako, R., Temmerman, M., Mbondo, M., & Askew, I. (2017). Determinants of modern contraceptive use among sexually active men in Kenya. *Reproductive Health*, 14(1), 56.
- Odusanya, O. O. (2016). The health of internally displaced persons. *Nigerian Postgraduate Medical Journal*, 23(4), 159.
- Ogboghodo, E. O., Adam, V. Y., & Wagbatsoma, V. A. (2017). Prevalence and determinants of contraceptive use among women of child-bearing age in a rural community in southern Nigeria. *Journal of Community Medicine and Primary Health Care*, 29(2), 97–107.

- O'hare, B. A. M., & Southall, D. P. (2007). First do no harm: The impact of recent armed conflict on maternal and child health in Sub-Saharan Africa. *Journal of the Royal Society of Medicine*, 100(12), 564–570.
<https://doi.org/10.1177/0141076807100012015>
- Okanlawon, K., Reeves, M., & Agbaje, O. F. (2010). Contraceptive Use: Knowledge, Perceptions and Attitudes of Refugee Youths in Oru Refugee Camp, Nigeria. *African Journal of Reproductive Health*, 14(4). Retrieved from <https://www.ajol.info/index.php/ajrh/article/view/67825>
- Okanlawon, Kehinde, Reeves, M., & Agbaje, O. F. (2010a). Contraceptive use: knowledge, perceptions and attitudes of refugee youths in Oru Refugee Camp, Nigeria. *African Journal of Reproductive Health*, 14(4 Spec no.), 16–25.
- Okanlawon, Kehinde, Reeves, M., & Agbaje, O. F. (2010b). Contraceptive use: Knowledge, perceptions and attitudes of refugee youths in Oru Refugee Camp, Nigeria. *African Journal of Reproductive Health*, 14(4).
- Okonofua, F., Imosemi, D., Igboin, B., Adeyemi, A., Chibuko, C., Idowu, A., & Imongan, W. (2017). Maternal death review and outcomes: An assessment in Lagos State, Nigeria. *PloS One*, 12(12), e0188392.
- Okwaraji, Yemisrach B., Cousens, S., Berhane, Y., Mulholland, K., & Edmond, K. (2012). Effect of geographical access to health facilities on child mortality in rural Ethiopia: a community based cross sectional study. *PLoS One*, 7(3), e33564.
- Okwaraji, Yemisrach B., Mulholland, K., Schellenberg, J., Andarge, G., Admassu, M., & Edmond, K. M. (2012). The association between travel time to health facilities

and childhood vaccine coverage in rural Ethiopia. A community based cross sectional study. *BMC Public Health*, 12(1), 476.

Okwaraji, Yemisrach Behailu, & Edmond, K. M. (2012). Proximity to health services and child survival in low-and middle-income countries: a systematic review and meta-analysis. *BMJ Open*, 2(4), e001196.

Oladapo, O. T., Iyaniwura, C. A., & Sule-Odu, A. O. (2008). Quality of antenatal services at the primary care level in southwest Nigeria. *African Journal of Reproductive Health*, 12(3).

Oleribe, O. O., & Taylor-Robinson, S. D. (2016). Before sustainable development goals (SDG): why Nigeria failed to achieve the millennium development goals (MDGs). *The Pan African Medical Journal*, 24.

Olusegun, O. L., Ibe, R. T., & Micheal, I. M. (2012). Curbing maternal and child mortality: The Nigerian experience. *International Journal of Nursing and Midwifery*, 4(3), 33–39.

Omo-Aghoja, L. (2013). Sexual and reproductive health: Concepts and current status among Nigerians. *African Journal of Medical and Health Sciences*, 12(2), 103.

Omole, O., Welye, H., & Abimbola, S. (2015). Boko Haram insurgency: implications for public health. *The Lancet*, 385(9972), 941.

Onarheim, K. H., Iversen, J. H., & Bloom, D. E. (2016). Economic benefits of investing in women's health: a systematic review. *PloS One*, 11(3), e0150120.

Onuegbu, C., & Salami, K. (n.d.). Internal Displacement & Reproductive Health Information.

- Onyeka, T. J., Owolade, O. F., Ogunjobi, A. A., Dixon, A. G. O., Okechukwu, R., & Bamkefa, B. (2008). Prevalence and severity of bacterial blight and anthracnose diseases of cassava in different agro-ecological zones of Nigeria. *African Journal of Agricultural Research*, 3(4), 297–304.
- Orach, C. G., Aporomon, J. F., Musoba, N., & Micheal, L. (2013). Accessibility and availability of health care services to internally displaced persons, in Kitgum and Pader districts, northern Uganda. *Health*, 2013. <https://doi.org/10.4236/health.2013.59195>
- Orach, C. G., Otim, G., Aporomon, J. F., Amone, R., Okello, S. A., Odongkara, B., & Komakech, H. (2015). Perceptions, attitude and use of family planning services in post conflict Gulu district, northern Uganda. *Conflict and Health*, 9(1), 24.
- Organization, W. H. (2016a). New guidelines on antenatal care for a positive pregnancy experience. *Sexual and Reproductive Health*.
- Organization, W. H. (2016b). *World health statistics 2016: monitoring health for the SDGs sustainable development goals*. World Health Organization.
- Organization, W. H. (2016c). *World health statistics 2016: monitoring health for the SDGs sustainable development goals*. World Health Organization.
- Osaro, B. O., Tobin-West, C. I., & Mezie-Okoye, M. M. (2017). Knowledge of modern contraceptives and their use among rural women of childbearing age in Rivers State Nigeria. *Annals of Tropical Medicine and Public Health*, 10(4), 1043.
- Osmani, A. K., Reyer, J. A., Osmani, A. R., & Hamajima, N. (2015). Factors influencing contraceptive use among women in Afghanistan: secondary analysis of Afghanistan Health Survey 2012. *Nagoya Journal of Medical Science*, 77(4), 551.

- Osoimehin, B. (2015). Family planning as a critical component of sustainable global development. *Global Health Action*, 8. <https://doi.org/10.3402/gha.v8.29978>
- Osumah, O. (2013). Boko Haram insurgency in northern Nigeria and the vicious cycle of internal insecurity. *Small Wars & Insurgencies*, 24(3), 536–560.
- Ouma, S., Turyasima, M., Acca, H., Nabbale, F., Obita, K. O., Rama, M., ... Odongo-Aginya, E. I. (2015). Obstacles to family planning use among rural women in Atiak health center IV, Amuru District, northern Uganda. *East African Medical Journal*, 92(8), 394.
- Owoaje, E. T., Uchendu, O. C., Ajayi, T. O., & Cadmus, E. O. (2016). A review of the health problems of the internally displaced persons in Africa. *Nigerian Postgraduate Medical Journal*, 23(4), 161.
- Oye-Adeniran, B. A., Adewole, I. F., Umoh, A. V., Oladokun, A., Gbadegesin, A., Odeyemi, K. A., & Ekanem, E. E. (2005). Sources of contraceptive commodities for users in Nigeria. *PLoS Medicine*, 2(11), e306.
- Oyelude, A. A., & Nkem Osuigwe. (n.d.). Gender dynamics in the Boko Haram insurgency in Northern Nigeria: a review of internally displaced persons. *LIS Professionals Supporting Women Living in Conflict Situations*.
- Oyerinde, K., Harding, Y., Amara, P., Garbrah-Aidoo, N., Kanu, R., Oulare, M., ... Daoh, K. (2012). Barriers to Uptake of Emergency Obstetric and Newborn Care Services in Sierra Leone: A Qualitative Study. *Journal of Community Medicine & Health Education*, 2(5), 1–9. <https://doi.org/10.4172/2161-0711.1000149>

- Palamuleni, M. E. (2013). Socio-economic and demographic factors affecting contraceptive use in Malawi. *African Journal of Reproductive Health*, 17(3), 91–104.
- Patel, P., Gibson-Fall, F., Sullivan, R., & Irwin, R. (2017). Documenting attacks on health workers and facilities in armed conflicts. *Bulletin of the World Health Organization*, 95(1), 79.
- Paudel, Y. R., Jha, T., & Mehata, S. (2017). Timing of First antenatal care (anc) and inequalities in early initiation of anc in nepal. *Frontiers in Public Health*, 5, 242.
- Paul, B., Ayo, A. S., & Ayiga, N. (2015). Rural-urban contraceptive use in Uganda: Evidence from UDHS 2011. *Journal of Human Ecology*, 52(3), 168–182.
- Pearson, L., Larsson, M., Fauveau, V., & Standley, J. (2016). Childbirth care: opportunities for Africa's newborns. *World Health Organization*. [Http://Www.who.int/pmnch/media/publications/aonsectionIII_3.pdf](http://www.who.int/pmnch/media/publications/aonsectionIII_3.pdf). Accessed, 21.
- Pell, C., Meñaca, A., Were, F., Afrah, N. A., Chatio, S., Manda-Taylor, L., ... Kalilani, L. (2013). Factors affecting antenatal care attendance: results from qualitative studies in Ghana, Kenya and Malawi. *PloS One*, 8(1), e53747.
- Perin, J., Amouzou, A., & Walker, N. (2017). Predicting high risk births with contraceptive prevalence and contraceptive method-mix in an ecologic analysis. *BMC Public Health*, 17(4), 786.
- Peters, D. H., Garg, A., Bloom, G., Walker, D. G., Brieger, W. R., & Rahman, M. H. (2008). Poverty and access to health care in developing countries. *Annals of the New York Academy of Sciences*, 1136(1), 161–171.

- Phafoli, S. H., Van Aswegen, E. J., & Alberts, U. U. (2007). Variables influencing delay in antenatal clinic attendance among teenagers in Lesotho. *South African Family Practice*, 49(9), 17–17h.
- Polis, C. B., Bradley, S. E., Bankole, A., Onda, T., Croft, T., & Singh, S. (2016). Contraceptive failure rates in the developing world: An analysis of demographic and health survey data in 43 countries. *New York: Guttmacher Institute*, 635–643.
- Population Reference Bureau. (2005). *The Plight of Internally Displaced Persons*. Population Reference Bureau.
- PRATA, N., FRASER, A., HUCHKO, M. J., GIPSON, J. D., WITHERS, M., LEWIS, S., ... UPADHYAY, U. D. (2017). WOMEN'S EMPOWERMENT AND FAMILY PLANNING: A REVIEW OF THE LITERATURE. *Journal of Biosocial Science*, 49(6), 713–743. <https://doi.org/10.1017/S0021932016000663>
- Prata, N., Sreenivas, A., Vahidnia, F., & Potts, M. (2009). Saving maternal lives in resource-poor settings: facing reality. *Health Policy*, 89(2), 131–148.
- Purseigle, P. (2007). 'A Wave on to Our Shores': The Exile and Resettlement of Refugees from the Western Front, 1914–1918. *Contemporary European History*, 16(4), 427–444.
- Rahman, M. M., Ngadan, D. P., & Arif, M. T. (2016). Factors affecting satisfaction on antenatal care services in Sarawak, Malaysia: evidence from a cross sectional study. *SpringerPlus*, 5(1), 725.
- Redmond, N., Baer, H. J., Clark, C. R., Lipsitz, S., & Hicks, L. S. (2010). Sources of Health Information Related to Preventive Health Behaviors in a National Study.

American Journal of Preventive Medicine, 38(6), 620-627.e2.
<https://doi.org/10.1016/j.amepre.2010.03.001>

- Renzaho, A. M., Kamara, J. K., Georgeou, N., & Kamanga, G. (2017a). Sexual, reproductive health needs, and rights of young people in slum areas of Kampala, Uganda: a cross sectional study. *PloS One*, 12(1), e0169721.
- Renzaho, A. M., Kamara, J. K., Georgeou, N., & Kamanga, G. (2017b). Sexual, reproductive health needs, and rights of young people in slum areas of Kampala, Uganda: a cross sectional study. *PloS One*, 12(1), e0169721.
- Ringheim, K., Gribble, J., & Foreman, M. (2007). Integrating family planning and maternal and child health care: Saving lives, money, and time. *International Family Planning Perspectives*, 33(1), 6–12.
- Roberts, J., Sealy, D., Marshak, H. H., Manda-Taylor, L., Gleason, P., & Mataya, R. (2015). The patient-provider relationship and antenatal care uptake at two referral hospitals in Malawi: a qualitative study. *Malawi Medical Journal*, 27(4), 145–150.
- Ronsmans, C., Graham, W. J., & group, L. M. S. S. steering. (2006). Maternal mortality: who, when, where, and why. *The Lancet*, 368(9542), 1189–1200.
- Roro, M. A., Hassen, E. M., Lemma, A. M., Gebreyesus, S. H., & Afework, M. F. (2014). Why do women not deliver in health facilities: a qualitative study of the community perspectives in south central Ethiopia? *BMC Research Notes*, 7(1), 556.
- Rossier, C., & Corker, J. (2017). Contemporary Use of Traditional Contraception in sub-Saharan Africa. *Population and Development Review*, 43, 192–215.

- Rourke, T. (2015). *Association between socio-demographic factors and knowledge of contraceptive methods with contraception use among women of reproductive age: a cross-section study using the 2013 Liberia DHS.*
- Rurangirwa, A. A., Mogren, I., Nyirazinyoye, L., Ntaganira, J., & Krantz, G. (2017). Determinants of poor utilization of antenatal care services among recently delivered women in Rwanda; a population based study. *BMC Pregnancy and Childbirth, 17*(1), 142.
- Rutaremwya, G., Wandera, S. O., Jhamba, T., Akiror, E., & Kiconco, A. (2015). Determinants of maternal health services utilization in Uganda. *BMC Health Services Research, 15*(1), 271.
- Sakeah, E., Okawa, S., Rexford Oduro, A., Shibanuma, A., Ansah, E., Kikuchi, K., ... Debpuur, C. (2017). Determinants of attending antenatal care at least four times in rural Ghana: analysis of a cross-sectional survey. *Global Health Action, 10*(1), 1291879.
- Samarasekera, U., & Horton, R. (2017). Improving evidence for health in humanitarian crises. *The Lancet, 390*(10109), 2223–2224.
- Santhya, K. G. (2011). Early marriage and sexual and reproductive health vulnerabilities of young women: a synthesis of recent evidence from developing countries. *Current Opinion in Obstetrics and Gynecology, 23*(5), 334–339. <https://doi.org/10.1097/GCO.0b013e32834a93d2>
- Santos, M. J., Ferreira, E., Duarte, J., & Ferreira, M. (2018). Risk factors that influence sexual and reproductive health in Portuguese university students. *International Nursing Review, 65*(2), 225–233. <https://doi.org/10.1111/inr.12387>

- Sarker, B. K., Rahman, M., Rahman, T., Hossain, J., Reichenbach, L., & Mitra, D. K. (2016). Reasons for Preference of Home Delivery with Traditional Birth Attendants (TBAs) in Rural Bangladesh: A Qualitative Exploration. *PLOS ONE*, 11(1), e0146161. <https://doi.org/10.1371/journal.pone.0146161>
- Scarf, V., Rossiter, C., Vedam, S., Dahlen, H. G., Ellwood, D., Forster, D., ... Sibbritt, D. (2018). Maternal and perinatal outcomes by planned place of birth among women with low-risk pregnancies in high-income countries: A systematic review and meta-analysis. *Midwifery*.
- Sedgh, G., Ashoford, L. S., & Hussain, R. (2016). *Unmet need for contraception in developing countries: examine women's reasons for not using a method*. The Guttmacher Institute.
- Seifert, R. (1996). The second front: The logic of sexual violence in wars. In *Women's Studies International Forum* (Vol. 19, pp. 35–43). Elsevier.
- Setianti, Y., Dida, S., Puspitasari, L., & Nugraha, A. R. (2017). Social Media and Reproductive Health-Communication Model of Adolescent Reproductive Health in Social Media. *KnE Social Sciences*, 2(4), 28–34.
- Shafqat, T., Fayaz, S., Rahim, R., & Saima, S. (2015). Knowledge and awareness regarding antenatal care and delivery among pregnant women. *Journal Of Medical Sciences*, 23(2), 88–91.
- Sharma, J., Leslie, H. H., Kundu, F., & Kruk, M. E. (2017). Poor quality for poor women? Inequities in the quality of antenatal and delivery care in Kenya. *PLoS One*, 12(1), e0171236.

- Sharma, V., Brown, W., Kainuwa, M. A., Leight, J., & Nyqvist, M. B. (2017). High maternal mortality in Jigawa State, Northern Nigeria estimated using the sisterhood method. *BMC Pregnancy and Childbirth*, 17(1), 163.
- Shiferaw, S., Spigt, M., Seme, A., Amogne, A., Skrøvseth, S., Desta, S., ... GeertJan, D. (2018). Correction: Does proximity of women to facilities with better choice of contraceptives affect their contraceptive utilization in rural Ethiopia? *PloS One*, 13(1), e0192258.
- Shrime, M. G., Hamer, M., Mukhopadhyay, S., Kunz, L. M., Claus, N. H., Randall, K., ... White, M. (2017). Effect of removing the barrier of transportation costs on surgical utilisation in Guinea, Madagascar and the Republic of Congo. *BMJ Global Health*, 2(Suppl 4). <https://doi.org/10.1136/bmjgh-2017-000434>
- Shuaibu, S. S., Salleh, M. A., & Shehu, A. Y. (2015). The impact of Boko Haram insurgency on Nigerian national security. *International Journal of Academic Research in Business and Social Sciences*, 5(6), 254–266.
- Silove, D., Ventevogel, P., & Rees, S. (2017). The contemporary refugee crisis: an overview of mental health challenges. *World Psychiatry*, 16(2), 130–139.
- Silumbwe, A., Nkole, T., Munakampe, M. N., Milford, C., Cordero, J. P., Kriel, Y., ... Steyn, P. S. (2018). Community and health systems barriers and enablers to family planning and contraceptive services provision and use in Kabwe District, Zambia. *BMC Health Services Research*, 18. <https://doi.org/10.1186/s12913-018-3136-4>

- Sinai, I., Anyanti, J., Khan, M., Daroda, R., & Oguntunde, O. (2017). Demand for women's health services in northern Nigeria: a review of the literature. *African Journal of Reproductive Health, 21*(2), 96–108.
- Singh, S., Doyle, P., Campbell, O. M., Mathew, M., & Murthy, G. V. S. (2016). Referrals between public sector health institutions for women with obstetric high risk, complications, or emergencies in India—A systematic review. *PloS One, 11*(8), e0159793.
- Solanke, B. L. (2017). Factors influencing contraceptive use and non-use among women of advanced reproductive age in Nigeria. *Journal of Health, Population and Nutrition, 36*(1), 1.
- Sonfield, A., Hasstedt, K., Kavanaugh, M. L., & Anderson, R. (2013). *The social and economic benefits of women's ability to determine whether and when to have children*. New York: Guttmacher Institute.
- Speidel, J. J., Rocca, C. H., Thompson, K. M., & Harper, C. C. (2013). Pregnancy: not a disease but still a health risk. *Contraception, 88*(4), 481–484.
- Stal, K. B., Pallangyo, P., van Elteren, M., van den Akker, T., van Roosmalen, J., & Nyamtema, A. (2015). Women's perceptions of the quality of emergency obstetric care in a referral hospital in rural Tanzania. *Tropical Medicine & International Health, 20*(7), 934–940.
- Stephenson, J., Patel, D., Barrett, G., Howden, B., Copas, A., Ojukwu, O., ... Shawe, J. (2014). How Do Women Prepare for Pregnancy? Preconception Experiences of Women Attending Antenatal Services and Views of Health Professionals. *PLOS ONE, 9*(7), e103085. <https://doi.org/10.1371/journal.pone.0103085>

- Stewart, J. (2003). The World Food Programme's response to the Southern African humanitarian crisis: moving food: feature. *African Security Review*, 12(1), 17–27.
- Stonawski, M., Potančoková, M., Cantele, M., & Skirbekk, V. (2016). The changing religious composition of Nigeria: causes and implications of demographic divergence. *The Journal of Modern African Studies*, 54(3), 361–387.
- Stover, J., & Ross, J. (2010). How increased contraceptive use has reduced maternal mortality. *Maternal and Child Health Journal*, 14(5), 687–695.
- Swatzyna, R. J., & Pillai, V. K. (2013). The effects of disaster on women's reproductive health in developing countries. *Global Journal of Health Science*, 5(4), 106.
- Tajudeen, O. A., & Adebayo, F. O. (2013). Issues of refugees and displaced persons in Nigeria. *Journal of Sociological Research*, 4(1), 1.
- Tanabe, M., Myers, A., Bhandari, P., Cornier, N., Doraiswamy, S., & Krause, S. (2017). Family planning in refugee settings: findings and actions from a multi-country study. *Conflict and Health*, 11(1), 9.
- Tappis, H., Kazi, A., Hameed, W., Dahar, Z., Ali, A., & Agha, S. (2015). The role of quality health services and discussion about birth spacing in postpartum contraceptive use in Sindh, Pakistan: a multilevel analysis. *PloS One*, 10(10), e0139628.
- Tatah, L., Delbiso, T. D., Rodriguez-Llanes, J. M., Cuesta, J. G., & Guha-Sapir, D. (2016). Impact of refugees on local health systems: a difference-in-differences analysis in Cameroon. *PloS One*, 11(12), e0168820.

- Taylor, M. J., Hodgson, A., Tagbor, H., Kalilani, L., Ouma, P., & Pool, R. (2013). Factors Affecting Antenatal Care Attendance: Results from Qualitative Studies in Ghana, Kenya and Malawi.
- Tebekaw, Y., James Mashalla, Y., & Thupayagale-Tshweneagae, G. (2015). Factors influencing Women's preferences for places to give birth in Addis Ababa, Ethiopia. *Obstetrics and Gynecology International*, 2015.
- Tesfaye, G., Loxton, D., Chojenta, C., Semahegn, A., & Smith, R. (2017). Delayed initiation of antenatal care and associated factors in Ethiopia: a systematic review and meta-analysis. *Reproductive Health*, 14(1), 150.
- Tilahun, M., Mengistie, B., Egata, G., & Reda, A. A. (2012). Health workers' attitudes toward sexual and reproductive health services for unmarried adolescents in Ethiopia. *Reproductive Health*, 9, 19. <https://doi.org/10.1186/1742-4755-9-19>
- Toole, M. J., & Waldman, R. J. (1993). Refugees and displaced persons: war, hunger, and public health. *Jama*, 270(5), 600–605.
- Toole, M. J., & Waldman, R. J. (1997). The public health aspects of complex emergencies and refugee situations. *Annual Review of Public Health*, 18(1), 283–312.
- Tran, T. K., Nguyen, C. T., Nguyen, H. D., Eriksson, B., Bondjers, G., Gottvall, K., ... Petzold, M. (2011a). Urban-rural disparities in antenatal care utilization: a study of two cohorts of pregnant women in Vietnam. *BMC Health Services Research*, 11(1), 120.
- Tran, T. K., Nguyen, C. T., Nguyen, H. D., Eriksson, B., Bondjers, G., Gottvall, K., ... Petzold, M. (2011b). Urban-rural disparities in antenatal care utilization: a study

- of two cohorts of pregnant women in Vietnam. *BMC Health Services Research*, 11(1), 120.
- Tshitenge, S. T., Nlisi, K., Setlhare, V., & Ogundipe, R. (2018). Knowledge, attitudes and practice of healthcare providers regarding contraceptive use in adolescence in Mahalapye, Botswana. *South African Family Practice*, 60(6), 181–186.
- Tsui, A. O., Brown, W., & Li, Q. (2017). Contraceptive Practice in sub-Saharan Africa. *Population and Development Review*, 43, 166–191.
- Tsui, A. O., McDonald-Mosley, R., & Burke, A. E. (2010). Family planning and the burden of unintended pregnancies. *Epidemiologic Reviews*, 32(1), 152–174.
- Tunçalp, Ö, Were, W. M., MacLennan, C., Oladapo, O. T., Gülmezoglu, A. M., Bahl, R., ... Kristensen, F. (2015). Quality of care for pregnant women and newborns—the WHO vision. *BJOG: An International Journal of Obstetrics & Gynaecology*, 122(8), 1045–1049.
- Turyasiima, M., Tugume, R., Openy, A., Ahairwomugisha, E., Opio, R., Ntunguka, M., ... Odongo-Aginya, E. (2014). Determinants of first antenatal care visit by pregnant women at Community Based Education, Research and Service Sites in Northern Uganda. *East African Medical Journal*, 91(9), 317–322.
- Ugboaja, J. O., Oguejiofor, C. B., Oranu, E. O., & Igwegbe, A. O. (2018). Factors associated with the use of traditional birth attendants in Nigeria: A secondary analysis of 2013 Nigeria national demography and health survey. *The Nigerian Journal of General Practice*, 16(2), 45.
- Ukiwo, U. (2005). The study of ethnicity in Nigeria. *Oxford Development Studies*, 33(1), 7–23.

- Undie, C. C., Khosla, R., & Blanchet, K. (2017). Improving family planning service delivery in humanitarian crises.
- UNFPA. (1994). International Conference on Population and Development Programme of Action. New York: United Nations Fund for Population Activities.
- UNFPA. (2015). Maternal mortality in humanitarian crises and in fragile settings. United Nations: New York.
- UNICEF. (2017, 24March). UNICEF Nigeria Consolidated Emergency Report 2016. United Nations: New York.
- Unit, E. I. (2010). Country report. *Economist*.
- United Nations. (2000). Millenium Development Goals. New York: United Nations.
- United Nations. (2016). The Sustainable Development Goals. New York: United Nations.
- United Nations Office for the Coordination of Humanitarian Affairs. (2017, January 13). Nigeria: Humanitarian Needs Overview 2017. United Nations: New York.
- Unumeri, G., Ishaku, S., Ahonsi, B., & Oginni, A. (2015). Contraceptive use and its socio-economic determinants among women in North-East and North-West Regions of Nigeria: a comparative analysis. *African Population Studies*, 29(2).
- Urdal, H., & Che, C. P. (2013). War and gender inequalities in health: the impact of armed conflict on fertility and maternal mortality. *International Interactions*, 39(4), 489–510.
- Waiswa, P., Kallander, K., Peterson, S., Tomson, G., & Pariyo, G. W. (2010). Using the three delays model to understand why newborn babies die in eastern Uganda. *Tropical Medicine & International Health*, 15(8), 964–972.

- Waldman, R. J. (2001). Prioritising health care in complex emergencies. *The Lancet*, 357(9266), 1427–1429.
- Webb, L. M., & Wang, Y. (2014). Techniques for sampling online text-based data sets. In *Big data management, technologies, and applications* (pp. 95–114). IGI Global.
- Wencak, J. P. (2013). *Excess fertility and infant mortality in sub-Saharan Africa* (PhD Thesis). Bowling Green State University.
- Westoff, C. F., Bietsch, K., & Koffman, D. (2013). Indicators of trends in fertility in sub-Saharan Africa.
- Williamson, L. M., Parkes, A., Wight, D., Petticrew, M., & Hart, G. J. (2009). Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. *Reproductive Health*, 6(1), 3.
- Wilunda, C., Scanagatta, C., Putoto, G., Montalbetti, F., Segafredo, G., Takahashi, R., ... Betrán, A. P. (2017). Barriers to utilisation of antenatal care services in South Sudan: a qualitative study in Rumbek North County. *Reproductive Health*, 14(1), 65.
- Wood, E. J. (2006). Variation in sexual violence during war. *Politics & Society*, 34(3), 307–342.
- Wright, W. R. (1975). Mass media as sources of medical information. *Journal of Communication*, 25(3), 171–173.
- Wulifan, J. K., Jahn, A., Hien, H., Ilboudo, P. C., Meda, N., Robyn, P. J., ... De Allegri, M. (2017). Determinants of unmet need for family planning in rural Burkina Faso:

a multilevel logistic regression analysis. *BMC Pregnancy and Childbirth*, 17(1), 426.

Yadeta, T. A., & Kumsa, F. A. (2017). Awareness and health care practice of mothers' about obstetric danger signs at Haramaya District, Eastern Ethiopia. *J Fam Med Health Care*, 3(1), 23–29.

Yaya, S., Bishwajit, G., Ekholuenetale, M., Shah, V., Kadio, B., & Udenigwe, O. (2017a). Timing and adequate attendance of antenatal care visits among women in Ethiopia. *PloS One*, 12(9), e0184934.

Yaya, S., Bishwajit, G., Ekholuenetale, M., Shah, V., Kadio, B., & Udenigwe, O. (2017b). Timing and adequate attendance of antenatal care visits among women in Ethiopia. *PloS One*, 12(9), e0184934.

Yerima, H. M., & Singh, R. (2017). Insurgency in Nigeria: The perspectives on health care delivery to gender affected victims amongst IDPs. *IOSR Journal of Humanities and Social Science*, 22(5), 35–41.

Zamawe, C. O., Banda, M., & Dube, A. N. (2016). The impact of a community driven mass media campaign on the utilisation of maternal health care services in rural Malawi. *BMC Pregnancy and Childbirth*, 16(1), 21.

Zamawe, F. C. (2015). The implication of using NVivo software in qualitative data analysis: Evidence-based reflections. *Malawi Medical Journal*, 27(1), 13–15.

Zenn, J. (2014). Boko Haram and the kidnapping of the Chibok schoolgirls. *CTC Sentinel*, 7(5), 1–8.

APPENDIX 1

BARRIERS TO REPRODUCTIVE HEALTH SERVICES AMONG INTERNALLY DISPLACED WOMEN IN NORTHERN NIGERIA

FOCUS GROUP DISCUSSION

Section 1. Respondents Background

INTRODUCTION AND CONSENT INFORMED CONSENT

Greetings. My name is _____ and I am working with Popoola Titilope on her PhD research. We are conducting a focused group discussion on barriers to reproductive health services among Internally Displaced Women in Northern Nigeria. The information we collect will help the research to identify and examine barriers to reproductive health among Displaced Women in Northern Nigeria. This can help government to plan reproductive health services for displaced persons. You are selected to participate in this research. The questions usually take about 30 to 45 minutes. All the answers you give will be confidential and will not be shared with anyone other than members of the research team. You don't have to participate in this research, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

In case you need more information about the Focus Group Discussion (FGD), you may contact the following persons: **Contact Person:** Project Director; Email: Popoola.fisayo@yahoo.com; Phone: (+234) 08149489236. Do you have any questions? May I begin the interview now?

Signature of interviewer:

Date:

RESPONDENT AGREES TO BE INTERVIEWED... 1↓ RESPONDENT DOES NOT
AGREE TO BE INTERVIEWED ...→ END.

Section 1 : Background information of respondent:

- How old were you at your last birthday?
- What is the highest level of school you attended: primary, secondary, or higher?
- Do you read a newspaper or magazine at least once a week, less than once a week or not at all?
- Do you listen to the radio at least once a week, less than once a week or not at all?
- Do you watch television at least once a week, less than once a week or not at all?
- How long have you been in this camp?
- Are you currently married?
- How many children do you have?
- Which religious group do you belong?
- What do you do for a living?

Section 2. Condoms and Other Modern Contraceptive Use

- What types of condom are you familiar with?
- Are you using the condom because you want to space childbearing, prevent STIs or to stop childbearing permanently?
- Is there any other reason why you are using the condom?
- Can you explain how effective this condom is to avoid having more children/for the purpose being used?
- Where did you get your last condom?
- Can you explain how you were attended to when you visited a facility for family planning/ sterilization?
- Can you remember how often you use condoms and other modern contraceptive use?
- Can you give me examples of problems or any inconveniences you encounter during condom use?
- Why do you feel this is a problem?

"IF NOT USING"

- Can you explain to me why you don't use condoms and other modern contraceptive use?
- What is stopping you from using any modern contraceptives?
- What is your general perspective on modern contraceptives?

Section 3. Antenatal Care Services

- Did you attend antenatal care services (ANC) during your last pregnancy?
- How many times did you attend ANC services during your last pregnancy?
- What do you know about antenatal care services?
- Where did you access ANC services? At the health facility in camp or outside camp?
- How would you describe the services received when you visited the health facility for antenatal care services?
- Can you give me examples of problems you encountered during your antenatal care visits?
- Why do you feel this is a problem?
- What do you think should be done to solve this problem?

"IF NEVER ATTENDED"

- Why have did you stop attending ANC services .
- Why have you never attended ANC? (probe to know if participant is aware of ANC services)
- What is your general perspective on ANC services?

Section 4. Delivery Services

- What do you feel about delivering at the health facility?
- Where did you deliver you last baby?
- Why did you choose to deliver your last baby at your choice of place of delivery?
- If at the health facility, can you give me examples of problems you encountered during delivery?
- What was your experience during your last place of delivery?

- What don't you like about your last delivery at a health facility?
- What do you think should be done?
- How do you think the problem should be solved?

Section 5. Other Questions

- Of all the things we discussed, what do you think is most important?
- Who has a different perspective on that?
- Have we missed anything?

APPENDIX II

BARRIERS TO REPRODUCTIVE HEALTH SERVICES AMONG INTERNALLY DISPALCED WOMEN IN NORTHERN NIGERIA

QUESTIONNAIRE

IDENTIFICATION				
STATE				
LOCAL GOVT.AREA				
LOCALITY				
ENUMERATION AREA				
URBAN/RURAL				
STRATA NUMBER				
HOUSEHOLD NUMBER				
NAME AND LINE NUMBER OF WOMAN				
INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE				DAY
INTERVIEWER'S NAME				MONTH
				YEAR
				INT.NUMBER
RESULT*				RESULT
NEXT VISIT DATE				TOTAL NUMBER OF VISITS
TIME				
*RESULT CODES: 1 COMPLETED 4 REFUSED 2 NOT AT HOME 5 PARTLY COMPLETED 7 OTHER _____ 3 POSTPONED 6 INCAPACITATED (SPECIFY)				
HAUSA YORUBA IGBO ENGLISH OTHER LANGUAGE OF INTERVIEW 1 2 3 4 6 _____ (specify)				TRANSLATOR YES NO USED? 1 2
NATIVE LANGUAGE OF				

RESPONDENT		1	2	3	4	6 _____ (specify)	
SUPERVISOR		FIELD EDITOR			OFFICE EDITOR	KEYED BY	
NAME _____		NAME _____					
DATE _____		DATE _____					

ENGLISH

SECTION 1. RESPONDENT'S BACKGROUND

INTRODUCTION AND CONSENT

INFORMED CONSENT

Greetings. My name is _____ and I am working with Popoola Titilope on her PhD research. We are conducting a survey about barriers to reproductive health services among Internally Displaced Women in Northern Nigeria. The information we collect will help the research to identify and examine barriers to reproductive health among Displaced Women in Northern Nigeria. This can help government to plan health services for displaced persons. You are selected to take part in the survey. The questions usually take about 30 to 60 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of the research team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question and you feel you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

In case you need more information about the survey, you may contact the following person:

Contact Person: Project Director; Email: Popoola.fisayo@yahoo.com;
Phone: (+234) 08149489236

Do you have any questions?
May I begin the interview now?

Signature of interviewer:

Date:

RESPONDENT AGREES TO BE INTERVIEWED... 1↓ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED ... → END

NO	QUESTIONS AND FILTERS	CODING CATEGORIES
1.0	RECORD THE TIME.	WOUR
		MINUTE
1.1	How old were you at your last birthday?	Age in completed years

1.2	What is the highest level of school you attended: primary, secondary, or higher?	Never attended 1 Primary 2 Secondary 3 Higher 4
1.3	Do you read a newspaper or magazine at least once a week, less than once a week or not at all?	At least once a week 1 Less than once a week 2 Not at all 3
1.4	Do you listen to the radio at least once a week, less than once a week or not at all?	At least once a week 1 Less than once a week 2 Not at all 3
1.5	Do you watch television at least once a week, less than once a week or not at all?	At least once a week 1 Less than once a week 2 Not at all 3
1.6	What is your religion?	Catholic 1 Other Christian 2 Islam 3 Traditionalist 4 Other _____ 96 (SPECIFY)
1.7	What is your current marital status?	Never Married 1 Married 2 Living together 3 Divorced/separated 4

		Widowed	5
1.8	How long have you been in this camp?	Less than 1 year	1
		1-2 years	2
		2-3 years	3
		37-60 months	4

SECTION 2. REPRODUCTION

NO	QUESTIONS AND FILTERS	CODING CATEGORIES
2.0	Have you ever given birth in the last 5 years?	Yes 1 No 2
2.1	Have you given birth while residing in the camp?	Yes 1 No 2
2.2	Are you pregnant now?	Yes 1 ↓ (If "yes" proceed to 2.3) No 2 Unsure 3
2.3	How many months pregnant are you?	Months
2.4	When you got pregnant, did you want to get pregnant at that time?	Yes 1 No 2
2.5	Did you want to have a baby later because you are in camp or you did not want any (more) children?	Later 1 No more 2 Not sure 3
2.6	Have you ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth while in camp?	Yes 1 No 2

2.7	When did the last such pregnancy end?	Less than 4 weeks	1
		Month2	
		Year3	

SECTION 3. CONDOMS AND OTHER MODERN CONTRACEPTIVES

Now I would like to talk about condom use and any other modern contraceptive methods that a couple can use to delay or avoid a pregnancy.

Have you ever heard of (METHOD)?

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	
3.0	Have you heard of condom? Men can put a rubber sheath on their penis before sexual intercourse.	Yes1	No 2
3.0.1	Have you heard of female condom? Women can place a sheath in their vagina before sexual intercourse.	Yes 1	No 2
3.0.2	Have you heard of injectables? Women can have an injection by a health provider that stops them from becoming pregnant for one or more month	Yes 1	No2
3.0.3	Have you heard of implants? Women can have one or more small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	Yes 1	No 2
3.0.4	Have you heard of pill? Women can take a pill every day to avoid becoming pregnant.	Yes1	No2
3.0.5	Have you heard of female sterilization? Women can have an operation to avoid having more children	Yes 1	No2
3.0.6	Have you heard of male sterilization? Men can have an operation to avoid having more children	Yes 1	No 2
3.0.7	Have you heard of diaphragm? Women can place a thin flexible disk in their vagina before intercourse.	Yes 1	No 2
3.0.8	Have you heard of foam or Jelly? Women can place a suppository, jelly, or cream in their vagina before intercourse.	Yes 1	No 2
3.0.9	Have you heard of Lactational Amenorrhea Method (LAM).	Yes 1	No 2
3.0.10	Have you heard of emergency contraception? As an emergency measure, within three days after they have	Yes 1	

	unprotected sexual intercourse, women can take special pills to prevent pregnancy.	No 2
3.0.11	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	Yes _____ 1 (SPECIFY) No 2
3.0.12	Are you currently using condom to delay or avoid getting pregnant?	Yes 1 No 2
3.0.13	Are you currently doing something or using any method to delay or avoid getting pregnant while in camp?	Yes 1 No 2
3.1	Which method are you using? CIRCLE ONE OR MORE	Condom 1 Female condom 2 Female sterilization ↓ 3 (If "Female sterilization "proceed to 3.4) Male sterilization ↓ 4 (If "Female sterilization "proceed to 3.4) IUD 5 Injectibles 6 Implants 7 Pill 8 Diaphragm 9 Foam/Jelly 10 Lactational amen. Method 11 Other modern method 12 ↓ (If "IUD, injectibles, implants, pills, diaphragm, foam/jelly, lactational amen. method, other modern method" proceed to 3.6)
3.2	How do you get access to condoms use?	I bought it myself 1

		<p>It is always given free in the camp²</p> <p style="text-align: center;">↓</p> <p>(If "free" proceed to 3.3)</p> <p>I normally get it from my partner³</p> <p>Others _____96</p> <p style="text-align: center;">(SPECIFY)</p>
3.3	Who provides access to free condom usage?	<p>Government 1</p> <p>Humanitarian organization 2</p> <p>Religious groups 3</p> <p>Private health centers 4</p> <p>Others _____ 96</p> <p style="text-align: center;">(SPECIFY)</p>
3.4	In what facility did the sterilization take place?	<p>Government Facility in camp 1</p> <p>Private own facility in camp 2</p> <p>Public sector(facilities outside camps) 3</p> <p>Private medical sector (facilities outside camps) 4</p> <p>Other96</p> <p style="text-align: center;">(SPECIFY)</p> <p>Don't know.98</p>
3.5	In what month and year was the sterilization performed?	<p>Month</p> <p>Year</p>
3.6	<p>Since what month and year have you been using (CURRENT METHOD) without stopping?</p> <p>PROBE: For how long have you been using (CURRENT METHOD) now without stopping?</p>	<p>Month</p> <p>Year</p>
3.7	Any birth or pregnancy termination after month and year of start of use of	Yes

	<p>contraception</p> <p>PROBE AND RECORD MONTH AND YEAR AT START OF CONTINUOUS USE OF CURRENT METHOD (MUST BE AFTER LAST BIRTH OR PREGNANCY TERMINATION).</p>	No
3.8	<p>You first started using (CURRENT METHOD) in (DATE FROM 3.6). Where did you get it at that time?</p>	<p>Government facility in camp 1</p> <p>Private own facility in camp 2</p> <p>Public sector(facilities outside camps) 3</p> <p>Private medical sector (facilities outside camps) 4</p> <p>Other96 (SPECIFY)</p> <p>Don't know98</p>
3.9	<p>Where did you learn how to use the rhythm/lactational amenorrhea method?</p> <p>PROBE TO IDENTIFY THE TYPE OF SOURCE. (SPECIFY)</p> <p>IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR</p>	<p>Government Facility in camp 1</p> <p>Private own facility in camp 2</p> <p>Public sector (facilities outside camps) 3</p> <p>Private medical sector (facilities outside camps) 4</p> <p>Other96 (SPECIFY)</p> <p>Don't know98</p>
3.10	<p>Where did you obtain (CURRENT METHOD) the last time?</p> <p>PROBE TO IDENTIFY THE TYPE OF SOURCE.</p> <p>IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE.</p> <hr/> <p>(NAME OF PLACE)</p>	<p>Government Facility in camp 1</p> <p>Private own facility in camp 2</p> <p>Public sector (facilities outside camps) 3</p> <p>Private medical sector (facilities outside camps) 4</p> <p>Other96 (SPECIFY)</p> <p>Don't know98</p>
3.11	<p>Do you know of a place where you can</p>	<p>Yes1</p>

	obtain a method of family planning?	No2
3.12	Where is that? Any other place?	Public sector 1 Private sector 2 Others ----- 96 (SPECIFY)
3.13	What was the attitude of the health care provider towards you when you obtained current method?	Good 1 Bad 2
3.14	In the last 12 months, have you visited a health facility for care for yourself (or your children)?	Yes 1 No 2
3.15	Did any staff member at the health facility speak to you about family planning methods?	Yes 1 No 2
3.16	How long was the distance to the place where you obtained your current method?	Within 1 km 1 Within 1-5 kms 2 More than 5kms 3

SECTION 4. PREGNANCY AND ANTENATAL/DELIVERY/ POSTNATAL CARE

NO	QUESTIONS AND FILTERS	CODING CATEGORIES
4.0	When you got pregnant with your last child, did you want to get pregnant at that time?	Yes1 No 2
4.1	Did you want to have a baby later on because you are displaced presently, or did you not want any (more) children?	Later ↓ 1 (If "later" proceed to 4.2) No more 2
4.2	How much longer did you want to wait?	Month 1 Years 2 Don't know98
4.3	Did you see anyone for antenatal care for your last pregnancy?	Yes1 NOTE: (Pregnancy between now and the last 5years).

		↓ (If "yes" proceed to 4.4)
		No2
4.4	Whom did you see? Anyone else?	HEALTH PERSONNEL Doctor 1 Nurse/midwife. 2 Auxiliary midwife.....3 Community extension Hlt. worker 4 OTHER PERSON Traditional birth attendant Community/village health..... 5 Worker..... 6 Other96
4.5	Where did you obtain antenatal care services the last time? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	Government Facility in camp 1 Private own facility in camp 2 Public sector (facilities outside camps) Private medical sector (facilities outside camps) 4 Other 96 (SPECIFY) Don't know 98
4.6	How many months pregnant were you when you first received antenatal care for last pregnancy?	Months Don't know
4.7	How many times did you receive antenatal care during your last pregnancy?	Number of times Don't know
4.8	Did the number of times you received antenatal care during last pregnancy was influenced because of you being displaced?	Yes 1 No 2
4.9	As part of your antenatal care during past pregnancy, were any of the following done at least once: Was your blood pressure measured? Did you give a urine sample? Did you give a	Yes No BP 1 2

	blood sample?	URINE 1 2
		BLOOD 1 2
4.10	During (any of) your antenatal care visit(s), were you told about things to look out for that might suggest problems with the pregnancy?	Yes 1 No 2 Don't know 98
4.11	Were you diagnosed with any pregnancy complications?	Yes 1 No 2 Don't know 98
4.12	Were you able to access antenatal care service in the camp?	Yes 1 No 2 Don't know 98
4.13	How long was the distance to the nearest health facility where you received antenatal care services?	Within 1 km 1 Within 1-5 kms 2 More than 5kms 3
4.14	Did you get any drugs during any antenatal care visit, during another visit to a health facility or from another source?	Antenatal visit 1 Another facility visits 2 Other _____ 96 (SPECIFY)
4.15	What was the attitude of the health care provider towards you during antenatal care visits?	Good 1 Bad 2

Now I would like to talk about Place of Delivery

4.16	Where did you give birth to your last baby? PROBE TO IDENTIFY THE TYPE OF SOURCE.	Tertiary health institution 1 General hospital 2 Primary healthcare center
------	--	--

		3 Faith based health facility 4 Private health facility 5 Health center 6 On her way to hospital 7 At home/in her tent 8 Don't know 98
4.17	Who assisted with the delivery of your last baby? Anyone else?	HEALTH PERSONNEL (If selected any proceed to 4.18) Doctor.....1 Nurse/Midwife.....2 AuxiliaryWife3 Community extensionHLT. Worker.....4 OTHER PERSON (If selected any proceed to 4.19) Traditional birth attendant.....5 Relative/Friend.....6 Other..... 7 No one assisted..... .8
4.18	What was the attitude of the health care provider towards you during your last delivery at the health facility?	Good 1 Bad 2
4.19	Why did you not deliver your last baby in a health facility? PROBE: Any other reason? RECORD ALL MENTIONED.	Cost too much 1 Facility not open 2 Too far/ no transportation. 3 Don't trust facility/poor

		Quality service 4 No female provider At facility..... 5 Camp officials did not allow..... 6 Not necessary 7 Not customary. 8 No time because Baby came suddenly 9 Other..... 96 (SPECIFY)
4.20	Did you encounter any complications during your last delivery? (TICK ONE OR MORE BOXES)	Hemorrhage 1 Infections 2 Pre-eclampsia/Eclampsia 3 Prolonged labour 4 Obstructed labour 5 Others 96 (SPECIFY)
4.21	Did you have access to referrals to another hospital because of this complications?	Yes 1 No 2

Now I would like to talk about Post-Natal Care		
4.17	I would like to talk to you about checks on your health after last delivery, for example, someone asking you questions about your health or examining you. Did anyone check on your health while you were still in the facility?	Yes 1 No 2
4.18	Did anyone check on your health after you left the facility?	Yes 1 No 2
4.19	Who checked on your health at that time?	HEALTH PERSONNEL

	PROBE FOR MOST QUALIFIED PERSON.	Doctor1.1 Nurse/Midwife. 1.2 Auxiliary midwife 1.3 Community extension HLT. Worker1.4 OTHER PERSON Traditional birth Attendant.2.1 Community/village health Worker 22 Other..... 96 (SPECIFY)
4.20	How long after delivery did the first check took place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	Hours1 Days2 Weeks3 Don't know98
4.21	In the first two months after delivery, did you receive a vitamin drug?	Yes1 No 2 Don't know 98

SECTION 5. NATURE OF REPRODUCTIVE HEALTH SERVICES AVAILABLE IN THE CAMP

5.0	What are the services available in the camp to provide for condoms and other modern methods of contraceptive use?	Condom 1 Female condom 2 Female sterilization 3 Male sterilization 4 IUD 5 Injectibles 6 Implants 7
-----	---	---

		<p>Pill 8</p> <p>Diaphragm 9</p> <p>Foam/Jelly 10</p> <p>Lactational amen. Method 11</p> <p>Other modern method 12</p>
5.1	<p>During (any of) your antenatal care visits(s), were you able to experience any of the services available for rapid assessment and management for emergency signs, receive appropriate treatment and refer to hospital if needed?</p>	<p>YES NO</p> <p>History (ask, check records) 1 2</p> <p>Examination (look, listen, feel) Of any kind of pregnancy Complications 1 2</p> <p>Screening and tests of Hemoglobin, Syphilis, HIV, Proteinuria, blood and bacteriuria 12</p> <p>Treatments of any kind of pregnancy complications 1 2</p> <p>Preventive measures of any kind of pregnancy complications 1 2</p> <p>Health education, advice and counselling towards self-care 1 2</p>
5.2	<p>Did the health providers communicate with you (and your companion) in a good way?</p>	<p>YES NO</p> <p>Make the woman (and her companion) feel welcome and respected 1 2</p> <p>Ensure a private place for examination and counseling 1 2</p> <p>Explained to the woman what a prescribed and recommended treatments and preventive</p>

		measures mean for the woman and/or her baby 1 2
5.3	Did you deliver in the camp?	Yes ↓ 1 (If "YES" proceed to 5.4) No 2
5.4	Did you deliver in a health facility?	Yes ↓ 1 (If "YES" proceed to 5.5) No 2
5.5	How far do you think the health facility is to your place of living?	Within 5 km 1 Within 10km 2 Don't know 3
5.6	During delivery were you attended to by a skilled health care professional(s)?	Yes ↓ 1 (If "YES" proceed to 5.7) No 2
5.7	Were you referred to a hospital during delivery?	Yes 1 No 2
5.8	Were you explained to why delivery needs to be at referral level?	Yes ↓ 1 (If "YES" proceed to 5.9) No 2
5.9	Why were you referred to the hospital?	Pregnancy induced complications 1 Syphilis 2 HIV 3 Cough or breathing difficulty 4 Other _____ 5

		(SPECIFY)	
5.10	Were you driven by in an ambulance/a standby car/another means arranged by the health facility? REFERRE BACK TO 5.7	Yes ↓ (If "YES" proceed to 5.11)	1
		No	2
5.11	Did you pay any financial fee on the means of transportation during your referral?	Yes	1
		No	2
5.12	Where you escorted by a skilled health care provider? REFERRE BACK TO 5.9	Yes	1
		No	2
5.13	Was there a follow -up for the specific condition that initiated referral? REFERRER TO 5.7	Yes	1
		No	2
5.14	During your antenatal care visits did the health provider inform you of Postnatal care services	Yes	1
		No	2
5.15	Were you examined with any medical instruments on your visit for postnatal care	Yes	1
		No	2
5.16	How long did it take you to wait before you were examined by a health provider on your visit for postnatal care	Minutes	
		Hours	
5.17	Were you counseled (for non-breastfeeding woman) on modern method options useable immediately postpartum?	Yes	1
		No	2
5.18	Where you counseled to use any of the following?	Condoms	1
		Oral contraceptives	2
		Injectibles	3
		Implant	4
		Spermicide	5
		Female sterilization	6

		Copper IUD	7
5.19	Were you counseled (for breastfeeding woman) on modern method options useable immediately postpartum?	Yes	1
		No	2
5.20	Where you counseled to use any of the following?	Condoms	1
		Lactational amenorrhea method (LAM)	2
		Spermicide	3
		Female sterilization (within 7 days or delay 6 weeks)	4
		IUD	5

INTERVIEWER'S OBSERVATIONS
TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF SUPERVISOR _____ DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR: _____
Appdix

DATE: _____