

Women's Reproductive Health in Liberia

* * *

The Lofa County Reproductive Health Survey

January–February 2007

Women's Reproductive Health in Liberia

* * *

The Lofa County Reproductive Health Survey

January–February 2007

Report Authors:

Basia Tomczyk¹, DrPH, MS, RN

Geetor Saydee², PhD

Howard Goldberg¹, PhD

Priya Marwah², MS

Curtis Blanton¹, MS

Elisabeth Rowley³, MPH

Rose Gakuba², MS

A collaboration between the:

¹US Centers for Disease Control and Prevention,

²United Nations Population Fund,

³JSI Research and Training Institute, Inc.

United States Agency for International Development,

International Rescue Committee,

American Refugee Committee, and

The Liberian Institute for Statistical and Geo-information Services (LISGIS)

With funding provided by the:

United Nations Population Fund

and

United States Agency for International Development

Contents

	Page
Tables	v
Figures	ix
EXECUTIVE SUMMARY	xi
1. INTRODUCTION	1
1.1 Conflict	1
1.2 Transitional Years	1
1.3 Purpose of the Survey	4
2. OBJECTIVES OF THE SURVEY	5
3. METHODOLOGY	5
3.1 Sample Design	6
3.1.1 Sampling Frame	6
3.1.2 Sample Size Calculation	7
3.1.3 Selection of Clusters	7
3.1.4 Selection of Households	8
3.1.5 Selection of Women	9
3.2 Survey Personnel and Training	9
3.3 Components of the Questionnaire	10

3.4	Human Subjects	12
3.5	Data Quality, Control, and Analysis Plan	13
4.	FINDINGS	13
4.1	Background Characteristics	14
4.1.1	War-affected Characteristics	20
4.2	Maternal Health	21
4.2.1	Prenatal Care	21
4.2.2	Delivery Care	27
4.2.3	Post partum Care	29
4.3	Contraception	31
4.4	Violence	34
4.4.1	War-related Injury, Disability and Death	34
4.4.2	Physical and Sexual Violence	35
4.4.3	Intimate Partner Violence	43
4.5	HIV/AIDS Knowledge, and Behavior	45
5.	DISCUSSION	48
6.	CONCLUSIONS	56
7.	RECOMMENDATIONS	57
8.	REFERENCES	61

APPENDIX A—MAPS OF LIBERIA AND LOFA COUNTY	A-1
APPENDIX B— LIST OF VILLAGES INCLUDED IN THE SURVEY	B-1
APPENDIX C—QUESTIONNAIRE	C-1
APPENDIX D— SURVEY STAFF	D-1

List of Tables

Reproductive Health Survey, Lofa County Liberia, January–February, 2007

Table 1. Percentage distribution of the number of persons in households (hh) with at least one eligible woman, average number of persons per household, number of WRA, average number of WRA per household and number of households with female head of households by residence	15
Table 2. Percentage distributions of general characteristics of eligible women with completed interviews by residence	16
Table 3. Percentage distributions of general characteristics of eligible women with completed interviews by residence cont'd	18
Table 4. Percentage distributions of general characteristics of eligible women with completed interviews by status of house, toilet facility, source of water, employment status and SES index	19
Table 5. Percentage distributions of war-affected characteristics by residence	21
Table 6. Timing of prenatal care (PNC) all pregnancies ending in stillbirth or live birth for past six years	22
Table 7. Percentage distributions of the number of prenatal visits of all pregnancies ending in stillbirth or live birth where women reported any PNC	22
Table 8. Percent of women receiving selected information or services as part of prenatal care during most recent pregnancy leading to a live birth or stillbirth in the previous 6 years	24
Table 9. Primary place of prenatal care during pregnancies leading to a live birth or stillbirth in the	

previous 6 years	24
Table 10. Primary reason for not receiving prenatal care during pregnancies leading to a live birth or stillbirth in the previous 6 years	25
Table 11. Percent of women experiencing selected complications during pregnancies leading to a live birth or stillbirth in the previous 6 years and percent seeking help for complications	26
Table 12. Place of treatment for reported complications during pregnancies leading to a live birth or stillbirth in the previous 6 years	27
Table 13. Percent of pregnancies in which women had malaria symptoms among pregnancies resulting in a live birth or stillbirth in the previous 6 years and percent of those with symptoms who were treated	27
Table 14. Percentage distributions of the place where deliveries took place of all pregnancies resulting in a live birth or stillbirth in the previous 6 years	28
Table 15. The reported person who assisted with deliveries, pregnancies resulting in a live birth or stillbirth in the previous 6 year	28
Table 16. Percent of women mentioning selected complications during labor and delivery for most recent pregnancies leading to a live birth or stillbirth in the previous 6 years and percent of women with complications seeking help	29
Table 17. Women who had a post partum check from a health worker or facility or no post partum check in the 6 weeks following delivery among pregnancies resulting in a live birth or stillbirth in	29

the previous 6 years

Table 18. Percent of women receiving selected information or services as part of post partum check during most recent pregnancy leading to a live birth or stillbirth in the previous 6 years	30
Table 19. Percent of women mentioning selected complications during the 6 weeks following delivery for most recent pregnancies leading to a live birth or stillbirth in the previous 6 years and percent of women with complications seeking help	31
Table 20. Where women sought help for post partum complications among the most recent pregnancies resulting in a live birth or stillbirth in the previous 6 years	31
Table 21. Percentage of women in union or living with a partner aged 15-49 who are currently using contraceptives by specific methods and residence	32
Table 22. Percent distribution of women in union or living with a partner who are currently using contraceptives by source of supply, use of condom in addition to current method, percentage with a problem or concern with method	33
Table 23. Primary reason for not using contraceptive methods by age groups 15 to 24 and 25 to 34 and 35 to 49 years of age	34
Table 24. Prevalence of violence during two time periods by perpetrators other than domestic partner by age, residence, socioeconomic index and education level	36
Table 25. Percentage of types of physical and sexual violence by two time periods during the most recent conflict, 1999-2003 and post-conflict within the last year	38

Table 26. Percentage of frequency of violence incidents during the most recent conflict, 1999-2003	40
Table 27. Location of outsider physical and sexual violence by two time periods during the most recent conflict, 1999-2003 and post-conflict within the last year	42
Table 28. Self-reported injuries, help-seeking behavior and medical complications, by the most recent conflict from 1999-2003	42
Table 29. Women who sought medical care for sexual violence; by the most recent conflict from 1999-2003	43
Table 30. Intimate partner violence by type of violence, physical or sexual, and by residence and education level	44
Table 31. Self-reported injuries, help-seeking behavior, medical complications, pregnancy outcomes and reporting patterns related to the violence by IPV	45
Table 32. Sexual behavior and condom use by two age groups 15-24, and 25-49	46
Table 33. Knowledge, attitudes and perception of contracting HIV by two age groups 15-24, and 25-49	47
Table 34. Most frequent source of information about HIV/AIDS by age groups, 15-24 and 25-49	48

List of Figures

Reproductive Health Survey, Lofa County Liberia, January–February, 2007

- Figure 1. Weighted number of women who had injuries, disabilities or deaths in their households from 1999-2003 35
- Figure 2. Percent distribution of aggregated data for physical and sexual violence by two time periods during the most recent conflict, 1999-2003 and post-conflict within the last year 39
- Figure 3. Percent distribution of perpetrators of physical and sexual violence by two time periods during the most recent conflict, 1999-2003 and post-conflict within the last year 41

Executive Summary

Introduction

The protracted and 14 year long war that concluded in Liberia in 2003 left the country with economic, political, and socio-cultural problems that will take decades to repair. The war's devastation particularly affected public health care, which suffered almost-complete deterioration. The focus of this survey is the postwar condition of women's reproductive health in Lofa County, Liberia. The survey, which is the first population-based survey since 1999, documents poor reproductive health outcomes in Liberia.

Survey goal

This survey collected population-based data on reproductive health (RH) indicators during the post-conflict/transitional years in Lofa County Liberia. The survey goal is to highlight the critical need to continue funding and building programs during a time when traditional humanitarian aid has ceased and development has not yet begun, leaving the population without essential public health services.

Data linked to public health action

The U.S. Centers for Disease Control and Prevention is collaborating with the Reproductive Health Response in Conflict Consortium (RHRC) Capacity Building Program to strengthen reproductive health outcomes among conflict-affected populations in Liberia. The project plans to use the data collected through the RH survey to build capacity among national health care providers and organizations in Liberia.

For the past 12 years, consortium member JSI Research & Training Institute has managed the RHRC Capacity Building Program. The purpose of the Capacity Building Program in Liberia is to support and encourage national and local nongovernmental organizations (NGOs) to offer reproductive health services to—or plan RH interventions for—populations affected by conflict.

Through approximately four small grants to local organizations, the program will support initiatives in the areas of safe motherhood, family planning, HIV/AIDS, and gender-based violence. To optimize RH services local institutions have targeted for Lofa County, the program will also provide training, technical support, and monitoring and evaluation. This support focuses on strengthening the quality of programming and technical issues, as well as on organizational and institutional development. A major component of the project is to strengthen links between the humanitarian aid and development communities, thus facilitating Lofa County's transition from RH emergency response to development.

Methods

A sample of 36 primary sampling units (PSU) consisting of enumeration areas (EA) was selected from a sampling frame of place codes compiled in 2005, which is available from the Humanitarian Information Center for Liberia. For the purpose of this survey the following domains were utilized: (1) Voinjama, Foya, Zorzor and Salayea districts; and (2) urban and rural areas separately.

The sample for the survey was selected in three stages. In the first stage, 36 EAs were selected with probability proportional to size. Within each EA, a complete household listing and mapping exercise was conducted for the second-stage sampling. For the third-stage sampling, all women of reproductive age (WRA) by household were listed, and one was randomly selected.

The overall target sample was 1188, based on a design effect of 1.7, nonresponse rate of 10%, prevalence of HIV/AIDS knowledge of 50%, a 95% Confidence interval ($\alpha=0.05$) width of ± 6.5 percentage points. The sample size of 430 was increased to 935 (430/.46) to accommodate estimates of 46% of the population who lived in urban areas. Villages were increased from 30 to 36 to accommodate for inaccessible villages, and the number of households selected per village was increased from 30 to 33 to compensate for five villages with fewer than 33 households.

The questionnaire measured five parameters: (1) background characteristics; (2) maternal health; (3) contraception; (4) violence during conflict, post-conflict, and intimate partner violence; and (5) HIV/AIDS knowledge, attitudes, and risk behaviors. The pretested questionnaire was written in English and administered face-to-face in Liberian English, Lorma, Mandingo, Kissi, or Kpelleh. Training of all-female staff was conducted over 6 days. Field supervision lasted throughout the duration of the survey, which commenced on January 23 and ended on February 7, 2007. The staff completed 907 interviews.

All questionnaires were returned for data processing, which consisted of office editing, data entry, and editing of computer identified errors. All data were entered into the Integrated Microcomputer Processing System (IMPS) version 3.1. Data analysis was conducted at CDC using SAS-callable SUDAAN (version 9.01). Estimates were weighted based on the probability of selection of the household and the number(s) of WRA in each household.

Key findings

Background characteristics: The average household size was 5.9 persons. Over one-third of women sampled at the time of the survey were female heads of households. Lack of education and illiteracy is common, and unemployment is high. Many war-torn households are undergoing reconstruction. Access to clean water and sanitation services is almost universally unavailable. Most women had been affected by war in more than one way. For example, 96% had been displaced, with an average 3.1-year displacement period. More than 98% had lost shelter, 90.8% had lost livelihood, and 72.8% had lost a family member due to the war.

Maternal Health Care: For nearly one-fourth of all reported pregnancies in the past 6 years, women did not receive any prenatal care. A larger proportion of women (35.8%) who did not receive prenatal care lived in rural areas compared to urban areas (11.4%). Of the women who reported pregnancies in the past 6 years, only 39.4% initiated prenatal care (PNC) in the

first trimester. In addition, a little over one-half of those women had four to six prenatal care visits. The principal source of prenatal care was a medical facility, either a hospital or a health clinic. Overall, most of the women who had attended prenatal care clinics had received some information about nutrition during pregnancy (73.1%), breastfeeding (77.2%), and delivery (74.6%); over one-half received information about the negative effects of smoking and alcohol (53.2% and 54.9%, respectively) and 43.4% of the women received information on early warning signs of complications during pregnancy.

About one-half were informed about postnatal care. Almost all women who had recently given birth (92.9%) had their blood pressure checked, and about 84.7% had received a tetanus toxoid vaccine. Of the 161 reported pregnancies who did not receive PNC, the main reasons for not obtaining care were

- 92.2% who said no health care provider was available,
- 63.4% who said the distance to a health center was too far,
- 40.8% who could not pay for services, and
- 39% who stated that no transportation was available.

More than 75% of women with recent births reported complications during pregnancies, and approximately one-fifth of them did not seek medical help. A majority of women with recent pregnancies reported signs and symptoms of malaria (85.7%), and about one-fifth of those did not receive any treatment. Almost half of all recent births (47.6%) occurred at home, without the assistance of a skilled medical attendant. Of the most recent pregnancies reported by women, a total of 28.1% did not receive postnatal care. A large proportion of the women interviewed (61%) reported postpartum complications.

Contraception: At the time of the survey, the contraceptive prevalence rate was reported as 6.8% and has remained essentially unchanged since 1986.¹⁰ Lofa County also experienced a considerable unmet need for family planning services. Overall, 32.6% of currently married women are in need of services. Therefore, if all women who want contraception were to use it, the prevalence rate could potentially increase to 37.3%.

Violence: In recent years, physical and sexual violence have been recognized as important public health issues. The violence-related data gathered from this survey are likely to underestimate the true population prevalence. This survey gathered data on violence during the most recent conflict (1999–2003) and in the post-conflict period (i.e., since the elections of 2005) by perpetrators outside the family, as well as exposure to intimate partner violence at any time during a respondent's lifetime. More than half of the women interviewed (58.9%) reported at least one sexually violent incident during the most recent conflict, and almost 90% reported at least one physical violation. Rebel group members were the most frequently reported perpetrators of violence.

Interviewers also gathered data on frequency of violence; almost half of the women reported more than four instances in which they were compelled to have sex for favors. Most of the violence occurred in the women's home villages or while they were traveling by road. More than a third of the women surveyed sustained a physical injury from war-related violence. During the past year, violence by outside perpetrators showed lower prevalence (e.g., sexual violence, 2.8% and physical violence, 6.1%), a neighbor the most frequent perpetrator, and the location was predominantly in the village. The data showed that 61.5% of women had been exposed to intimate partner violence at some point in their lives. A larger proportion of women had sustained physical violence (60.6%) compared to sexual violence (32.8%). Of these women, one-fifth reported physical injuries, and 22% required medical treatment.

HIV/AIDS knowledge, attitudes and behavior: Results indicate that 14.5% of respondents showed comprehensive knowledge of prevention and transmission of HIV/AIDS. Safe patterns of sexual behavior are less commonly reported. The most frequent source of HIV/AIDS information is the radio. That said, however, few women had ever accessed services for voluntary counseling and HIV testing.

Conclusion

The Lofa County 2007 Reproductive Health survey showed that in general, Liberian women are characterized by poor reproductive health indicators, such as lack of use of contraceptives, lack of skilled medical professionals to assist during delivery, high rates of physical and sexual violence during the war and during intimate partner violence, little knowledge of HIV/AIDS prevention, and little knowledge of HIV/AIDS transmission associated with high-risk behavior.

The single most important intervention needed is improved access to and availability of reproductive health services. Moreover, the government of Liberia, UN agencies, and international and local nongovernmental agencies need to broaden and support those services.

The RH indicators documented in this survey show that an immediate and sustained response is required to address the magnitude and scope of the many interrelated health needs of Liberian women. Primary, secondary, and tertiary public health interventions could help mitigate both personal and environmental risk factors and could help Liberian women achieve improved health outcomes for themselves and their families.

1. Introduction

Women in Liberia today face a reproductive health crisis. It is a direct result of the recently concluded 14-year Liberian civil war from 1989–2003, the effects of which will remain with the Liberian people for decades. The war caused the almost-complete destruction of the country's health infrastructure, virtually eliminating public health services for Liberian women and their families. Yet this is only one example of the havoc inflicted on the Liberian people. During the war torture, systematic rape and sexual violence, burning of villages, use of child soldiers, massacre, mutilation, and ritual murder were commonplace. From Liberia's prewar population of about 2.8 million, some estimate that between 200,000 and 300,000 were killed, about 800,000 fled the country, and 1.1 million became internally displaced.¹

1.1. Conflict

The Liberian civil war created a major humanitarian crisis throughout the country. This crisis was characterized by destruction of most of the nation's infrastructure, high unemployment, widespread poverty, and a government struggling to resettle and reintegrate of as many as half the country's population. In addition to the urgent need for basic services such as water, sanitation, and education, the crisis created an extreme scarcity of health services. During the war many health care facilities were destroyed, and those health facilities that survived now lack equipment, medical staff, and resources.² According to Liberia's recent National Human Development Report, the country's health systems are in ruins—health facilities are 95 percent destroyed, and from a prewar level of 400 trained government doctors, at war's end in 2003, fewer than 20 remained.³

1.2. Transitional years

Cessation of hostilities, followed by 1) the August 2003 Comprehensive Peace Agreement (CPA), and 2) the October/November 2005 democratic elections, brought relative stability to

Liberia. Multilateral agencies viewed these two developments as signals to change their activities in Liberia from emergency humanitarian response to development. The period immediately following the emergency phase, during which the agencies began to shift their focus to development, is now known as the transitional-years phase. During this phase, programs and policies will remain intact while needs assessments and analyses will lay the groundwork for long-term strategies. Yet a main concern among humanitarian agencies is that a lack of financial and technical resources will prevent the responses the transitional years require. This concern extends to the population, which remains dependent on humanitarian aid for health services. Thus because of a lack of resources, the development activities that should characterize the transitional-years phase are nonexistent; indeed, most humanitarian agencies consider that because of the absence of both human resources and a functioning public health system, most of the country has not yet moved to the transitional phase, but remains in an emergency phase.⁴

A lack of health information, as well as the absence of quantitative data, continuously hobbles public health activities that should occur during a transitional-years phase. Data deficits prevent agencies from making optimal programmatic decisions and prevent government ministers from making informed policy decisions. Population-based surveys are, however, one means of addressing this transitional-years health information gap. Particularly in a post-conflict setting such as Liberia, the availability of reliable population-based data is critical because 1) such information provides decision makers with an overview of the health situation, 2) health data collected from outpatient or inpatient records only reflects the health status of those who have access to care—in Liberia, this is a very small segment of the population, and 3) given that only prewar data are available, little is known about the population's current health status. Although the need to build and repair health facilities throughout Liberia is urgent, planning and

implementing community-based public health programs that have the potential for a broader impact is equally important, particularly among the most vulnerable of the population.

Also, as is true in most war-ravaged countries, women and children comprise the largest part of the most vulnerable populations in Liberia. For example, women were an estimated 50% to 80% of the displaced Liberian population during the civil war years, and some estimates suggest that during the conflict, 40% of all women in the country were raped.⁵ Moreover, estimates of key RH indicators are among the worst in the world. The infant mortality rate is about 157 deaths per 1000 live births (2005) and the maternal mortality ratio is 760 deaths per 100,000 live births (2000, adjusted).⁶ Factors most likely to contribute to these high rates are lack of prenatal care, lack of skilled birth attendants, and no access to emergency obstetric care or postnatal care to treat hemorrhage, hypertension, or infection. Complications of pregnancy and childbirth such as sepsis, hemorrhage, or malaria are also common. High-risk pregnancies, such as those to women who

- are at an advanced age,
- are very young and have an immature pelvis,
- have high parities, or
- have pregnancies close together,

are known to have an increased likelihood of adverse outcomes. Yet these potentialities can be addressed through, for example, improved access to, and availability of, contraception.

Additionally, women and adolescents, especially those who during times of crisis are forced to have sex in exchange for commodities, are at increased risk of sexually transmitted infections, HIV/AIDS, and traumatic fistula.⁷ Finally, other forms of abuse that result in physical and psychological injuries, such as domestic violence, can occur anytime throughout a woman's life.

Some of the challenges to addressing poor RH outcomes include weak or nonexistent surveillance systems, inaccurate and poorly timed diagnosis of RH problems, lack of adequate drugs and treatment, and lack of access to health care services, to trained health care professionals, or to both. Targeted public health interventions can, however, prevent most of these negative reproductive-health outcomes. Such interventions should include multidisciplinary and multisectorial approaches, capacity building, and national and international partnerships. Still, as mentioned previously, timely and high quality data are needed before making decisions to initiate these interventions.

1.3. Purpose of the Survey

The goal of this survey is to characterize and describe RH indicators among Liberian women of reproductive age (WRA) and, in collaboration with partners, to translate the findings from the survey into targeted RH programs and services. CDC partnered with UNFPA to implement the RH survey. UNFPA is mandated to provide reproductive health services in Liberia and is one of the main actors to work with partner agencies and to implement any recommendations and follow up emerging from the RH survey report. In addition, CDC approached UNFPA to provide the necessary logistic, financial, and technical capacity required to conduct the survey. CDC also developed a partnership with the Reproductive Health Response in Conflict Consortium (RHRC) Capacity Building Program, which is managed by consortium member JSI Research and Training Institute (JSI). This partnership was to support and encourage national and local nongovernmental organizations (NGOs) to institutionalize reproductive health in conflict-affected settings and to use survey data to plan appropriate interventions. This latter goal is accomplished through the small grants program, which will use the data from this survey to assist local agencies in designing targeted RH interventions in Lofa County and other communities in Liberia. CDC's partnership with JSI and UNFPA will strengthen links between

the humanitarian aid and development communities and will facilitate the transition from emergency response to transitional-years development.

2. Objectives

The objectives of this study in Lofa County were to

- estimate the prevalence of contraceptive use and unmet need for contraception;
- document the proportion of women who received appropriate health services in conjunction with recent pregnancies, including prenatal care, skilled attendance at delivery, and postnatal care;
- document the scope and magnitude of violence and its consequences on health outcomes;
- estimate morbidity and mortality due to war-related injury;
- estimate the level of knowledge, attitudes, and risk behaviors related to HIV/AIDS; and
- make recommendations to health actors and partners to improve RH services and enhance RH education and awareness programs.

3. Methodology

The study targeted four districts of Lofa County because 1) during the conflict Lofa County suffered almost complete destruction of its infrastructure, 2) it experienced enormous population displacement (i.e., almost all of its population); and 3) it was the epicenter of the last (1999–2003) conflict (see Appendix A).

Lofa County is divided into six districts: Voinjama, Vahun, Salayea, Kolahun, Foyah and Zorzor. In 2006, Lofa County's estimated population was 276,347; however, that number is changing constantly due to post-conflict reintegration and migration. Ethnically, the Kissi, Lorma, Mandingo, Kpelle, and Gbandi groups are Lofa County's predominant inhabitants.

Four of the six districts in Lofa were included in the RH survey: Foya, Voinjama, Zorzor, and Salayea. Due to resource limitations the Vahun and Kolahun districts were excluded. Within the four target districts only those villages accessible within a 2-hour walking distance from the nearest road were included in the survey.

3.1. Sample design

The Lofa County sample was selected using a three-stage cluster design. In the first stage, a systematic selection of 36 sample points (e.g., villages, towns, or parts of cities) was made with probability of selection proportional to population size. In the second stage, within each sample point 33 households were selected using a systematic sampling with a random start. In each selected household, one woman of reproductive age (WRA) (15–49 years) was randomly selected for interview.

3.1.1. Sampling frame

United Nations Development Programme (UNDP) in Liberia compiled the sampling frame used for this study, which is also available from the Humanitarian Information Center Liberia Web site.⁸ The frame list contains new and old village names. It also contains the estimated number of households in each village. The P code is an abbreviated term for Place Code (P-codes) and is similar to zip codes/postal codes, which are part of a data management system that provides unique reference codes to thousands of locations in Liberia. These codes also provide a systematic means of linking and exchanging data and analyzing relationships between these locations. Any information linked to one location with a P-code can be linked to and analyzed with any other. The Liberian Institute for Statistical and Geo-information Services (LISGIS) defines “urban area” as any village or town with 2000 or more inhabitants (Dr. Francis Wreh, LISGIS, Monrovia, Liberia, personal communication, 2006 April 24). The list was compiled in

2005 and is considered to be the most reliable source of population estimates since the end of the war.

3.1.2. Sample size calculation

In estimating the sample size for the Lofa County survey, several sampling parameters were considered: the three-stage cluster design, the number of women per household, the estimated response rates, and the estimated parameter estimates. To take into account the variance inflation due to clustering, we used a design effect of 1.7, based on the Demographic and Health Survey Liberia 1986 contraception estimate. A nonresponse rate of 10% was used, based on previous RH surveys in developing countries. For our HIV/AIDS parameter estimate the survey used the most conservative (50%) prevalence. At the urban and rural level, the desired precision was a 95% Confidence interval ($\alpha=0.05$) width of +/- 6.5 percentage points. The sample size based on those parameters was 430 women of reproductive age. Because an estimated 46% of the population lived in urban areas, the sample size was inflated to 935 (430/46). To compensate for inaccessible villages, the survey increased village selection by 6 (i.e., 30 to 36 villages). Additionally, to compensate for 5 villages with fewer than 33 households, the survey increased the number of households per village from 30 to 33. Thus the total sample targeted was 36 villages by 33 households (n=1188) (see Appendix B).

3.1.3. Selection of clusters

For the first stage of the survey, 36 clusters were selected in Microsoft Excel©, using probability proportional to the village population size. The population size was a proxy for the total number of WRA women in each village. The sampling interval was calculated by dividing the estimated total population on the sampling frame by the number of desired clusters. Within Excel, the sampling frame was sorted by the population size, and the cumulative population total was calculated. The first cluster was selected by multiplying a random number between zero and one

by the sampling interval. For the subsequent clusters, the sampling interval was added to the previous interval. A household was defined as a group of people who cook and eat food from the same cooking pot.

3.1.4. Selection of households

The survey teams traveled to the selected cluster locations and met with village leaders. Team leaders explained the purpose of the survey and survey procedures and obtained permission of village or neighborhood officials.

All chosen households were included, whether or not they included a WRA. If household members were not present, community members were asked information about the household and its characteristics, but individual-level information was not collected. Households were visited at least twice; in some cases, however, logistic constraints prohibited returning to the cluster. If the members of a household had departed permanently or did not return before the survey team had to leave the village, the households were skipped and not replaced. Of the 36 clusters selected, 6 clusters or villages were inaccessible. The survey target was limited to accessible villages only, thus the inaccessible villages are not considered as non respondents.

In each village, households were randomly selected in one of the following ways:

1. Almost all village chiefs had up-to-date lists of households living in the village. The lists were used as the sampling frame at the village level, and the total number of households was divided by 33 to obtain the sampling interval. A random start was selected using the random number table. The team leaders then made a new list of the 33 families selected, and a village assistant showed the survey team the selected households.
2. A town or village with more than 350 households was divided into relatively equal segments, and one section was randomly selected. The number of households in the

selected segment was divided by 33 to determine the sampling interval. A random starting point was selected using a random number table.

3. In larger cities, more than one sample point was sometimes selected using the PPS procedure. We listed the city segments cumulatively, and we randomly selected sections using a random start and a sampling interval. To obtain a sampling interval with a random start, in the selected sections we divided the total number by 33.
4. When no lists were available, the survey team leader walked the village boundaries and drew a map. Households were numbered with chalk, and a random start and sampling interval was located.

3.1.5. Selection of WRA

When a household included more than one eligible WRA, the interviewers listed all WRAs and randomly selected one by using the Kish method, which is a random number table used in CDC Reproductive Health Surveys and Demographic and Health Surveys (see Appendix C).^{9,10} If the selected WRA was absent during the survey, she was not replaced.

3.2. Survey personnel and training

Project interviewers were selected on the following criteria: language skills, residence (i.e., native to Lofa county), and ability to read and write effectively in English. The survey was conducted by 16 enumerators divided into 5 survey teams. Four teams had one team leader and three interviewers, and one team had one team leader and four interviewers. Two field coordinators, one CDC epidemiologist, and a UNFPA consultant monitored the teams (see Appendix D). Training lasted for 6 days, and the sessions covered the following:

- Background on the purpose of the study and on data collection and design,
- Participatory reviews of the questionnaire with practice interviews in class,

- Reproductive health topics covered in the questionnaire including contraception STIs/HIV/AIDS, and available services in the camp,
- Techniques of asking about violence and appropriate follow up,
- Procedures for and importance of maintaining confidentiality,
- Sensitivity toward study subjects,
- Ensuring privacy, and
- Language and translation.

The training covered survey design and procedures, interview techniques, privacy, and confidentiality. Part of the interviewer training emphasized the need to ensure privacy and safety during the interview; if the interview was interrupted, the interviewer was to take the participant to a private area. Another technique interviewers used if interrupted was to ask questions from a nonsensitive section of the questionnaire. The participants were briefed on these techniques before the interviews began. The entire survey team was trained in strategies to ensure not only their own safety, but the safety of the respondents as well.¹⁰ Supervisors were trained in second-stage sampling, checking of interviews for data accuracy and mistakes, and ensuring all procedures were followed. Referral protocols were implemented that simply provided village-level information on access to health, water, and sanitation. Before actual data collection began, the survey instrument was pretested in a village site that was not part of the sample.

3.3. Questionnaire components

The development of the survey questionnaire took into account three sources of information:

- Demographic and Health Survey (DHS)¹¹
- CDC Reproductive Health Surveys¹²
- Reproductive Health Assessment Toolkit for Conflict-Affected Women¹³

The survey questionnaire included six sections:

- background information,
- household information on injury, disability and death,
- maternal health,
- contraception,
- physical and sexual violence during two different time periods and intimate partner violence, and
- HIV/AIDS knowledge, attitudes and risk behaviors, and voluntary counseling and testing (see Appendix C).

Background information about the participants included questions on age, marital status, ethnicity, religion, education, and living situation (e.g., internally displaced persons, refugees) as a proxy to categorize war-affected populations. Maternal health topics included

- current pregnancy;
- birth history over the last 5 years of live births and stillbirths only, which includes antenatal, intrapartum, and postpartum care;
- health-seeking behavior; and
- access to care.

The family planning section evaluated current family planning practice (e.g., methods used, problems with the methods, preferences for type of method, access to family planning methods).

The GBV assessment included questions about acts of violence that occurred during the 1999–2003 conflict. The same series of questions was then asked with regard to violence that occurred within the past year (post conflict). Finally, a separate set of questions examines intimate partner violence (IPV) which would include, for example, acts of IPV violence by a live-in partner or

husband) as lifetime prevalence and within the last 12 months. Each of these three sections addresses the nature of the violent acts, negative health consequences, and health-seeking behavior.

The HIV/AIDS assessment was based on standard health indicators developed by UNAIDS. Questions were divided among sexual behavior, condom use, knowledge of HIV/AIDS, risk perception, behavior changes, voluntary counseling and testing, and sources of information about HIV/AIDS.

The survey was administered in several languages, including Lorma, Mandingo, Kissi, Kpelleh and Liberian English. The questionnaire itself was written in English (Appendix B). All interviews were conducted face-to-face and took an average of 40 minutes. Two time periods were used to collect information on war-related injury and on physical and sexual violence. The first time period was the last (1999–2003) war in Lofa County, and the second was post-conflict—since the election of the president in October 2005. Referrals for health services were made when women asked for them. When no health services were accessible for that village, referrals were made to local health agencies.

3.4. Human Subjects

This research study—CDC Protocol Number 5015—was determined exempt from CDC Internal Review Board (IRB) review under 45 CFR 46.101(b)(2). This regulation exempts survey research that is anonymous, that involves no more than minimal risk to the participants, and that is based on the local policy that women under age 18 who are married are considered emancipated minors. Also, local information showed that adolescent (i.e., 15–17 years of age) married Liberians are considered legally emancipated and can consent for themselves. In addition, any unmarried adolescents can self-consent to participate in reproductive health

surveys. That said, although we were exempt from IRB review, we nevertheless adhered to human subjects protections such as confidentiality and verbal consent.

3.5. Data quality, control, and analysis plan

Before the team left a village or cluster, the team leader reviewed all questionnaires for completeness and accuracy, and corrections were made in the field. Field coordinators made the same checks on all questionnaires at the end of each cluster and, whenever possible, again made corrections.

Data were entered and stored in data files. Individuals interviewed during the survey were each assigned a unique identification number to identify them on the basis of their region, cluster, and household numbers. Data were entered into The Integrated Microcomputer Processing System (IMPS) version 3.1.14.¹⁴ Chi-square tests were used to determine difference in percentages, *t* tests for differences between means.

SAS-callable SUDAAN (version 9.01) software was used for analyses that take into account weighting of the variables and the complex sample design.¹⁵ For the household estimates, the data were weighted based on each household's selection probability. Estimates were weighted based on the probability of selection of the household and the number of WRA in each household.

4. Findings

The Lofa County Reproductive Health Survey's findings are presented in five sections:

1. background characteristics;
2. maternal health issues, including access to prenatal care, delivery, and postpartum care;
3. contraceptive prevalence and unmet need for contraception;

4. physical and sexual violence during the most recent conflict (1999–2003) and within the past year and lifetime prevalence of intimate partner violence (IPV); and
5. HIV/AIDS knowledge, attitudes, risk behavior, and access to voluntary counseling and testing (VCT).

4.1. Background characteristics

Interviews were carried out in 30 of 36 selected enumeration areas in 4 of Lofa County's 6 districts. Of the six places selected for inclusion in the sample where no interviewing was done, one village was completely destroyed (i.e., only one family had returned and that household contained no WRA) and five other villages were considered inaccessible, that is, they were more than a 2-hour walk through difficult terrain from the nearest road. Interviews were successfully completed with 907 women between the ages of 15 and 49 years (see Appendix B). The household response rate within the 30 visited villages/towns was (907/976) 92.9%.

This survey found that the average size of households was 5.9 (95% CI, 5.6–6.1) persons. The average size of households found in urban areas was 6.1 (95% CI, 5.8–6.5) persons per household and 5.7 (95% CI, 5.3–6.0) in rural areas, but the difference was not significant. The largest number of WRAs living in any household at the time of the survey was 6, with an average of 2.1 (95% CI: 1.9–2.2). Overall, 31.4% (95% CI, 26.5–36.8) of households were female-headed. In that regard, we found that the proportion of households headed by females was no different in urban areas and rural areas: 37.6% (95% CI, 33.2–42.2) and 25.8% (95% CI, 19.0–34.1), respectively, shown in Table 1.

Table 1. Percentage distribution of the number of persons in households (hh) with at least one eligible woman, average number of persons per household, number of WRA, average number of WRA per household and number of households with female head of households by residence; Reproductive Health Survey, Lofa County Liberia, January-February, 2007

Size	Total		Residence			
			Urban		Rural	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
No. of persons per hh	907		431		476	
1	2	0.2 (0.1- 0.9)	0	0.0	2	0.4 (0.1- 1.8)
2	33	3.6 (2.4- 5.4)	9	2.1 (1.1- 3.8)	24	5.0 (3.4- 7.5)
3	81	8.9 (6.9- 11.4)	37	8.6 (6.1- 11.9)	44	9.2 (6.4- 13.2)
4	123	13.6 (11.1- 16.4)	65	15.1 (10.9- 20.5)	58	12.2 (10- 14.8)
5	186	20.5 (17.7- 23.6)	80	18.6 (14.4- 23.7)	106	22.3 (18.9- 26)
6	168	18.5 (15.8- 21.6)	68	15.8 (12.7- 19.5)	100	21.0 (16.7- 26.1)
7	99	10.9 (8.8- 13.4)	49	11.4 (9.4- 13.7)	50	10.5 (7.6- 14.4)
8	92	10.1 (8.1- 12.6)	51	11.8 (9.2- 15.1)	41	8.6 (5.8- 12.6)
9	59	6.5 (5- 8.5)	32	7.4 (5.3- 10.3)	27	5.7 (3.7- 8.6)
10 or more	64	7.1 (5.1- 9.7)	40	9.3 (5.7- 14.8)	24	5.0 (3.4- 7.5)
Average No. of persons per hh	907	5.9 (5.6- 6.1)	431	6.1 (5.8- 6.5)	476	5.7 (5.3- 6)
Number of WRA per hh	907		431		476	
1	378	41.7 (36.9- 46.6)	164	38.1 (34.5- 41.8)	214	45.0 (37.5- 52.6)
2	246	27.1 (23.7- 30.8)	119	27.6 (21.8- 34.3)	127	26.7 (23.1- 30.6)
3	174	19.2 (16.2- 22.6)	83	19.3 (15.2- 24.2)	91	19.1 (15.6- 23.2)
Size	<u>Total</u>	Residence	Size	<u>Total</u>	Residence	Size
		Urban			Urban	
	n	% (95% CI)		n	% (95% CI)	
4	69	7.6 (5.8- 9.9)	39	9.0 (7.4- 11)	30	6.3 (3.8- 10.2)
5 or more	40	4.4 (3.5- 5.5)	26	6.0 (4.7- 7.7)	14	2.9 (1.8- 4.8)
Average No. of WRA per hh	907	2.1 (1.9- 2.2)	431	2.2 (2.1- 2.2)	476	2.0 (1.8- 2.1)
Households with female head of hh	285	31.4 (26.5- 36.8)	162	37.6 (33.2- 42.2)	123	25.8 (19- 34.1)

General characteristics of women, by residence, are shown in Table 2. A majority of the women interviewed had never attended school, 71.2% (95% CI, 66.0–75.8). The likelihood of never

attending school was higher in rural areas than in urban areas, 78.5% (95%CI, 69.7–85.0) and 63.6% (95% CI, 59.8–67.2), respectively. Not surprisingly, most respondents could neither read nor write, 73.4%, (95% CI, 68.5–77.9) and 73.8%, (95% CI, 69.2–77.9), respectively. In addition, women were more likely to be able to read and write in urban areas than in rural areas.

Table 2. Percentage distributions of general characteristics of eligible women with completed interviews by residence; Reproductive Health Survey, Lofa County Liberia, January–February, 2007

Characteristic	Total		Residence			
			Urban		Rural	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Education level of WRA	906		431		475	
None	655	71.2 (66.0- 75.8)	281	*63.6 (59.8- 67.2)	374	*78.5 (69.7- 85.2)
Primary incomplete	188	21.9 (18.3- 26.0)	107	26.2 (22.9- 29.7)	81	17.9 (12.6- 24.8)
Primary complete	24	2.8 (1.9- 4.1)	16	4.3 (2.7- 6.6)	8	1.4 (0.7- 2.7)
Secondary incomplete	20	1.9 (1.1- 3.4)	17	3.3 (1.7- 6.4)	3	0.6 (0.2- 2.1)
Secondary complete	19	2.2 (1.4- 3.5)	10	2.7 (1.8- 3.8)	9	1.7 (0.7- 4.2)
Reading ability of WRA	907		431		476	
Easily	62	7.2 (5.2- 9.9)	42	10.6 (7.8- 14.3)	20	3.9 (1.7- 8.8)
With difficulty	169	19.4 (15.5- 23.9)	98	23.6 (19.4- 28.3)	71	15.3 (9.8- 23.1)
Not able to read at all	676	73.4 (68.5- 77.9)	291	65.8 (62.4- 69)	385	80.8 (71.5- 87.5)
Writing ability WRA	907		431		476	
Easily	62	7.4 (5.7- 9.5)	45	11.6 (9.5- 14.2)	17	3.4 (1.4- 7.8)
With difficulty	167	18.8 (15.6- 22.6)	91	21.8 (19.4- 24.3)	76	16.0 (10.7- 23.3)
Not able to write at all	678	73.8 (69.2- 77.9)	295	66.6 (64.3- 68.8)	383	80.6 (71.4- 87.4)
Education level of husband/partner	600		277		323	
None	315	53.3 (46.4- 60.0)	116	*42.7 (33.3- 52.6)	199	*62.8 (55.6- 69.4)
Primary	144	23.4 (18.9- 28.5)	74	26.7 (20.1- 34.4)	70	20.4 (15.3- 26.8)
Secondary	125	21.0 (15.5- 27.8)	75	26.7 (19.8- 34.9)	50	15.9 (8.7- 27.2)
University/Technical	16	2.4 (1.7- 3.3)	12	4.0 (2.7- 5.8)	4	0.9 (0.5- 1.7)

* Statistically significant

The age distribution of women was similar in urban and rural areas. At the time of the interviews, about two-thirds of respondents, 67.5% (95% CI, 63.4–71.4), were currently married or living with a partner, with no significant difference between urban and rural areas in marital status distribution. In addition, 21.3% (95% CI, 17.6–25.5) of women reported that they had never been married or had never lived with a man. This proportion did not differ significantly

between urban women 25.3% CI, 19.8–31.7) and rural women, 17.4 (95% CI, 16.9–17.9). The median age at first marriage was 19.1 years, and the median age at first birth was 19.7 years.

The predominant religion among respondents was Christian, 70.8% (95% CI, 51.7–84.5), followed by Islam, 23.1% (95% CI, 10.1–44.6), and traditional religions, 4.3% (95% CI, 2.7–6.7). The study found a variation in ethnic background; just over half of women sampled identified themselves as Lorma, 54.6% (95% CI, 37.4–70.7), Mandingo, 20.5% (95% CI, 8.7–41.1), Kpelleh, 11.1% (95% CI, 3.8–28.2), or Kissi, 10.6% (95% CI, 5.5–19.3). Fewer than 4% of the women sampled identified themselves as Gbandi, Mende, Bassa, or of mixed ethnicity (see Table 3). A majority of women reported that their husbands had never attended school, 53.3% (95% CI, 46.4–60.0). The proportion of husbands who never went to school was higher in the rural areas, 62.8% (95% CI, 55.6–69.4) compared with urban areas, 42.7% CI, 33.3–52.6).

Table 3. Percentage distributions of general characteristics of 15–49 year old women with completed interviews by residence cont'd; Reproductive Health Survey: Lofa County Liberia, January-February, 2007

Characteristic	Total		Urban		Residence	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Age Group	907		431		476	
15-19	154	16.4 (13.4- 19.8)	75	16.1 (12.2- 20.8)	79	16.6 (12.6- 21.6)
20-24	189	21.0 (17.5- 25.0)	91	21.3 (17.7- 25.4)	98	20.7 (15.5- 27.1)
25-29	174	19.1 (16.7- 21.7)	86	19.7 (16.1- 23.8)	88	18.5 (15.1- 22.4)
30-34	168	18.9 (15.6- 22.6)	85	19.8 (15.1- 25.4)	83	18.0 (14.0- 22.9)
35-39	117	13.3 (10.4- 16.9)	49	12.5 (8.6- 17.9)	68	14.2 (10.1- 19.4)
40-44	70	7.5 (5.9- 9.5)	27	6.7 (5.1- 8.8)	43	8.3 (5.7- 11.8)
45-49	35	3.8 (2.5- 6.0)	18	4.0 (1.9- 7.9)	17	3.7 (2.0- 6.8)
Marital status	907		431		476	
Married/living with partner	601	67.5 (63.4- 71.4)	277	65.1 (60.4- 69.6)	324	69.8 (62.5- 76.2)
Separated due to war	13	1.3 (0.6- 2.8)	6	1.5 (0.5- 4.5)	7	1.1 (0.4- 3.3)
Divorced/separated not due to war	17	1.9 (1.1- 3.3)	12	3.1 (1.9- 5)	5	0.8 (0.2- 3.8)
Husband died because of war	70	7.1 (5.1- 9.7)	18	4.3 (2.1- 8.9)	52	9.7 (7.1- 13.2)
Husband died, but not due to war	8	0.9 (0.3- 2.1)	3	0.6 (0.1- 3.7)	5	1.1 (0.4- 2.8)
Never married	198	21.3 (17.6- 25.5)	115	25.3 (19.8- 31.7)	83	17.4 (12.5- 23.8)
No. of living children	751		363		388	
None	22	2.7 (1.6- 4.5)	5	1.5 (0.5- 4.3)	17	3.8 (2.1- 6.9)
One	233	30.6 (26.3- 35.2)	112	30.7 (24.1- 38.1)	121	30.4 (25.3- 36.1)
Two	172	22.1 (18.6- 26)	85	21.4 (15.5- 28.8)	87	22.8 (19.9- 26)
Three	125	17.0 (13.9- 20.7)	61	17.4 (12.2- 24.2)	64	16.6 (13.6- 20)
Four or more	199	27.7 (22.9- 33.1)	100	29.0 (21.7- 37.5)	99	26.4 (20.9- 32.8)
Religion	907		431		476	
Traditional/animist	37	4.3 (2.7- 6.7)	25	5.5 (3- 9.8)	12	3.1 (1.2- 7.9)
Christian	671	70.8 (51.7- 84.5)	334	74.6 (48.7- 90.1)	337	67.1 (38.4- 87)
Muslim	180	23.1 (10.1- 44.6)	67	18.9 (5.2- 49.8)	113	27.2 (8.6- 59.8)
None	19	1.8 (1.3- 2.4)	5	1.0 (0.6- 1.5)	14	2.6 (1.8- 3.8)
Tribal group	907		431		476	
Mandingo	158	20.5 (8.7- 41.1)	60	17.1 (4.7- 46.4)	98	23.7 (7.1- 56)
Lorma	502	54.6 (37.4- 70.7)	329	73.2 (51- 87.7)	173	36.7 (15.5- 64.9)
Kissi	108	10.6 (5.5- 19.3)	9	2.2 (0.4- 10.4)	99	18.6 (8.7- 35.4)
Kpelleh	115	11.1 (3.8- 28.2)	17	*3.2 (2.3- 4.4)	98	*18.7 (5.4- 48.4)
Other	24	3.3 (2.2- 4.7)	16	4.3 (3- 6.3)	8	2.2 (0.9- 5.3)
* Statistically significant						

Few women reported that they worked outside the home: 9% (95% CI, 6.8–11.8). Using the interviewers’ assessments of the status of houses in the sample, only 0.2% (95% CI, 0.0–1.8) of households were in good condition. Most had been rebuilt, 67.0% (95% CI, 60.5–72.8), with 16.9% (95% CI, 12.6–22.2) heavily war-damaged. The survey asked about water sources used for cooking and drinking, which varied by place of residence. Just over half, 53.6%, (95%CI, 39.8–66.8) of the women in the survey reported access to well water, compared with 45.4% (95% CI, 32.0–59.5) who had access only to surface water. Women in the urban sample had greater access to well water, 75.8% (95% CI: 60.4–86.6) compared with women in rural areas, 33.5% (95% CI, 15.5–58.1). Most of the women sampled stated that their households used the bush as a toilet, 93.4% (95% CI, 88.1–96.4) as seen in Table 4.

Table 4. Percentage distributions of general characteristics of eligible women with completed interviews by status of house, toilet facility, source of water, and employment status; Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Characteristic	Total		Urban		Rural	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Status of house	902		427		475	
Heavily damaged	152	16.9 (12.6- 22.2)	45	10.5 (6.3- 17)	107	22.5 (15.4- 31.7)
Rebuilt	604	67.0 (60.5- 72.8)	307	71.9 (64.6- 78.2)	297	62.5 (52- 72)
Under construction	144	16.0 (11.7- 21.5)	75	17.6 (11.2- 26.4)	69	14.5 (9.2- 22.2)
Good condition	2	0.2 (0- 1.8)	0		2	0.4 (0- 3.5)
Toilet facility	906		431		475	
Flush Toilet	3	0.3 (0.1- 1.1)	2	0.5 (0.1- 2.1)	1	0.2 (0- 1.8)
Pit latrine	56	6.2 (3.3- 11.2)	50	*11.6 (5.6- 22.4)	6	*1.3 (0.3- 4.9)
Bush	846	93.4 (88.1- 96.4)	378	*87.7 (76.4- 94)	468	*98.5 (95.2- 99.6)
Source of water	905		430		475	
Well water	485	53.6 (39.8- 66.8)	326	*75.8 (60.4- 86.6)	159	*33.5 (15.5- 58.1)
Surface water	411	45.4 (32.0- 59.5)	98	*22.8 (12- 39)	313	*65.9 (41- 84.3)
Women employed	72	9.0 (6.8- 11.8)	35	9.1 (5.5- 14.6)	37	8.9 (7- 11.3)

*Statistically significant

4.1.1. War-affected characteristics

Table 5 shows war-affected characteristics of women sampled, by residence, for the period from 1999 to 2003—the time of the most recent conflict in Lofa County. Overall, 96.0% (95% CI, 91.5–98.1) of women had been displaced. A majority of women said they had been displaced at least twice, and the average length of time of displacement was 3.1 years (95% CI, 2.9–3.2). The proportion of women who reported displacement more than once was not significantly different among urban and rural women, 77.4% (95% CI, 72.7–81.4) and 68.4% (95% CI, 60.7–75.2), respectively. Few of the women in the sample were currently displaced, 4.3% (95% CI, 3.1–5.8).^a Not surprisingly, most women were personally affected in more than one way by the 1999–2003 conflict. About two-thirds of the women sampled had been internally displaced, 69.5%, (95% CI, 60.9–76.8) and over half had sought refuge in another country, 53.6%, (95%CI, 45.0–62.0). Almost all women had suffered destruction of their homes and had suffered loss of livelihood— 98.1% (95% CI, 95.8–99.2) and 90.8% (95% CI, 87.3-93.5), respectively.

The Lofa County family unit was often torn apart during the war, which was apparent in several ways. For example, 8% of women reported they lost their husbands in the war. In rural areas a larger proportion of women lost their husbands than in urban areas— 11.3% (95% CI, 8.6–14.8) and 4.4% (95% CI, 2.9–6.6), respectively. Overall, 17.3% (95% CI, 13.4–22.1) of women in the sample reported themselves as war orphans, having lost both of their parents. Over two-thirds of respondents reported that a family member was killed during the most recent conflict, 72.8% (95% CI, 67.5–77.4). Women in rural areas, 80.7% (95% CI, 74.9–85.4) were significantly more likely to report loss of a family member than were urban women— 64.0%, (95% CI, 55.8–71.5) (see Table 5).

^a This should not, however, be used as an indicator of the level of current displacement of the population of Lofa County, given that because most currently displaced women and families live outside Lofa, they were not included in the survey sample.

Table 5. Percent of women with war-affected characteristics by residence; Reproductive Health Survey, Lofa County Liberia, January–February, 2007

War-affected characteristics	Total		Residence			
			Urban		Rural	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
	904		429		475	
Ever displaced	872	96.0 (91.5- 98.1)	420	97.9 (94.9- 99.2)	452	94.1 (85.8- 97.7)
Number of times displaced	861		417		444	
1	244	27.1 (22.8- 31.9)	99	22.6 (18.6- 27.3)	145	31.6 (24.8- 39.3)
2	469	55.1 (50.2- 59.9)	252	60.7 (54.8- 66.3)	217	49.6 (42.1- 57.0)
3 or more times	148	17.7 (14.6- 21.4)	66	16.7 (12.2- 22.4)	82	18.8 (14.8- 23.7)
Average No. years displaced	885	3.1 (2.9- 3.2)	425	3.0 (2.8- 3.2)	460	3.1 (2.8- 3.4)
Currently displaced	44	4.3 (3.1- 5.8)	12	2.9 (1.5- 5.5)	32	5.6 (3.6- 8.6)
War affected status	907		431		476	
Displaced within Liberia	630	69.5 (60.9- 76.8)	302	70.1 (60.7- 78)	328	68.9 (54.9- 80.1)
Refugee status	486	53.6 (45.0- 62.0)	248	57.5 (45.4- 68.8)	238	50.0 (37.8- 62.2)
Lost shelter	890	98.1 (95.8- 99.2)	424	98.4 (95.7- 99.4)	466	97.9 (93.2- 99.4)
Lost livelihood	824	90.8 (87.3- 93.5)	397	92.1 (85.4- 95.9)	427	89.7 (85.3- 92.9)
War widow	73	8.0 (6.2- 10.3)	19	*4.4 (2.9- 6.6)	54	*11.3 (8.6- 14.8)
War orphan	157	17.3 (13.4- 22.1)	46	*10.7 (7.2- 15.6)	111	*23.3 (16.4- 32.1)
Lost family members	660	72.8 (67.5- 77.4)	276	*64.0 (55.8- 71.5)	384	*80.7 (74.9- 85.4)
Physical injury with disability	16	1.8 (0.7- 4.3)	4	0.9 (0.1- 7.6)	12	2.5 (0.9- 6.7)
Physical injury without disability	28	3.1 (1.8- 5.3)	7	1.6 (0.4- 5.7)	21	4.4 (2.3- 8.3)
Abducted by combatants	83	9.2 (5.7- 14.4)	17	3.9 (1.7- 8.9)	66	13.9 (7.8- 23.3)
Average No. years in current village	903	2.6 (2- 3.3)	429	2.2 (2.0- 2.4)	474	3 (1.8- 4.2)

*Statistically significant

4.2. Maternal Health

4.2.1. Prenatal care

The following findings on prenatal care (PNC), delivery care, and postpartum care reflect information from a total of 580 women who reported 665 pregnancies that ended in a live birth or stillbirth in the 6 years preceding the survey. Table 6 shows that for 23.8% (95% CI, 7.6–31.4) of those pregnancies women did not receive any PNC. A larger proportion of women living in rural than in urban areas did not receive PNC, 35.8% (95% CI, 24.4–49.1) and 11.4% (95% CI,

8.7–14.9), respectively. The percentage starting PNC during their first trimester of pregnancy, as recommended, was 39.4% (95%CI, 33.9–45.0), with the proportion somewhat higher in urban than rural areas (46.9% and 32.1%, respectively).

Table 6. Timing of prenatal care (PNC) all pregnancies ending in stillbirth or live birth for the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Residence	n	Timing of 1st prenatal visit						
		No PNC % (95% CI)	n	1 st trimester % (95% CI)	2 nd trimester n % (95% CI)		3 rd trimester n % (95% CI)	
Total	665	23.8 (17.6- 31.4)	265	39.4 (33.9- 45.0)	228	35.4 (30.0- 41.1)	11	1.4 (0.6- 3.3)
Urban	312	*11.4 (8.7- 14.9)	147	46.9 (40.1- 53.9)	117	39.1 (32.6- 46.1)	10	2.5 (1.0- 6.1)
Rural	353	*35.8 (24.4- 49.1)	118	32.1 (24.4- 40.8)	111	31.7 (23.9- 40.7)	1	0.4 (0.0- 4.0)

*Statistically significant

Table 7 shows that among women who received PNC, a majority in urban areas had four to six PNC visits, 61.6% (95% CI, 55.8–67.1), but 14.7% (95% CI, 10.5–20.2) of women sampled had only one to three visits. A larger number of women in rural areas also reported at least four to six PNC visits, 49.6% (95% CI, 36.8–62.5) but about one-third of the women had only one to three PNC visits.

Table 7. Percentage distributions of the number of prenatal visits of all pregnancies ending in stillbirth or live birth where women reported any PNC, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Residence	n	Number of Prenatal Visits			
		1-3 visits % (95% CI)	4-6 visits % (95% CI)	7-10 visits % (95% CI)	Unknown % (95% CI)
Total	503	21.4 (15.0- 29.5)	56.5 (50.1- 62.7)	21.3 (17.8- 25.2)	0.9 (0.2- 3.7)
Urban	274	14.7 (10.5- 20.2)	61.6 (55.8- 67.1)	22.8 (19.5- 26.5)	0.9 (0.1- 7.0)
Rural	229	30.3 (17.6- 47.1)	49.6 (36.8- 62.5)	19.3 (13.3- 27.0)	0.8 (0.1- 5.5)

Table 8 shows the percent of women who reported that in the previous 6 years they received selected information or services as part of PNC visits during their most recent pregnancies

leading to a live birth or stillbirth. Overall, a majority of women reported they received information on

1. nutrition, 73.1% (95% CI, 64.9–79.9),
2. breastfeeding, 77.2% (95% CI, 73.6–80.4),
3. safe delivery, 74.6% (95% CI, 71.0–77.9), and
4. the dangers of smoking or drinking alcohol during pregnancy— 53.2% (95% CI, 46.0–60.3) and 54.9% (95% CI, 48.2–61.4), respectively.

Women reported they less frequently received information on contraception, 44.2% (95% CI, 35.7–53), the recognition of pregnancy complications, 43.4% (95% CI, 35.3–52) and the importance receiving postpartum care, 49.5% (95% CI, 42.4–56.6). In all categories of information received during PNC, the proportion of women was lower in rural areas than in urban, but no significant differences surfaced, except for information received on postpartum care, 59.1% (95% CI, 49.9–67.7) and 36.4% (27.1–46.9), respectively. The percent-distribution of services received as part of PNC showed that overall, a majority of women received tetanus toxoid, 84.7% (95% CI, 78.8–89.2), iron tablets, 91.3% (95% CI, 86.8–94.4), Vitamin A supplementation, 91.9% (95% CI, 85.7–95.6) and had their blood pressure checked, 92.9% (95% CI, 89.4–95.3). Syphilis testing, positive syphilis test results, and treatment for those positive results were not, however, frequently reported (see Table 8).

Table 8. Percent of women receiving selected information or services as part of prenatal care during most recent pregnancy leading to a live birth or stillbirth in the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

PNC Information/Service	Percent Receiving Information/Service		Residence			
			Urban		Rural	
			n	% (95% CI)	n	% (95% CI)
Information received						
Nutrition	459	73.1 (64.9- 79.9)	254	77.1 (68.5- 83.9)	254	67.6 (52.9- 79.5)
Smoking during pregnancy	338	53.2 (46.0- 60.3)	196	56.5 (48.4- 64.2)	196	48.7 (36.6- 60.9)
Alcohol during pregnancy	243	54.9 (48.2- 61.4)	141	59.4 (53.2- 65.4)	141	48.7 (36.7- 60.8)
Breastfeeding	253	77.2 (73.6- 80.4)	147	78.4 (76.0- 80.7)	147	75.4 (67.5- 82.0)
Safe delivery	346	74.6 (71.0- 77.9)	193	76.9 (75.1- 78.6)	193	71.4 (63- 78.7)
Contraception	335	44.2 (35.7- 53.0)	189	51.7 (39.9- 63.4)	189	33.9 (23.2- 46.4)
Pregnancy complication signs	200	43.4 (35.3- 52.0)	129	49.8 (39.3- 60.3)	129	34.8 (24.1- 47.2)
Post partum care	191	49.5 (42.4- 56.6)	124	59.1 (49.9- 67.7)	124	36.4 (27.1- 46.9)
Services received	216		143		143	
Syphilis testing	457	29.4 (22.3- 37.8)	253	28 (19.6- 38.3)	253	31.5 (19.9- 45.9)
Positive syphilis test	130	8.0 (4.3- 14.6)	71	8.6 (3.3- 20.6)	71	7.3 (3.8- 13.7)
Medicine for syphilis	32	11.3 (6.6- 18.7)	20	11.6 (4.8- 25.6)	20	10.9 (7.4- 15.7)
Tetanus toxoid	44	84.7 (78.8- 89.2)	25	86.5 (79.5- 91.4)	25	82.2 (70.6- 89.9)
Iron tablets	379	91.3 (86.8- 94.4)	212	92.9 (87.7- 96)	212	89.2 (80.5- 94.3)
Vitamin A	418	91.9 (85.7- 95.6)	232	95.9 (90.7- 98.2)	232	86.5 (72.8- 93.9)
Blood pressure check	419	92.9 (89.4- 95.3)	239	93.4 (87.6- 96.6)	239	92.3 (88.1- 95.0)

A majority of those services were accessed at a primary health clinic, as shown in Table 9.

Table 9. Primary place of prenatal care during pregnancies leading to a live birth or stillbirth in the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Primary Place of Prenatal Care	Total		Residence			
			Urban		Rural	
			n	% (95%CI)	n	% (95% CI)
Health clinic	299	59.3 (51.1- 66.9)	166	61.2 (50.0- 71.4)	133	57.1 (43.4- 69.8)
Home	9	2.1 (1.0- 4.6)	7	2.8 (1.2- 6.7)	2	1.2 (0.4- 3.9)
TBA	14	2.1 (1.0- 4.2)	6	1.7 (0.7- 3.9)	8	2.5 (0.8- 7.7)
Hospital	87	18.1 (12.6- 25.2)	57	21.6 (14.7- 30.5)	30	13.5 (6.0- 27.7)
Refugee camp	94	18.1 (11.9- 26.6)	36	12.2 (8.0- 18.4)	57	25.6 (13.7- 42.8)
Total	505		273		230	

Of the 161 pregnancies that resulted in a live birth or stillbirth in the previous 6 years for which women did not access PNC at all, the main reasons for not obtaining care were

1. no health provider available, 92.2% (95% CI, 84.0–96.3);
2. the distance to PNC was too far, 63.4% (95% CI, 43.3–79.7);
3. an inability to pay for services, 40.8% (95% CI, 29.6–53.1); and
4. no transportation available, 39.0% (95% CI, 27.5–51.8).

Differences appeared in not receiving care because of poor road conditions and because of lack of transport between urban and rural residence (Table 10).

Table 10. Primary reason for not receiving prenatal care during pregnancies leading to a live birth or stillbirth in the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Reason for no Prenatal Care	Total		Residence			
	n	% (95% CI)	Urban		Rural	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
No provider available	144	92.2 (84- 96.3)	34	90.7 (79.5- 96.1)	110	92.6 (81.8- 97.2)
Could not afford	67	40.8 (29.6- 53.1)	10	23.3 (7.2- 54.2)	57	46.2 (35.1- 57.6)
Too far	99	63.4 (43.3- 79.7)	12	32.6 (19.2- 49.5)	87	72.9 (48.2- 88.6)
Lack of transport	64	39.0 (27.5- 51.8)	4	*12.4 (5.4- 25.8)	60	*47.1 (33.5- 61.3)
Poor road conditions	40	24.2 (14.4- 37.7)	0	0.0	40	31.7 (20.9- 44.8)
Total	161		38		123	

*Statistically significant

Some 75.2% (95% CI, 68.4–81.0) of pregnancies in the previous 6 years reportedly involved one or more complications. About two-thirds of those pregnancies with complications had severe abdominal pain, 64.7% (95% CI, 58.6–70.4), which could be a precursor to a miscarriage. A majority of women reported symptoms of a febrile illness (a proxy for malaria) 78.7% (95% CI, 71.8–84.3). Swelling of the hands or face, an indication of possible preeclampsia, was reported for 44.5% (95% CI, 35.5–53.8) of pregnancies. At least 82.1% (95% CI, 76.0–87.0) of the women also reported feeling very weak or tired. This could be a proxy for other comorbid

factors, such as iron deficiency anemia, which can contribute to poor pregnancy outcomes.

Fortunately, a majority of women sought care for those symptoms. Vaginal bleeding caused the highest proportion of women to seek help for that complication (Table 11).

Table 11. Percent of women experiencing selected complications during pregnancies leading to a live birth or stillbirth in the previous 6 years and percent seeking help for complications, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Pregnancy Complication	n	With complication		n	Seeking help	
		%	(95% CI)		%	(95% CI)
Total	663					
No complications mentioned	165	24.8	(19- 31.6)			
Any complication mentioned	498	75.2	(68.4- 81)	395	78.9	(75.7- 81.8)
Total	498					
Very weak or tired	406	82.1	(76.0- 87.0)	323	79.1	(74.6- 83.0)
Severe abdominal pain	319	64.7	(58.6- 70.4)	244	75.5	(68.8- 81.2)
Vaginal bleeding	188	39.7	(31.9- 48.1)	140	72.9	(64.9- 79.7)
Fever	383	78.7	(71.8- 84.3)	305	78.8	(74.3- 82.6)
Swelling of hands or face	214	44.5	(35.5- 53.8)	166	77.2	(71.7- 82.0)
Blurred vision	52	11.7	(8.4- 16.2)	31	65.5	(51.7- 77.1)
Other	21	4.6	(2.3- 8.8)	12	60.8	(45.1- 74.5)

An important note here is that about one-fifth of those reporting symptoms—19.7% (95% CI, 16.8–23)—did not seek any medical assistance. About one-third of those women who did seek help went to a medical clinic, 36.2% (95% CI, 28–45.2), while 13.6% (95% CI, 8.3–21.6) went to a traditional birth attendant (Table 12).

Table 12. Place of treatment for reported complications during pregnancies leading to a live birth or stillbirth in the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Source of Help for Complication	n	% (95% CI)
Did not seek help	100	19.7 (16.8- 23)
Traditional birth attendant	73	13.6 (8.3- 21.6)
Health Clinic	183	36.2 (28- 45.2)
Hospital	64	12.2 (8.5- 17.1)
Refugee camp	75	14.7 (9.4- 22.1)
Other	12	2.2 (0.7- 6.2)
No response/Don't remember	8	1.5 (0.6- 3.7)
Total	515	

Malaria is endemic in Liberia. If it is contracted during pregnancy, it can cause serious complications for the mother and for her unborn infant. In this study, a majority of women, 85.7% (95% CI, 81.4–89.1) reported having had malaria symptoms during pregnancy. About four-fifths of women with malaria symptoms sought treatment. With regard to symptoms during pregnancy, no significant difference appeared between women who lived in rural and in urban areas (Table 13).

Table 13. Percent of pregnancies in which women had malaria symptoms among pregnancies resulting in a live birth or stillbirth in the previous 6 years and percent of those with symptoms who were treated, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Residence	# of pregnancies	Pregnancies with malaria symptoms % (95% CI)	Pregnancies with malaria symptoms	Malaria symptoms treated % (95% CI)
Total	556	85.7 (81.4- 89.1)	446	79.4 (71.4- 85.7)
Urban	256	83.0 (78.0- 87.0)	221	86.7 (81.1- 90.8)
Rural	300	88.4 (81.6- 92.9)	225	72.9 (59.0- 83.4)

4.2.2. Delivery care

In the previous 6 years, almost half of births to respondents occurred at home, 47.6% (95% CI, 40.3–55.0). (Table 14)

Table 14. Percentage distributions of the place where deliveries took place, all pregnancies resulting in a live birth or stillbirth in the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February 2007

Residence	n	Home % (95% CI)	Health Facility % (95% CI)	On Way to Facility % (95% CI)	Refugee Camp % (95% CI)
Total	664	47.6 (40.3- 55.0)	33.4 (26.5- 41.1)	4.1 (2.3- 7.2)	13.7 (9.1- 20.2)
Urban	312	41.5 (29.8- 54.1)	40.5 (31.1- 50.6)	5.5 (2.5- 11.8)	11.7 (6- 21.5)
Rural	352	53.5 (44.0- 62.8)	26.6 (17- 39)	2.7 (1.3- 5.5)	15.6 (9- 25.8)

Overall, about half of deliveries took place with the assistance of a skilled attendant, 49.5% (95% CI, 41.4–57.7). In urban areas, 60.6% (95% CI, 46.9–72.8) of deliveries had skilled attendants, compared with only 38.8% (95% CI, 28.4–50.3) in rural areas—but as shown in Table 15, this difference was not statistically significant.

Table 15. The reported person who assisted with deliveries, pregnancies resulting in a live birth or stillbirth in the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Residence	n	Relative or friend % (95% CI)	Traditional birth attendant % (95% CI)	Midwife, nurse, or doctor % (95% CI)
Total	664	15.0 (10- 21.9)	34.7 (28.9- 41.0)	49.5 (41.4- 57.7)
Urban	312	12.7 (6.2- 24.1)	25.8 (18.4- 34.8)	60.6 (46.9- 72.8)
Rural	352	17.3 (10.9- 26.3)	43.4 (34.2- 53.0)	38.8 (28.4- 50.3)

As shown in Table 16, in the previous 6 years over half the women reported complications during labor and delivery for pregnancies leading to a live birth or stillbirth, but only about one-third sought help for those complications, 34.6% (95% CI, 17.1–57.7).

The following were most commonly reported complications:

- Fever—74.3 (66.9–80.5) percent of all pregnancies with complications,
- Heavy bleeding—63.4 (54.2–71.7),
- Signs of obstructed or prolonged labor—30.0 (24.7–35.9), and
- Vaginal tearing—20.7 (14.8–28.1).

Table 16. Percent of women mentioning selected complications during labor and delivery for most recent pregnancies leading to a live birth or stillbirth in the previous 6 years and percent of women with complications seeking help, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Delivery Complication	n	With complication % (95% CI)	n	Seeking help % (95% CI)
No complications mentioned	580			
Any complications mentioned	260	45.0 (37.6- 52.6)	109	34.6 (17.1- 57.7)
Heavy bleeding	320	55.0 (47.4- 62.4)	56	32.7 (14.9- 57.3)
Obstructed labor	184	63.4 (54.2- 71.7)	38	38.0 (19.8- 60.2)
Vaginal tearing	101	30.0 (24.7- 35.9)	17	27.1 (12.8- 48.5)
Convulsions	64	20.7 (14.8- 28.1)	11	24.6 (8.6- 53.3)
Fever	37	11.8 (8.0- 16.9)	69	30.4 (14.3- 53.3)
Discolored fluid from vagina	230	74.3 (66.9- 80.5)	10	27.7 (11.4- 53.3)
Other	33	10.1 (7.6- 13.4)	2	17.1 (3.0- 57.7)
Other	11	3.7 (1.8- 7.6)		

4.2.3. Postpartum care

A total of 28.1% (95% CI, 21.6–35.5) of the pregnancies reported did not have postpartum care.

Lack of postpartum care was more common among rural women, 39.8% (95% CI, 28.2–52.7), than among urban women, 15.9% (95%CI, 11.8–21.0). Access to a health facility for postpartum care was higher in the urban areas, 81.4% (95% CI, 75.5–86.2) versus the rural areas, 56.9% (95% CI, 44.7–68.4) Table 17.

Table 17. Women who had a postpartum check from a health worker or facility or no postpartum check in the 6 weeks following delivery among pregnancies resulting in a live birth or stillbirth in the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Residence	n	Health worker visited % (95% CI)	Went to health facility % (95% CI)	No post partum check % (95% CI)
Total	665	2.8 (1.7- 4.6)	68.9 (61.8- 75.3)	28.1 (21.6- 35.5)
Urban	312	2.7 (1.5- 4.9)	*81.4 (75.5- 86.2)	*15.9 (11.8- 21.0)
Rural	353	2.8 (1.3- 6.1)	*56.9 (44.7- 68.4)	*39.8 (28.2- 52.7)

* Statistically significant

A majority of women who had postpartum care at a health facility also reported that they had received information during their postpartum visit that included breastfeeding, 88.0% (95% CI, 80.5–92.9), breast care instructions, 84.9% (95% CI, 76.7–90.6), infant care, 87.8% (95% CI, 81.3–92.2), immunization, 77.6% (95% CI, 63.4–87.4) and nutrition, 75.6% (95% CI, 64.5–84.2). Receipt of information on contraception was reported by just over one-half of the women, 59.3% (95% CI, 48.2–69.6) (see Table 18).

Table 18. Percent of women receiving selected information or services as part of postpartum check during most recent pregnancy leading to a live birth or stillbirth in the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Post Partum Information	n	Percent Receiving Information % (95 % CI)
Breastfeeding	388	88.0 (80.5- 92.9)
Breast care	373	84.9 (76.7- 90.6)
Child care	379	87.8 (81.3- 92.2)
Immunization	339	77.6 (63.4- 87.4)
Nutrition	330	75.6 (64.5- 84.2)
Contraception	250	59.3 (48.2- 69.6)
Total	435	

A majority of women sampled reported having had postpartum complications, that is, within the first 6 weeks of delivery, 61.0% (95% CI, 52.9–68.5), with the most frequently reported complication being a fever of unknown origin, 75.6% (95% CI, 67.3–82.4). A majority of those women who reported fever also sought health care for this complication, 80.5% (95% CI, 70.2–87.8) (see Table 19).

Table 19. Percent of women mentioning selected complications during the 6 weeks following delivery for most recent pregnancies leading to a live birth or stillbirth in the previous 6 years and percent of women with complications seeking help, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Post Partum Complication	n	With complication % (95% CI)	n	Seeking help % (95% CI)
Total	578			
No complications mentioned	237	39.0 (31.5- 47.1)		
Any complication mentioned	341	61.0 (52.9- 68.5)		
Total	341			
Severe bleeding	143	39.3 (33.1- 46)	108	74.5 (57.9- 86.2)
Bad smelling discharge	123	35.5 (27.1- 44.8)	95	77.6 (57.0- 90.1)
Fever	263	75.6 (67.3- 82.4)	214	80.5 (70.2- 87.8)
Painful urination	139	40.9 (29.7- 53.1)	101	72.6 (54.5- 85.4)
Painful/Hot/Swollen breasts	150	44.4 (35.9- 53.2)	123	79.7 (68.0- 88.0)
Surgical infection	18	5.2 (2.9- 9.2)	11	70.3 (50.0- 84.8)
Obstetric fistula	10	2.6 (1.1- 6.1)	7	81.3 (51.4- 94.7)

Overall, women were far more likely to go to a health clinic than to other places for help with postpartum complications (see Table 20).

Table 20. Where women sought help for postpartum complications among the most recent pregnancies resulting in a live birth or stillbirth in the previous 6 years, Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Residence	n	Place of assistance with post partum complication				
		Health worker came to home % (95 % CI)	Health Clinic % (95% CI)	Hospital % (95% CI)	Refugee Camp % (95% CI)	Other % (95 % CI)
Total	291	4.9 (2.7- 8.8)	43.0 (32.4- 54.3)	13.6 (9.1- 19.8)	18.5 (9.6- 32.6)	19.1 (11.5- 30.2)
Urban	124	4.3 (1.9- 9.2)	51.3 (39.7- 62.7)	18.6 (11.5- 28.6)	16.7 (5.8- 39.5)	8.5 (3.8- 18.1)
Rural	167	5.4 (2.3- 12.0)	36.2 (21.5- 54.1)	9.5 (4.5- 19.2)	19.9 (8.4- 40.2)	27.7 (15- 45.5)

4.3. Contraception

At the time of the survey, 6.8% (95 % CI, 4.0–11.3) of women reported current use of contraception. This figure is not out of the ordinary for much of West Africa, a region of the world with high fertility and low contraceptive prevalence. For women currently living in urban areas, the prevalence was 10.7% (95 % CI, 6.1–18.3) and for those women living in rural areas the prevalence was 3.3% (95% CI, 1.0–10.3) (see Table 21)

Table 21. Percent of women married or living with a partner aged 15–49 who are currently using contraception by specific methods and residence; Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Characteristic	Total		Residence			
	n	% (95% CI)	Urban		Rural	
			n	% (95% CI)	n	% (95% CI)
	599		277		322	
Currently using any contraception	38	6.8 (4.0- 11.3)	28	10.7 (6.1- 18.3)	10	3.3 (1.0- 10.3)
Using traditional method	11	29.0 (14.6- 49.4)	7	25.0 (9.6- 51.1)	4	40.5 (23.5- 60.2)
Withdrawal	5	10.3 (3.2- 28.9)	4	12.0 (3.0- 37.4)	1	5.4 (0.5- 40.3)
Calendar	3	9.0 (2.8- 25.3)	2	8.3 (1.7- 31.7)	1	10.8 (2.6- 35.1)
Local	3	9.7 (2.6- 30.1)	1	4.6 (0.4- 39.5)	2	24.3 (13.5- 39.8)
Using modern method	27	71.0 (50.6- 85.4)	21	75 (48.9- 90.4)	6	59.5 (39.8- 76.5)
Condom (male or female)	2	4.8 (1.1- 18.9)	2	6.5 (1.6- 23.1)	0	0.0
Pill	14	35.9 (18.8- 57.4)	12	41.7 (20.4- 66.6)	2	18.9 (5.2- 49.8)
Injectables	10	24.8 (13.6- 40.8)	6	19.4 (7.9- 40.3)	4	40.5 (20.6- 64.2)
Not currently using	561	93.2 (88.7- 96.0)	249	89.3 (81.7- 93.9)	312	96.7 (89.7- 99.9)

Current contraception users were asked where they obtained their methods. As shown in Table 22, a large proportion of women currently using a modern method obtained it at a health center or hospital—but these numbers are small, and the confidence intervals are wide. Fewer than 14% of users reported obtaining modern contraceptive methods outside those health facilities. Less than one-fifth, 15.2% (95% CI, 4.8–38.6) of the women who reported using a modern contraceptive method also reported using condoms.

Table 22. Percent distribution of women in union or living with a partner who are currently using contraceptives by source of supply, use of condom in addition to current method, percentage with a problem or concern with method; Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Characteristic	n	% (95% CI)
Source of supply	27	
Health center	17	65.0 (38.3-84.8)
Hospital	6	19.4 (6.6-45.3)
Market	1	1.9 (0.3-11.9)
Pharmacy	3	13.6 (3.6-40)
Use condom in addition to current method	5	15.2 (4.8- 38.6)
Current problem or concern with method	4	9.7 (3.4- 24.6)

To improve the understanding of low prevalence of contraceptive use among nonusers and users of traditional methods (methods not considered highly effective), those women were asked the primary reason for not using contraception. The four most commonly reported reasons for not using contraception were lack of knowledge, trying to get pregnant, currently pregnant, and contraceptives not accessible (see Table 23).

In this study we assessed the unmet need for contraception, (i.e., the proportion of women who were at risk of becoming pregnant and did not desire to become pregnant, but were not using contraception). Table 23 shows that among all women, regardless of marital status, 30.5% (95% CI, 25.2–36.5) had an unmet need for contraception. In comparison, among women in union or with a partner, 32.6% (95% CI, 26.6–39.3) had an unmet need for contraception (Table 23).

Table 23. Primary reason for not using contraceptive methods and unmet need for contraception by age groups 15 to 24 and 25 to 34 and 35 to 49 years of age; Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Characteristic	Totals		Age Group					
			15-24		25-34		35-49	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Reason for not using contraception	844		316		317		211	
Not sexually active	60	6.9 (5.1- 9.1)	20	5.4 (3.3- 8.7)	15	5.4 (3- 9.5)	25	11.2 (6.9- 17.6)
Currently pregnant	87	10.2 (7.4- 13.9)	39	12.1 (8.1- 17.5)	36	11.4 (8.4- 15.2)	12	5.6 (2.5- 12.2)
Subfecund/infecund	42	5.1 (3.7- 6.9)	7	2.2 (0.7- 7)	15	4.6 (2.5- 8.4)	20	10 (6.2- 15.7)
Postpartum/breastfeeding	92	9.7 (7.3- 12.9)	34	9.8 (6.3- 15.1)	36	9.6 (6.1- 14.9)	22	9.8 (5.7- 16.5)
Wants to get pregnant	148	17.5 (14.1- 21.5)	56	18.1 (13.3- 24.2)	64	20.5 (16.1- 25.9)	28	11.9 (7.1- 19.2)
Not available	8	1 (0.3- 2.7)	1	0.3 (0- 2.3)	4	1.3 (0.4- 3.9)	3	1.5 (0.6- 3.8)
Not accessible	77	10.2 (6.9- 15)	27	8.8 (5.4- 13.9)	27	9.6 (6.1- 14.9)	23	13.2 (7.8- 21.6)
Opposed to using	47	5.8 (3.9- 8.6)	11	3.4 (1.4- 8)	23	7.3 (4.8- 10.9)	13	7.1 (3.9- 12.4)
Lack of knowledge	269	31.9 (25.3- 39.3)	115	37.9 (28.9- 47.9)	93	28.8 (21.6- 37.3)	61	27.7 (19.1- 38.3)
Unmet need for contraception	907		343		342		222	
All women	264	30.5 (25.2-36.5)	106	32.1 (23.7-41.9)	100	29.5 (24.5-35.0)	58	29.7 (21.0-40.2)
Unmet need for contraception	601		195		252		154	
Currently in union or with a partner	185	32.6 (26.6-39.3)	56	30.2 (19.8-43.2)	77	31.5 (25.2-38.4)	52	37.5 (25.4-51.5)

4.4. Violence

4.4.1. War-related injury and disability of household members

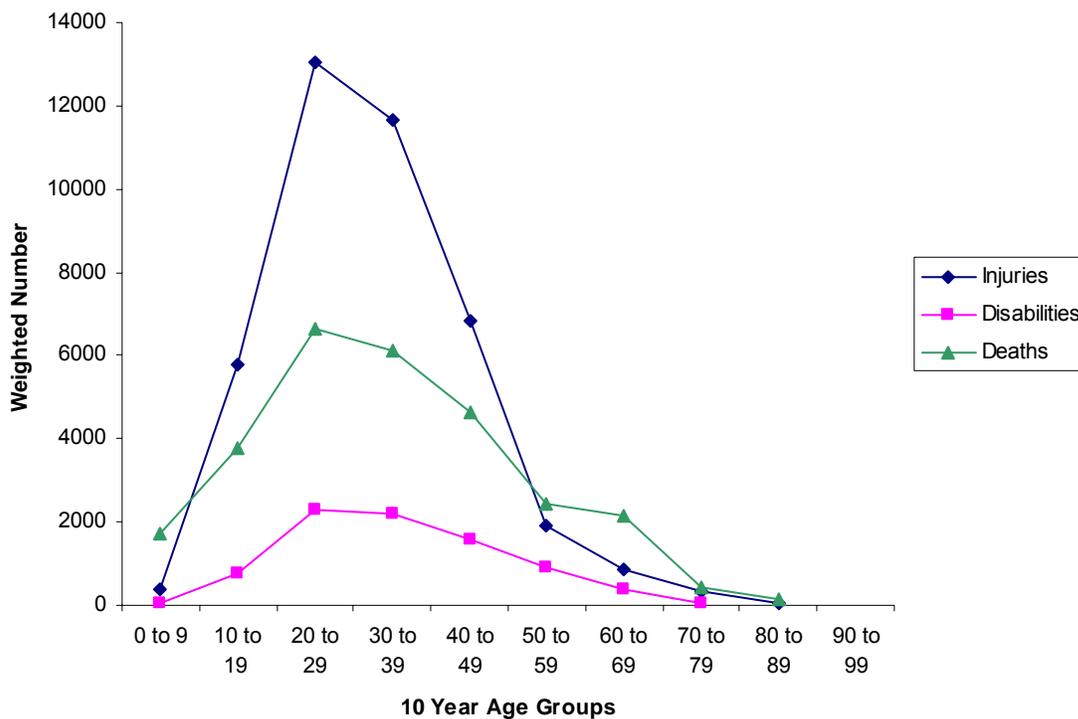
Respondents were asked to list by age and by sex everyone living in their household at the time of the survey. To assess war-related injury and disability during the most recent (1999–2003) war, respondents were asked whether any listed person had been injured, how that person had been injured, and whether the injury had caused a disability. Disability was defined as any limitation or inability in performing normal daily activities, such as walking, seeing, eating, and talking. The survey also asked if any household member had died during the (1999–2003) war.

Figure 1 shows the weighted number of women who from 1999–2003 had injuries, disabilities, or deaths in their households. The proportion of persons who suffered injuries by age forms a

roughly bell-shaped curve, showing higher reports of injury up to about 20–29 years of age.

Although a slight decrease in injuries occurred in the 30–39 year age group, a dramatic decrease in injuries occurred in the 40–49 year age group, followed by a leveling off in injuries among the 50–59 through the 80–89 year age groups. The number of deaths reported shows a similar pattern to injuries reported, which could reflect that the number of deaths reported per age group affected the number of injuries reported.

Figure 1. Weighted number of women who had injuries, disabilities or deaths in their households from 1999-2003; Reproductive Health Survey: Lofa County Liberia, January–February, 2007



4.4.2. Physical and sexual violence reported during and after the conflict

Table 24 shows the prevalence of violence perpetrated on women by persons other than family members. Women respondents reported these numbers for two time periods (i.e., conflict and post-conflict). Overall, the proportion of women who reported violence was over 10 times greater during the conflict, 90.5%, (95% CI, 85.9–93.7) compared with violence reported during

the year before the interview, 8.2% (95% CI, 6.3–10.7). In all three age groups, the prevalence of violence was high. Although a significant difference appeared in the prevalence of violence reported between urban and rural women, no such difference appeared between women of different educational levels. Fortunately, far fewer women reported violence during the year before the survey, with only 8.2% (95% CI, 6.3–10.7) stating that in that period they had experienced violence by someone other than their partner.

Table 24. Prevalence of violence during two time periods by perpetrators other than domestic partner by age, residence, and education level; Reproductive Health Survey; Lofa County Liberia, January–February, 2007

Characteristic	Time periods			
	During most recent conflict, 1999-2003		Post-conflict in the last year	
	n	% (95% CI)	n	% (95% CI)
Total	821	90.5 (86- 93.7)	64	8.2 (6.3- 10.7)
Age				
15-24	299	88.9 (84.4- 92.2)	29	10.0 (7.2- 13.8)
25-34	309	89.0 (82.2- 93.5)	22	7.6 (4.6- 12.3)
35-49	213	95.2 (90.4- 97.7)	13	6.3 (3.3- 11.6)
Residence				
Urban	365	84.6 (75.6- 90.6)	32	8.4 (6.1- 11.4)
Rural	456	96.2 (92.1- 98.2)	32	8.0 (5.2- 12.1)
Education level				
None	604	92.3 (87.4- 95.4)	41	6.7 (4.6- 9.7)
Primary	181	85.9 (78.0- 91.3)	20	12.6 (8.7- 17.9)
Secondary	35	86.0 (72.0- 93.7)	3	7.8 (2.0- 25.3)

Table 25 shows the percentages of specific types of conflict and post-conflict physical and sexual violence reported by the sampled women. For example, during the conflict 79.1% (95% CI, 74.0–83.3) of women interviewed stated they had been slapped, hit, choked, beaten, or kicked. Sixty-eight percent (95% CI, 59.9-75.2) stated they had been threatened with a weapon, and 29.7% (95% CI, 21.3–39.7) reported that during the conflict they were shot or stabbed. In addition, 76.5% (95% CI, 67.7–83.5) reported involuntary detention.

Sexual violence was extremely widespread during the conflict. For example, 41.2% (95% CI, 32.1–51.1) of respondents reported that they had been subjected to improper or unwanted sexual comments, and 44.0% (95% CI, 35.2–53.2) stated that they had been forced to remove their clothing. 37% of respondents (95% CI, 28.8–46.9) mentioned that they were subjected to unwanted kissing or touching on sexual parts of their bodies. 30.9% (95% CI, 22.5%–40.8%) of the women sampled said that they were raped (vaginal, oral, or anal). 35.6% (95% CI, 26.3-46.2) of the respondents were compelled to engage in sex for goods or services such as food, water, or protection. A total of 85 women reported that they were pregnant at the time of the violence and a total of 52 women reported that they became pregnant due to the violence. During the year before the survey, relatively few women reported either physical or sexual violence. Nonetheless, violence against women still existed, with 4.8% (95% CI, 3.0–7.7) of women sampled reporting that they had been hit, slapped, choked, beaten, or kicked, and 4.3% (95% CI, 2.2-8.0) reporting that they had been detained against their will (see Table 25).

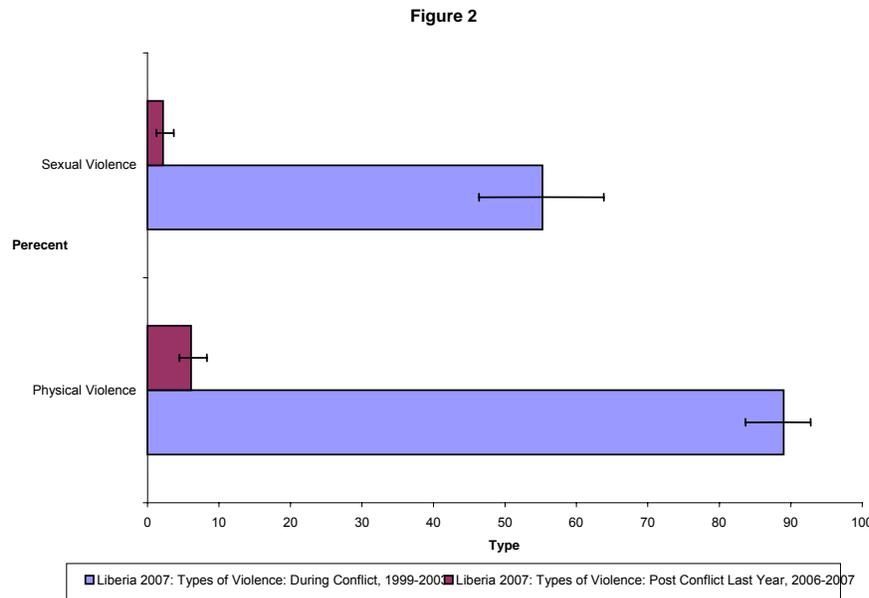
Table 25. Percentage of types of physical and sexual violence by two time periods during the most recent conflict, 1999-2003 and post-conflict within the last year; Reproductive Health Survey; Lofa County Liberia, January–February, 2007

Characteristic	Time period			
	During most recent conflict, 1999-2003		Post-conflict in the last year*	
	n	% (95% CI)	n	% (95% CI)
Total	907		906	
Physically hurt, such as slapped, hit, choked, beaten, or kicked	712	79.1 (74.0- 83.3)	40	4.8 (3.0- 7.7)
Threatened with a weapon of any kind	612	68.1 (59.9- 75.3)	14	1.7 (0.9- 3.3)
Shot at or stabbed	265	29.7 (21.3- 39.7)	4	0.5 (0.2- 1.5)
Detained against will	700	76.5 (67.7- 83.5)	37	4.3 (2.2- 8.0)
Subjected to improper sexual comments	367	41.2 (32.1- 51.1)	9	1.1 (0.5- 2.4)
Forced to remove or stripped of clothing	391	44.0 (35.2- 53.2)	5	0.7 (0.2- 2.0)
Subjected to unwanted kissing or touching on sexual parts of body	336	37.4 (28.8- 46.9)	7	1.0 (0.5- 2.2)
Forced or threatened with harm to give or receive oral sex or have vaginal or anal sex	266	30.9 (22.5- 40.8)	5	0.8 (0.4- 1.4)
Compelled to engage in sex in order to receive goods or services	302	35.6 (26.3- 46.1)	5	0.7 (0.2- 2.3)

The aggregated physical and sexual violence findings shown in Figure 2 provide a composite analysis of the prevalence of any physical or sexual violence. Included were four types of physical violence (e.g., physically hurt or threatened with a weapon of any kind, shot, stabbed, and involuntarily detained) and five types of sexual violence (e.g., improper sexual comments, forced to remove clothing, subjected to unwanted kissing, raped by force, and had sex in return for services) measured in two time periods. The findings reveal that the proportion of women who reported physical and sexual violence was about 10 times greater during the conflict than in the post-conflict period. In addition, both during the conflict and post-conflict, physical violence was more widespread than was sexual violence. During the most recent conflict, a majority of women—58.9%—reported at least one sexually violent incident, and almost 89.0% reported

physical violence. On the other hand, during the last year only 6.1% of the sampled women reported physical violence and 2.8% reported sexual violence.

Figure 2. Percent of respondents subjected to any type of physical or sexual violence by two time periods: the most recent conflict, 1999-2003 and post-conflict within the last year, 2006–2007; Reproductive Health Survey; Lofa County Liberia, January–February, 2007



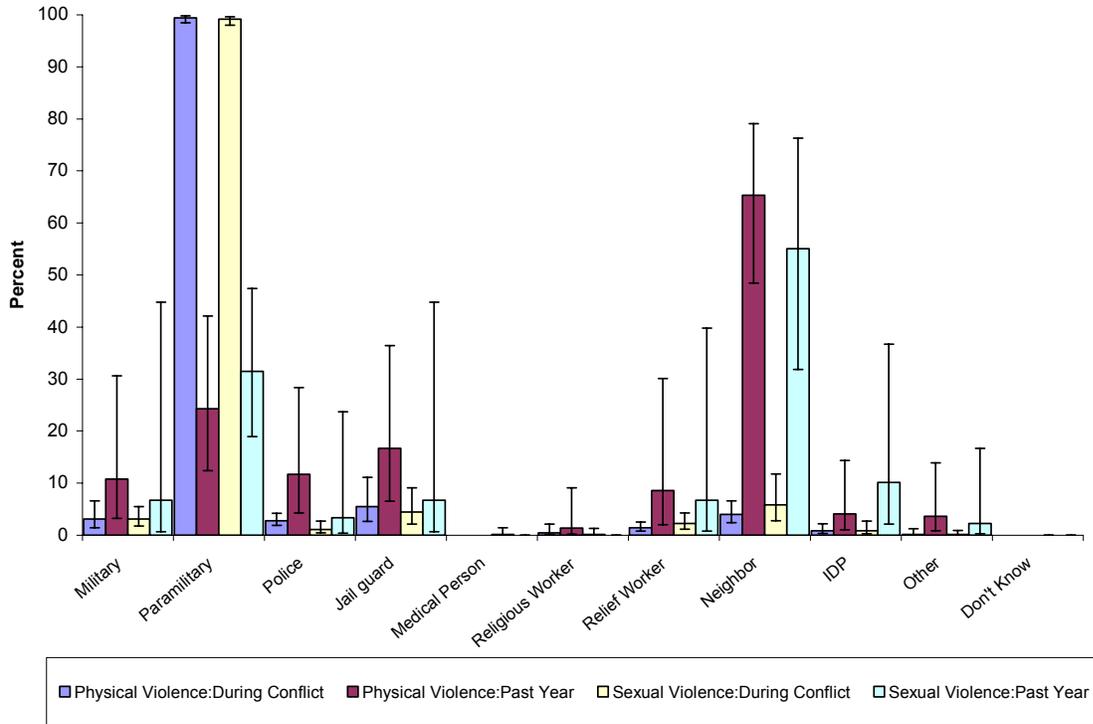
To assess the frequency of violence, women in the sample were asked the number of times they sustained each specific type of violence. For example, women were asked to report the number of times they had experienced each reported type of violence. The findings show that these violent incidents are not isolated; they happened repeatedly to most women who experienced any of them. Regarding sexual violence, the largest proportion of women reported that those attacks had occurred more than four times. Also, almost half of women compelled to have sex for favors also reported that this happened more than four times. Women who reported being threatened with a weapon, as well as those who were physically hurt, most frequently reported they had experienced such violence two or three times (see Table 26).

Table 26. Frequency of violence incidents during the most recent conflict, 1999–2003; Reproductive Health Survey; Lofa County Liberia, January–February, 2007

Characteristic	Total	Number of times					
		1-2		3-4		More than Four	
	n	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Physically hurt, such as slapped, hit, choked, beaten, or kicked	696	184	26.5 (20.5- 33.5)	275	40.4 (32.4- 48.9)	237	33.2 (24.7- 42.8)
Threatened with a weapon	595	110	19.6 (15.4- 24.7)	240	42.2 (35.2- 49.5)	245	38.2 (30.5- 46.6)
Shot or stabbed	261	89	39.6 (32.5- 47.2)	88	31.4 (26.4- 37)	84	28.9 (20.8- 38.7)
Detained against will	682	199	30.6 (24.4- 37.5)	198	29.5 (23.8- 35.9)	285	39.9 (31.3- 49.1)
Subjected to improper sexual comments	352	116	34.8 (27.9- 42.3)	100	28.5 (22.3- 35.7)	136	36.7 (27.3- 47.2)
Forced to remove or stripped of clothing	389	132	37.9 (32- 44.1)	117	28.7 (22.5- 35.8)	140	33.4 (25.4- 42.5)
Subjected to unwanted kissing or touching on sexual parts of body	326	83	28.5 (19.6- 39.6)	111	32.9 (24.3- 42.9)	132	38.5 (28.6- 49.5)
Forced or threatened with harm to give or receive oral sex or have vaginal or anal sex	265	83	32.3 (25.0- 40.5)	73	28.5 (21.6- 36.5)	109	39.3 (30.2- 49.2)
Compelled to engage in sex to receive goods or services	300	71	28.6 (23.6- 34.3)	73	24.2 (17.2- 33.1)	156	47.1 (38.6- 55.9)

For each type of incident reported, respondents were asked about the perpetrators of violence. Figure 3 shows that during the conflict rebels/paramilitary were the most frequently reported perpetrators of sexual and physical violence. In the post-conflict period, for both physical and sexual violence a neighbor was the most frequently reported perpetrator.

Figure 3. Percentage of perpetrators of physical and sexual violence by two time periods during the most recent conflict, 1999–2003 and post-conflict within the last year; Reproductive Health Survey; Lofa County Liberia, January–February, 2007



Women were also queried about the location of the violence they reported. The most common location where violence occurred was in the women’s home village/town or when she was traveling by road, 76.0% (95% CI, 71.1–80.4) and 76.5% (95% CI, 69.1–82.7), respectively (see Table 27).

A substantial proportion of women—38.7% (95% CI, 31.5–46.3)—sustained a physical injury from the violence inflicted on them during the conflict. The types of injuries most frequently reported were cuts, punctures or bites, 48.3% (95% CI, 38.9–57.9). Deep cuts or wounds were reported by 28.0% (95% CI, 21.8–35) of the women. As a complication of violent rape, 25.7% (95% CI, 18.8–34.1) of women reported vaginal or anal bleeding. Twenty-two percent of women who suffered violence reported they sustained a fracture during the attack.

Table 27. Location of outsider physical and sexual violence by two time periods during the most recent conflict, 1999-2003 and post-conflict within the last year; Reproductive Health Survey; Lofa County Liberia, January–February, 2007

Place of violence	Time period			
	During most recent conflict 1999-2003		Post-conflict Within the last year	
	n	% (95% CI)	n	% (95% CI)
Total	821		64	
Current location	81	9.3 (5.3- 15.9)	25	40.5 (24.5- 58.9)
Any refugee or IDP camp	63	7.7 (5.1- 11.3)	7	9.3 (3.8- 20.8)
Home village/town	610	76.0 (71.1- 80.4)	44	64.5 (44.7- 80.3)
Traveling by road	622	76.5 (69.1- 82.7)	24	37.1 (20.8- 56.9)
Other	39	5.1 (3.1- 8.2)	1	3.1 (0.3- 24.3)

Table 28. Self-reported injuries and help-seeking behavior by the most recent conflict from 1999-2003; Reproductive Health Survey; Lofa County Liberia, January–February, 2007

Characteristic	During most recent conflict, 1999-2003	
	n	% (95% CI)
Total	823	
Any injury reported	310	38.7 (31.5- 46.3)
Cuts, punctures, bites	150	48.3 (38.9- 57.9)
Scratches, abrasions, bruises	40	13.1 (9.4- 17.9)
Sprains, Dislocations	46	13.9 (9.5- 19.9)
Burns	35	12.0 (7.2- 19.2)
Deep cuts	87	28 (21.8- 35)
Broken ear drum, eye injuries	42	14.5 (9.3- 22)
Fractures, broken bones	67	22.0 (16.3- 29)
Broken or Lost Teeth	46	16.5 (9.4- 27.2)
Vaginal or anal bleeding	80	25.7 (18.8- 34.1)
Sought medical care	48	13.5 (9.2- 19.4)

Of those women reporting physical injury, only 13.5% (95% CI, 9.2–19.4) sought medical care.

The most frequently reported type of service that those women received was for emergency contraception, 44.1% (95% CI, 23.8–66.6), treatment for injuries, 42.8% (95% CI, 31.8–554.5), and sexually transmitted infections, 30.9% (95% CI, 13.4–56.3) (see Table 29).

Table 29. Women who sought medical care for sexual violence; by the most recent conflict from 1999–2003; Reproductive Health Survey; Lofa County Liberia, January–February, 2007

Characteristic	During most recent conflict, 1999–2003	
	n	% (95% CI)
Total	823	
Sought medical care for sexual violence	42	7.1 (4.1- 12)
Emergency contraception	16	44.1 (23.8- 66.6)
Treatment for STI	14	30.9 (13.4- 56.3)
Voluntary counseling and testing for HIV/AIDS offered	1	3.9 (0.3- 33.8)
Counseling/referral for mental health	6	17.1 (8.7- 31)
Treatment for injuries	19	42.8 (31.8- 54.5)
Evidence collection for report	4	14.5 (3.2- 46.6)

4.4.3. Intimate partner violence

This survey also measured lifetime prevalence of intimate partner violence (IPV). A substantial majority of women (649), 61.5% (95% C, 52.2–70.1) responded that they were subjected to IPV. Of those responding, 60.6% (95% CI, 51.2–69.3) had experienced physical violence, and 32.8% (95% CI, 21.9–46) had experienced sexual violence.

To describe IPV risk factors, categories were created for age groups, residence, and education of the respondent and the education level of the husband or partner; few differences however were significant. Overall, physical violence was more frequently reported than sexual violence. In addition, husbands/partners who had no education were more likely to be perpetrators than were husbands/partners with education (see Table 30).

Table 30. Intimate partner violence by type of violence, physical or sexual, and by residence and education level; Reproductive Health Survey; Lofa County Liberia, January–February, 2007

Characteristic	Type of violence					
	Physical			Sexual		
	n	%	(95% CI)	n	%	(95% CI)
Total	649			649		
	379	60.6	(51.2- 69.3)	209	32.8	(21.9- 46)
Age						
15-24	137	71.6	(61.7- 79.8)	85	44	(30.9- 57.9)
25-34	156	57.8	(48.6- 66.4)	80	29.5	(18.7- 43.4)
35-49	86	52.6	(39.6- 65.2)	44	25.4	(15.7- 38.4)
Residence						
Urban	151	50.1	(40.8- 59.3)	56	19.0	(9.7- 33.8)
Rural	228	70.2	(55.3- 81.8)	153	45.5	(28.4- 63.7)
Education level						
None	300	63.3	(53.2- 72.4)	175	35.7	(24.4- 48.9)
Primary	60	47.9	(37.9- 58)	28	23.6	(10.9- 43.8)
Secondary	18	69.0	(44.6- 86.1)	5	17.9	(5.2- 46.5)
Husband's education level						
None	217	71.0	(60.4- 79.7)	139	45.2	(30.6- 60.6)
Primary	75	54.6	(43.9- 64.9)	41	27.6	(16.7- 42)
Secondary	66	54.3	(42.0- 66.0)	20	16.6	(8.8- 29)
University/technical	6	45.8	(21.1- 72.8)	3	22.9	(9.6- 45.6)

Lastly, about 21.8% (95% CI, 16.6–28.1) of women sampled reported having sustained an IPV–related injury over a lifetime. Of those women reporting an injury, the most frequently reported type was cuts or punctures, 46.4% (95% CI, 35.9–57.2), deep cuts, 20.8% (95% CI, 12.7–32.2), and broken ear drum or eye injuries, 18.3% (95% CI, 6.8–40.9). Less than one-fourth of the women injured reported that they sought medical care for those injuries, 21.8% (95% CI, 9.7–42.0) (Table 31).

Table 31. Self-reported injuries, help-seeking behavior, medical complications and reporting patterns related to the violence by an IPV; Reproductive Health Survey; Lofa County Liberia, January–February 2007

Characteristic	n	% (95% CI)
	397	
Any injury reported	86	21.8 (16.6- 28.1)
Type of injury reported	86	
Cuts, punctures, bites	44	46.4 (35.9- 57.2)
Scratches, abrasions, bruises	9	8.5 (3.8- 17.8)
Sprains Dislocations	16	15.8 (9- 26.1)
Burns	11	13.2 (7.6- 22.2)
Deep cuts	21	20.8 (12.7- 32.2)
Broken ear drum, eye injuries	13	18.3 (6.8- 40.9)
Fractures, broken bones	10	13.9 (6- 28.8)
Broken or lost teeth	10	16.1 (5.8- 37.3)
Vaginal or anal bleeding	11	17.4 (8.7- 31.7)
Sought medical care	24	21.8 (9.7- 42.0)

4.5. Knowledge, attitudes and behaviors of HIV/AIDS

A majority of married or cohabiting women believed that their partner had other sexual partners, 58.1% (95% CI, 53.2–62.8). No significant difference appeared between younger and older age groups. In addition, 13.9% (95% CI, 10.5–18.1) of the married/cohabiting women were also engaging in sexual intercourse with nonregular sexual partners, with no significant difference between younger and older groups. In addition, few women reported that their nonregular sexual partners used condoms— 4.8% (95% CI, 2.4–9.4) (Table 32).

Table 32. Sexual behavior and condom use by two age groups 15–24, and 25–49; Reproductive Health Survey; Lofa County Liberia, January–February 2007

Characteristic	Total		Age group			
			15-24		25-49	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Believes that husband/partner has other sexual partners	643	58.1 (53.2- 62.8)	228	60.5 (51.4- 68.8)	415	56.8 (51.1- 62.4)
Respondent has had sex with non-regular sexual partner	876	13.9 (10.5- 18.1)	323	14.9 (9.6- 22.6)	553	13.3 (9.6- 18.0)
Average number of non-regular sexual partners in the past 12 months	110	1.83 (1.5 - 2.2)	41	1.81 (1.3-2.3)	69	1.84 (1.3-2.4)
Received money or goods in exchange for sex	113	27.8 (18.9- 39.0)	45	21.3 (11.1- 37.0)	68	32.2 (19.4- 48.4)
Used a condom with most recent non-regular sexual partner	110	4.8 (2.4- 9.4)	45	6.1 (2.7- 13.2)	65	3.9 (0.9- 15.0)

Only slightly over half of respondents said they had ever heard of HIV/AIDS, 54.9% (95% CI, 46.4–63.1), with no significant difference between younger and older age groups, 59.1% (95% CI, 48.5–68.9) and 52.4% (95% CI, 43.8–60.9), respectively. Of those who have heard of HIV/AIDS unprompted knowledge of HIV/AIDS transmission was found among 84.8% (95% CI, 75.4–91.0) of respondents. This was measured simply by asking women to mention two ways to prevent HIV. Prompted knowledge (i.e., asking true or false questions about HIV transmission) was recorded among 62.6% (95% CI, 56.3–68.4) of the women who had heard of HIV/AIDS. Only 23.0% (95% CI, 16.3–31.6) of respondents had fact-based AIDS beliefs and knew that a good diet does not prevent AIDS, that not touching a person who has AIDS cannot prevent AIDS, and that a healthy looking person can have HIV. Comprehensive knowledge of HIV was found among 14.5% (95% CI, 9.3–21.9) of the respondents. This was measured by respondents who correctly knew all that

1. using condoms all the time could prevent HIV transmission;
2. limiting sex to one faithful, uninfected partner could prevent HIV transmission;
3. mosquitoes cannot transmit HIV; and

4. a healthy looking person can have HIV.

Such views did not vary substantially between age groups. Perceptions of personal risk of contracting HIV were low, with almost half of women saying that they had a small chance of contracting the HIV virus, 46.1% (95% CI, 40.1–52.3), as shown in Table 33.

Table 33. Knowledge, attitudes and perception of contracting HIV by two age groups 15–24, and 25–49; Reproductive Health Survey; Lofa County Liberia, January–February 2007

Characteristic	Total		Age group			
			15-24		25-49	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Has heard of HIV/AIDS	907	54.9 (46.4- 63.1)	343	59.1 (48.5- 68.9)	564	52.4 (43.8- 60.9)
Knowledge of HIV prevention methods	455	62.6 (56.3- 68.4)	184	61.8 (53.7- 69.3)	271	63.1 (55.2- 70.3)
No incorrect beliefs about AIDS	449	23.0 (16.3- 31.6)	179	22.5 (16.6- 29.7)	270	23.4 (15.1- 34.4)
Knowledge of HIV prevention	456	84.8 (75.4- 91)	184	86.9 (75- 93.7)	272	83.4 (73.8- 89.9)
Comprehensive knowledge about AIDS	449	14.5 (9.3- 21.9)	179	14.7 (10.4- 20.4)	270	14.4 (7.6- 25.5)
Knows someone personally with AIDS	445	12.1 (8.6- 16.7)	180	10.4 (5.4- 19.1)	265	13.3 (8.8- 19.6)
Perception of contracting HIV						
No chance	455	15.5 (8.5- 26.6)	184	22.5 (11.8- 38.8)	271	10.7 (4.6- 23.1)
Small chance	455	46.1 (40.1- 52.3)	184	38.5 (29.7- 48.1)	271	51.3 (44.3- 58.2)
Moderate chance	455	17.3 (12.0- 24.2)	184	15.6 (7.8- 28.8)	271	18.4 (12.5- 26.2)
Good Chance	455	3.3 (1.7- 6.4)	184	3.0 (1.5- 5.9)	271	3.5 (1.4- 8.5)
Already Infected	455	2.4 (1.2- 4.5)	184	2.6 (1.3- 5.2)	271	2.2 (0.8- 6.2)
Do not know	455	15.5 (12.2- 19.5)	184	17.8 (13- 23.9)	271	13.9 (10.1- 18.8)

Women were queried about HIV voluntary counseling and testing (VCT), but the numbers were too low to report. The most frequently reported sources of information about HIV/AIDS were 1) radio, 44.2% (95% CI, 36.4–52.3); 2) health workers, 14.5% (95% CI, 9.8–20.9); and 3) friends, 14.5% (95% CI, 10.6–19.5) (see Table 34).

Table 34 Source of information about HIV/AIDS by age groups, 15–24 and 25–49; Reproductive Health Survey; Lofa County Liberia, January–February 2007

Characteristic	Total		Age group			
			15-24		25-49	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Most frequent source of information about HIV/AIDS	449		181		268	
Radio	194	44.2 (36.4- 52.3)	79	44.6 (33.1- 56.7)	115	43.9 (36.1- 52)
Health Workers	67	14.5 (9.8- 20.9)	28	14.9 (8.9- 23.9)	39	14.2 (9.7- 20.3)
Hospital/clinic doctors	36	7.5 (5.4- 10.4)	15	7.3 (4.3- 12.2)	21	7.7 (5.2- 11.3)
Family members	47	11.3 (8.0- 15.8)	15	9.5 (4.9- 17.6)	32	12.6 (7.7- 19.9)
Friends	73	14.5 (10.6- 19.5)	27	13.8 (8.3- 22.1)	46	14.9 (10.0- 21.6)

5. Discussion

The 1999–2003 civil conflict, which was largely centered in Lofa County, almost completely destroyed the health facilities located there. At the time of the survey only an estimated 26 Liberian medical doctors remained in Liberia as a whole, of which only three were assigned in Lofa County. Of these three medical doctors, only two provided RH services while the third provided eye care. These low numbers will ultimately affect the delivery of RH services and the type of humanitarian assistance needed.¹⁶ The findings from this RH survey are Lofa County-specific and thus not representative of Liberia as a whole. However, the probability is high that other counties in Liberia may have many characteristics in common with Lofa and may therefore face similar challenges. Overall, the findings highlight that the situation in Lofa warrants immediate and intensive intervention to respond to the reproductive health needs of women.

5.1. Characteristics of respondents and households

The most recent complete Liberian population census took place in 1984. The lack of recent census data for Liberia has resulted in the availability of population estimates and of the general population characteristics that can only be described as crude. Liberia is, however, currently in the process of planning a new population census. The prevailing practice is to estimate population figures by counting the number of households in a village or town and multiplying

this total household number by four (the assumed average household size). Yet this study has shown a more accurate multiplier is about six—the estimate this survey found as the average household size. Still, a large number of refugees have moved into and out of Lofa County, which also holds large numbers of internally displaced persons. Therefore, until an official census occurs, researchers must take such changing demographics into consideration.

In this survey, we documented many of the factors that exacerbate health risks: female-headed households, high illiteracy, unemployment, women's and husbands' lack of education, inadequate shelter, and lack of access to safe drinking water and sanitation. The effects of this constellation of factors highlight the need to address these issues in the transitional-years phase as Liberia rebuilds from war. Water and sanitation requires immediate intervention, whereas education and employment will require sustained efforts. If these issues are not addressed, women, their families, and communities will remain at increased risk for poor health services.

We found the most egregious effects of war reported by the women were displacement, loss of livelihood, and loss of family members. The fact that no significant differences were found between urban and rural residents indicates the war's widespread impact. Many reports on Lofa County have documented both the breadth and depth of the war. For decades to come, the near-complete destruction of the Lofa County infrastructure and the lives lost will not only affect Lofa County, but other parts of Liberia as well.

5.2. Maternal health

Overall, the maternal health care indicators from this survey, as expressed by women for their most recent pregnancies, confirm limited access to health care services. Unfortunately, a key maternal health indicator has not improved since it was last measured in the Liberia 1999/2000 RH Survey.¹⁷ In that survey, 51% of women reported that they had medical attendants during

delivery, which was about the same percentage found in this survey. Yet this indicator is far below the standard WHO level of 80%, which should have been achieved by 2005.¹⁸ A study conducted by UNFPA in collaboration with the Ministry of Health and Social Welfare from June to August 2006 revealed that more than 52% of women with obstetric fistulas had reported that they were in labor for more than 2 days, and that 83% of those women did not seek medical help, which also confirms limited access to emergency obstetric care for women and adolescents during labor and delivery.¹⁹ Although infrastructure issues, such as poor road conditions and lack of transport, are linked to a decrease in access in similar settings, another issue is the absence of skilled health providers, which indicates lack of availability of services. Prenatal care attendance, another key indicator measured in this survey, showed a slight decline compared to the 1999/2000 RH Survey (84% and 76%, respectively).¹⁷

A recent report by the Ministry of Health and Social Welfare Liberia—which shows gaps in health delivery in Lofa County, particularly in Foya and Salayea districts and to a lesser degree in Voinjama and Zorzor districts—reinforces many of the access and availability problems identified in this survey.²⁰ In that regard, examination of the maternal health care issues found in this survey is helpful, given that maternal health care is dependent on skilled medical attendants and well-equipped and functioning health facilities. Fortunately, a number of recommended standards of care and services can be used in this resource-poor setting. For example, Reproductive Health Kits are available that are supplied by UNFPA. The kits are prepackaged and are a standardized set of RH equipment and supplies, which are provided to pregnant women, nurse midwives, health facilities, and hospitals in emergency/post-conflict settings where service delivery is compromised, such as in Lofa County.²¹

The implementation of the RH kits is not, however, mutually exclusive of other needed interventions, including but not limited to midwife training. Another resource in rural

communities where women lack access to skilled medical personnel is traditional birth attendants (TBAs) who can play a role as the link to the health providers in prenatal care, in delivery, and in postnatal care.^{22,23} Emergency transport for obstetric emergencies is another needed resource that will improve access to medical attendants and services.²⁴ Also, more attention needs to be placed on malaria diagnosis and treatment, and increasing tetanus toxoid vaccination coverage to at least 90% during pregnancy to reach the WHO benchmarks.^{24,25}

5.3. Contraception

The contraceptive prevalence estimated in this survey has remained about the same since it was last measured in 1999/2000: 6.4% versus 8.8% (for the country of Liberia), respectively.¹⁷ This indicates that access and availability—as well as the desire to regulate fertility—have remained relatively unchanged for the past two decades. Rigorous family planning services alone of course will not change fertility regulation. This survey did not explore those cultural, religious, or social constructs related to contraceptive use that are likely to continue as important determinants of contraceptive use. In addition, the effects of war on fertility are not well understood. The factors associated with these issues need more in-depth and can then provide the basis for appropriate family planning programs and for safe, affordable, and culturally appropriate interventions. When women are presented with the most appropriate methods and information about the importance of contraception, they are more likely to space and limit childbearing.²⁶ Similarly, individual and community education for women can raise awareness about contraception's importance and availability.

5.4. Violence

The findings on violence documented in this survey are useful because they:

1. validate anecdotal information and other published assessments on this topic;^{27,28,29}

2. use standard methods, which allow for comparisons with other population based surveys;
3. provide an epidemiological profile of violence against Lofa County women;
4. assist in a more widespread response to the problem; and
5. confirm the need for primary, secondary, and tertiary public health violence interventions.

Assuring safety for women during war is a demanding proposition that goes beyond the scope of this report.³⁰ Nevertheless, one of the most disturbing findings from our survey was that women reported such a high rate of violence during the conflict. Yet other needs assessments have found similar results; for example, a study conducted by WHO in 2004 in Lofa County also measured violence against women for an unspecified time period during and after the conflict and showed that

1. from 34% to 65% reported at least one act of physical violence;
2. rape was recorded up to 68%;
3. 60% of the women suffered some emotional or psychological disturbance as a result of the violence; and
4. about 90% of those women who reported violence needed medical treatment.

Swiss et al documented violence in Monrovia during the 1989–1994 conflict and also showed that about one-half of the respondents reported at least one act of physical violence, and 15% reported that they had been raped. Although both of these studies used nonrandom sampling techniques, they nonetheless validated the widespread nature of violence suffered by women—individual tragedies that have profound consequences for the entire Liberian community. Thus our findings here support the previous studies and underscore the immediate need for strong public health programs in violence prevention and treatment/response.

Another disturbing finding from this survey was the prevalence of IPV. Physical assault by an intimate partner surpassed the global statistical range of 13% to 45%.³¹ In comparison, this survey's findings of rape by an intimate partner falls within the range of global rape statistics for lifetime reports of attempted or completed forced sex by an intimate partner—5.9% to 46.7%. Global studies on violence validate the complex and interrelated risk factors associated with IPV and include individual, partner relationship, community, and societal factors. These factors typify the difficulties in addressing this issue. In addition, in a post-conflict setting such as Liberia, the combined suffering of women due to war-related violence and IPV undoubtedly increases their physical and psychological health risks.

5.5. HIV/AIDS

According to the United Nations AIDS Program, HIV prevalence in Liberia is unknown, both at the national level and specifically in Lofa County..³² Given the recent history of widespread rape in Liberia and the social instability that follows war, HIV/AIDS remains a major public health challenge, particularly for many refugees returning from Sierra Leone³³ and Guinea,³⁴ where prevalence rates are estimated at 1.6% and 1.5%, respectively. Because Liberia had no HIV sentinel surveillance system until very recently, the growing concern about the unknown prevalence of HIV/AIDS in post-conflict Liberia combined with the lack of public health resources and lack of knowledge among the population needs immediate attention.^{35, 36}

The findings from this survey highlight an urgent need for HIV/AIDS programming. For example, the 1999/2000 Liberia Demographic and Health Survey showed that only 74 percent of women have heard of HIV/AIDS, and only two out of three women believed that sexual intercourse is one of the ways of contracting HIV/AIDS.¹⁷ In contrast, women in this survey showed even lower levels of knowledge. In addition, the combination of low prevalence of condom use with nonregular sexual partners and a low level of knowledge about prevention and

transmission of HIV/AIDS describe a constellation of factors that could lead to an increased risk of HIV/AIDS transmission. Although this survey found that media interventions such as the radio were a popular form of disseminating information about HIV/AIDS, people who lack access to a radio need to be reached in other ways. The lack of HIV/AIDS voluntary counseling and testing services also highlight the need for improvement in this area.

5.6. Limitations

As with any study, the Lofa County Reproductive Health Survey has several limitations. The questions from the survey about the socioeconomic characteristics of women failed to capture any degree of variation within the study population. Although this could be the reality of the situation rather than a limitation; information was nonetheless collected on migration, education, employment status, and household characteristics. No significant differences were found in these variables, and the homogeneity of the findings limited the study's ability to look at differences across the population with regard to reproductive health outcomes. Still, future research could focus on defining appropriate social and economic measures, especially for conflict-affected women. Presumably, findings from those variables could identify the most vulnerable women within the population, (i.e., those who are at highest risk of poor reproductive health outcomes).

Although the study was originally designed to cover all of Lofa County, a decision was made to exclude two of the county's six districts (Kolahun and Vahun), which contain an estimated 18 percent of Lofa's population. These districts were excluded because much of their area was inaccessible during the time of the survey. As a result, the possibility remains that the findings described in this report are not representative of women in Kalahun and Vahun districts. Yet these districts were subject to the same disruption and destruction as the rest of Lofa County. If they differ from the other four districts in terms of the indicators examined in this study, it is likely that because of the remoteness and inaccessibility, the situation in Kolahun and Vahun is

even worse. Consequently, we believe that the recommendations from this survey could be used as a baseline for further assessments in those districts.

Sample size calculation was based on the only available lists at the time of the survey, such as the p-code list. During the survey time period, the population of Lofa County was in a state of flux due to the Liberian refugees resettled from Sierra Leone and Guinea as well as from other places within Liberia. Because the probability of village selection was based on old data, the survey estimates may have been biased to some extent.

Recall bias could have affected the completeness and accuracy of respondents' answers. This may have been especially true for the violence section, given that many of the questions required women to recall events that happened several years ago. In addition, the violence questions during the conflict period covered a 5-year period compared to the post-conflict questions, which referred to only a 1-year period. This could conceivably explain some of the difference in prevalence rates of violence—the period of recall was five times greater for the conflict period. Additionally, the birth history section asked each woman to list all births in the past 6 years. Because this is a population in which many women did not know with precision their age or the ages or dates of birth of their children, errors are likely to occur in this information and can account for the underreporting of births.

Another potential source of bias was the interviewers. In spite of the fact that interviewers received considerable training in translating the questionnaire into local terms, a possibility of error still remained with regard to the translation, in particular, when applying case definitions with equal precision throughout the duration of the survey. For example, local terms for stillbirth were available, but the exact case definition was not known to almost half of the interviewers, which was emphasized during training. Multiple skip patterns were a challenge, but most of the

interviewers were quick to learn the rationale for the skips. As a result, to compensate for interviewers with fewer skills, the interviewer training course was increased from 4 to 8 days. Lastly, future analysis can assess relationships between multiple variables in order to measure risk factors in more detail.

6. Conclusions

Findings from RH surveys have been used successfully to develop high quality data addressing public health prevention programs and the monitoring and evaluation of those programs for WRAs. The findings from the present survey suggest that it may also be a useful tool for developing specific interventions for RH services in a post-conflict setting. For example, the findings on:

- Lack of prenatal care, delivery, and postpartum care,
- Complications during pregnancy,
- Lack of contraceptive use and moderate level of unmet need for contraception,
- High levels of violence and low levels of knowledge of HIV prevention and transmission associated with high risk behavior,

suggest that intervention efforts in Lofa County will need immediate, medium and long-term public health activities. Still, as is often the case, considerable uncertainty attends any transitional-years phase. An important strategy to address the gap in assistance between relief and development funding is creation of sustained partnerships with local nongovernmental organizations. Throughout the world, and particularly in post-conflict settings, local NGOs play a crucial role in the delivery of services to some of the hardest-hit and remote communities and can be a major force in the process of reestablishing civil society. The data from this survey are

explicitly linked to public health action vis-à-vis the partnership with JSI Research and Training Institute and other partners such as UNFPA, as previously mentioned.

7. Recommendations

We must of necessity implement in a challenging environment any recommendations for improving the reproductive health of women in Liberia. One such challenge is effectively translating the findings from this survey into meaningful RH services. We are nonetheless hopeful that the survey findings can be an effective tool for

- program planning and design,
- program delivery,
- community-based participation,
- staffing and training, and
- guidance to agencies as they assign and share responsibilities for implementation of the findings.

With those thoughts in mind, we make following recommendations:

7.1. Immediate

- Scale up provision of Reproductive Health Kits for Lofa County health facilities and for hospitals;
- Provide ambulances for referral of obstetric complications (health agencies and government partners should coordinate this);
- Ensure that all pregnant women have at least four prenatal care visits;
- Vaccinate for tetanus toxoid to a 90% coverage rate;
- Evaluate and treat malaria during pregnancy in accordance with Ministry of Health guidelines;

- Establish a gender based violence (GBV) coordinator for Lofa County;
- Increase capacity of medical staff to perform medical examinations—treat and follow-up for all types of GBV, including rape;
- Increase HIV/AIDS education campaigns through radio programs and other media interventions, and ensure the reporting information is accurate;
- Use and promote voluntary counseling and testing (VCT) services where available;
- Select local health NGOs that have the capacity to implement the key findings from this survey (JSI Research and Training Institute responsibility);
- Improve access and availability to safe water for drinking through the implementation of wells; and
- Promote and provide household/family latrines.

7.2. Medium term

- Conduct UNFPA-led training on the Sphere Guidelines’ Minimum Initial Service Package for organizations that are recipients of RH kits on their usage;
- Improve the number of deliveries that have a skilled attendant, primarily by training midwives;
- Strengthen the capacity of health personnel to detect and manage high risk conditions arising during pregnancy;
- Improve the quality of prenatal care by providing information on
 - nutrition, smoking and alcohol use during pregnancy;
 - the benefits of breastfeeding;
 - delivery with a skilled medical attendant;
 - early detection and recognition of the danger signs of pregnancy;
 - postpartum care; and

- STI/HIV/AIDS prevention;
- Educate women, TBAs, and other community members in the early recognition of and referral for obstetric complications;
- Ensure that within 6 weeks of delivery all women have postpartum visits to check the status of the infant and mother and to reinforce contraception and breastfeeding practices;
- Ensure that a variety of culturally accepted contraceptive methods are accessible, and available;
- Make condoms more available and accessible; and
- Combine hygiene education campaigns with water and sanitation programs.

7.3. Long term

- Increase information outreach and advocacy measures to ensure that information regarding variety and availability of the RH kits is disseminated effectively to organizations that manage health clinics;
- Strive to increase the human and operational capacity of UNFPA and other health partners' offices by recruiting more technical staff, by developing and sustaining improved comprehensive monitoring and evaluation mechanisms, and by better documentation of programs and operations for RH;
- Strengthen GBV programming through staff training, community participation, involvement of men, and integration of program components into health care services;
- Include capacity for counseling and providing safety for survivors of GBV;
- Educate women, community women's groups, and men on the benefits of contraception use;
- Identify, train, and monitor HIV/AIDS peer educators from the communities; and

- Create links, especially in remote counties, between women's empowerment initiatives and RH awareness building activities through income generation projects integrated with RH literacy programs (JSI Research and Training Institute responsibility).

8. References

- ¹ Williams GI. Liberia: the heart of darkness. Victoria BC Canada: Trafford Publishing; 2002.
- ² Nilsson D. Liberia—the eye of the storm: studies on emergencies and disaster relief. No 10 2003. The North Africa Institute.
- ³ United Nations Development Programme. National Human Development Report Liberia. Monrovia, Liberia; 2006
- ⁴ United Nations Consolidated Appeals Process for Liberia. Geneva, Switzerland: United Nations Office for the Coordination of Humanitarian Affairs; 2006; c2003 [cited 2007 July 23]. Available from: <http://www.humanitarianinfo.org/liberia/infocentre/donors/index.asp>.
- ⁵ International Conference on Women and Infectious Diseases Session Summaries. Impact of war on women's health: refugees from Liberia and Sierra Leone in Nigeria. Emerg Infect Dis 2004;10:2034.
- ⁶ United Nations Emergency Children's Fund. Overview of Women's Health in Liberia 2005 [cited 2007 July 24]. Available from: http://www.unicef.org/infobycountry/liberia_statistics.html.
- ⁷ World Health Organization. Violence against women and HIV/AIDS: critical intersections. Sexual violence in conflict: setting the risk of HIV. Geneva: Department of Gender, Women and Health, World Health Organization 2004; c2007 [cited 2007 July 23]. Available from: <http://www.who.int/gender/documents/en/index.html>.
- ⁸ Humanitarian Information Center for Liberia. Liberia handbook of place codes, Lofa County Draft Version 1.0 2005; c2003 [cited 2007 24 July]. Available from: <http://www.humanitarianinfo.org/Liberia/infocentre/pcodes/index.asp>.
- ⁹ Centers for Disease Control and Prevention. Reproductive health survey: Albania 2002. Atlanta: US Department of Health and Human Services.
- ¹⁰ Demographic and Health Survey Liberia 1986. Calverton, MD: Demographic and Health Surveys Macro International Inc.
- ¹¹ World Health Organization. Putting women first: ethical and safety recommendations for research on domestic violence against women. Geneva: Global Programme on Evidence for Health Policy; 2001.
- ¹² Centers for Disease Control and Prevention. Reproductive health assessment toolkit for conflict-affected women 2007. Atlanta: US Department of Health and Human Services, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Division of Reproductive Health.
- ¹³ Centers for Disease Control and Prevention. Reproductive health assessment toolkit for conflict-affected women 2007. Atlanta: US Department of Health and Human Services, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Division of Reproductive Health.

-
- ¹⁴ Bureau of the Census. The Integrated Microcomputer Processing System (IMPS) 2000. Washington DC: US Department of Commerce [updated 2007 April 26; accessed 2007 24 July]. Available from: <http://www.census.gov/ipc/www/imps/>.
- ¹⁵ SUDAAN Release 9.01 software. Research Triangle Institute, Research Triangle Park, North Carolina, USA. January 2003.
- ¹⁶ United Nations. Common country assessment Liberia: consolidating peace and national recovery for sustainable development. Monrovia, Liberia: United Nations Country Team Liberia; 2006.
- ¹⁷ Government of Liberia. National demographic and health survey Liberia. Monrovia: Ministry of Planning and Economic Affairs; 2000.
- ¹⁸ World Health Organization. Skilled attendants at birth 2006 update. Geneva: World Health Organization; 2006 [accessed 2007 July 26]. Available from: http://www.who.int/reproductive-health/global_monitoring/skilled_attendant.html.
- ¹⁹ Ministry of Health and Social Welfare and United Nations Population Fund. Situation analysis of obstetric fistulae in Liberia. Monrovia: Ministry of Health and Social Welfare and United Nations Population Fund; 2006.
- ²⁰ Ministry of Health and Social Welfare Liberia. Database of MOHSW Health Facilities. Monrovia; 2006 [last updated 2006 November 20]. Available from: http://liberiamohsw.org/reports/Liberia_Health_Facilities_20061222.xls.
- ²¹ United Nations. Reproductive health kits for crisis situations. New York: United Nations Population Fund; 2003.
- ²² Bailey P, Szaszdi J, Glover, L. Obstetric complications: does training traditional birth attendants make a difference? *Rev Panam Salud Publica/Pan Am J Public Health* 2002;11(1):15–23.
- ²³ World Health Organization. Reduction of maternal mortality—joint WHO/UNFPA/UNICEF/World Bank statement. Geneva: World Health Organization; 1999 [last accessed 2007 July 26]. Available at http://www.who.int/reproductive-health/publications/reduction_of_maternal_mortality/reduction_of_maternal_mortality_content_s.htm.
- ²⁴ World Health Organization. Mother-baby package: implementing safe motherhood in countries. Geneva: Maternal Health and Safe motherhood Programme Division of Family Health; 1994 [Last accessed 2007 July 26]. Available from: http://www.who.int/reproductive-health/publications/MSM_94_11/MSM_94_11_chapter6.en.html#2.
- ²⁵ World Health Organization. Roll back malaria during pregnancy. Geneva: World Health Organization; 2001 [last accessed 2007 July 26]. Available from: http://www.who.int/reproductive-health/global_monitoring/data.html.
- ²⁶ Berstein S, Edouard L. Targeting access to reproductive health: giving contraception more prominence and using indicators to monitor progress. *Reprod Health Matters* 2007;15:186–91.
- ²⁷ Swiss S, Jennings PJ, Aryee GV, et al. Violence against women during the Liberian civil conflict. *JAMA* 1998;279:625–30.

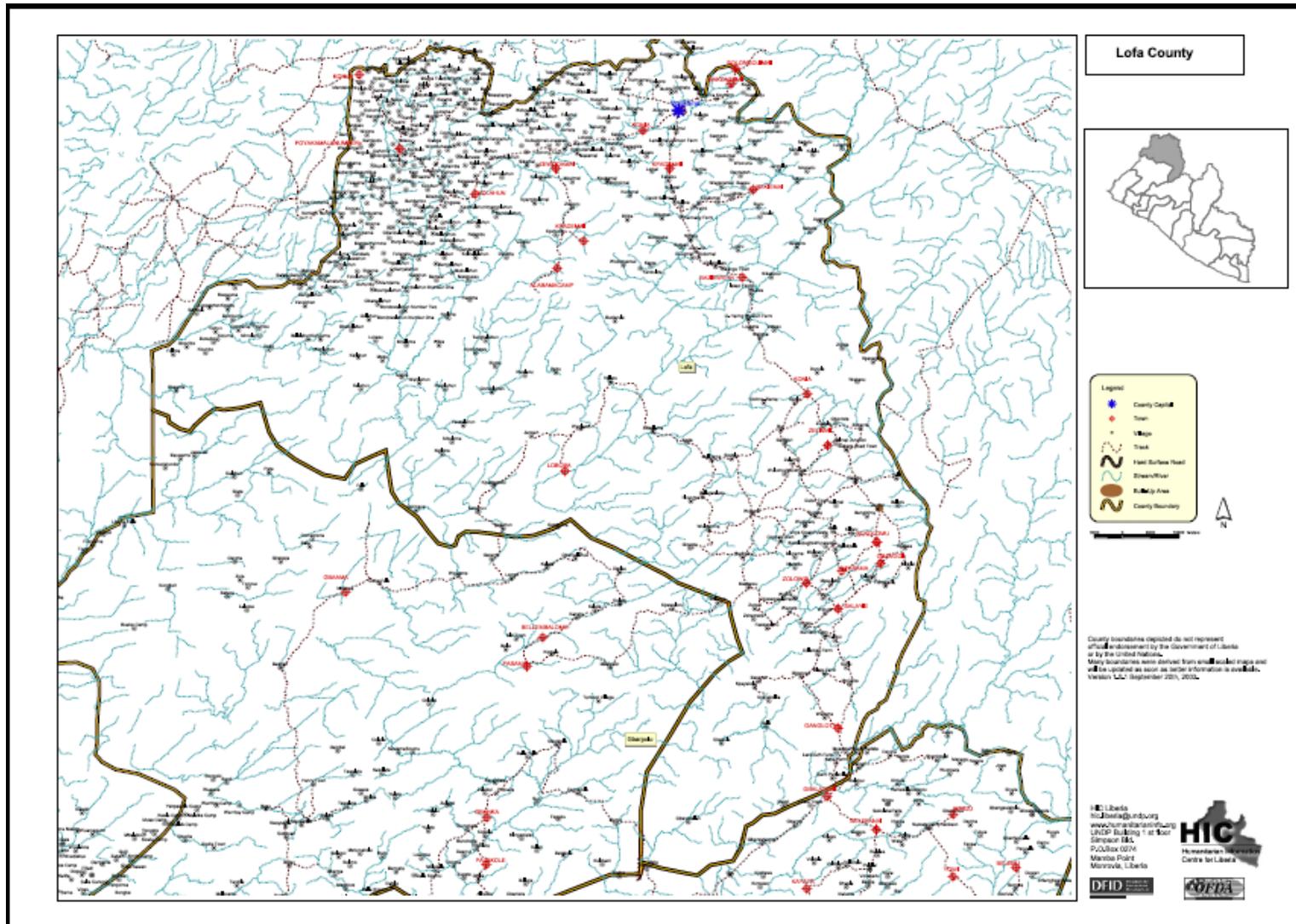
-
- ²⁸ World Health Organization. Sexual gender-based violence and health facility needs assessment, Montserrado and Bong Counties, Liberia. Geneva: World Health Organization ; 2004. c2007; [last accessed 2007 July 26]. Available from: http://www.who.int/hac/crises/lbr/gbv_Sept2004/en/
- ²⁹ World Health Organization. Sexual gender-based violence and health facility needs assessment, Lofa, Nimba, Grand Gedeh, and Grand Bassa Counties, Liberia. Geneva: World Health Organization; 2005 [last accessed 2007 July 26]. Available from: http://www.who.int/hac/crises/lbr/Liberia_RESULTS_AND_DISCUSSION13.pdf
- ³⁰ Amowitz LL, Reis C, Lyons-Hare K, et al. Prevalence of war-related sexual violence and other human rights abuses among internally displaced persons in Sierra Leone. *JAMA* 2002;287:513–21.
- ³¹ World Health Organization. World Report on Violence and Health. Geneva: World Health Organization; 2002.
- ³² United Nations. Liberia. Geneva: Joint United Nations Programme on HIV/AIDS; 2001 [last accessed 2007 July 26]. Available from: http://www.unaids.org/en/Regions_Countries/Countries/liberia.asp.
- ³³ United Nations. Sierra Leone. New York: Joint United Nations Programme on HIV/AIDS; 2001 [last updated 2007 June 12; last accessed 2007 26 July]. Available from: http://www.unaids.org/en/Regions_Countries/Countries/sierraleone.asp.
- ³⁴ United Nations. Guinea. New York: Joint United Nations Programme on HIV/AIDS; 2001 [last accessed 26 July 2007]. Available at http://www.unaids.org/en/Regions_Countries/Countries/guinea.asp
- ³⁵ Humanitarian Information Center for Liberia. United Nations Mission in Liberia (UNMIL) Lofa County June 23, 2005. Available from: <http://www.humanitarianinfo.org/liberia/infocentre/Countyprofile/doc/Lofa%20County%20Profile%2023%20June%202005%20-%20Edited.doc>

Appendix A. Map of Liberia and Lofa County



* Available from: <http://www.humanitarianinfo.org/liberia/>

Map of Lofa County



*Available from: <http://www.humanitarianinfo.org/liberia/mapcentre/archive/index.asp>

Appendix B. List of Villages selected for the Survey

Villages selected based on probability proportional to size and number of completed interviews;

Reproductive Health Survey: Lofa County Liberia, January–February, 2007

Village number	Village name	Number of completed interviews
1	Voinjama	31
2	Voinjama	30
3	Zorzor	33
4	Zorzor	33
5	Zolowo	33
6	Zolowo	33
7	Bokeza	30
8	Fissibu	30
9	Wuomai	32
10	Fassawalazu	*IA
11	Salayea	33
12	Bakiedou	26
13	Zelimai	31
14	Zigida	28

15	Yella	33
16	Kpasagizia	28
17	Worlowumo	*IA
18	Yarpuah Town	32
19	Zewordamai	32
20	Baloma	33
21	Gorlu	33
22	Tussu	33
23	Sakomedu	32
24	Lutisu	30
25	Bawehn	*IA
26	Kugbemai	30
27	Kpotomai (1)	32
28	Kpormbu	33
29	Wenwuta	*IA
30	Kondu punda	22
31	Budumai	Destroyed
32	Lepalo	13
33	Masabanga	*IA

34	Gobolu	28
35	Fasaima	33
36	Yengema	27
Total		907

* Inaccessible (IA) villages defined as a greater than a 2-hour walk from end of the road

Rural 2

Unique ID =004+002+003 |__|__|__|__|

005 CHECKED BY SUPERVISOR: Code [__|__]

Name _____

RESULT OF THE VISIT AND INTERVIEW				
Visit Number	1	2	3	4
Interviewer Code	_ _	_ _	_ _	_ _
Date	Day _ _ Month _ _			
Result (*)	_	_	_	_
(*) Result Codes Completed Interview 1 Selected WRA absent 2 No one in the household 3 Household Rejection 4 WRA Rejection 5 Household unoccupied 6 No WRA 7 Respondent not competent 8 Other _____ 9 (Specify)				

SELECTION OF THE WOMAN TO BE INTERVIEWED (WHEN MORE THAN 1 WOMAN 15–49 IN HOUSEHOLD)

READ: Please, could you tell me the names of each woman between 15 and 49 years old that live in this home, starting with the oldest one?

IF THERE IS NO WRA, WRITE "0" IN QUESTION 13 AND CONTINUE WITH THE NEXT HOUSEHOLD.

IF THERE IS WRA, COMPLETE THIS SHEET WRITING IN ROW 1 THE OLDEST ONE AND CONTINUE IN DESCENDING ORDER.

. WRA Line	Name of the Woman in Fertile Age (WRA)	AGE (Complete years)
1		
2		
3		
4		
5		
6		
7		
8		

<p>Then, in this household there are _____ women living with between 15 to 49 years old?</p>	<p>13. Number of WRA <input type="text"/></p> <p>IF "0" WRITE CODE 7 AND CONTINUE WITH THE NEXT HOUSEHOLD</p>
--	---

DIAGRAM FOR SELECTION OF THE WRA TO BE INTERVIEWED

LAST DIGIT OF THE QUESTIONNAIRE'S NUMBER	NUMBER OF WRA IN THE HOUSE							
	1	2	3	4	5	6	7	8
0	1	2	2	4	3	6	5	4
1	1	1	3	1	4	1	6	5
2	1	2	1	2	5	2	7	6
3	1	1	2	3	1	3	1	7
4	1	2	3	4	2	4	2	8
5	1	1	1	1	3	5	3	1
6	1	2	2	2	4	6	4	2
7	1	1	3	3	5	1	5	3
8	1	2	1	4	1	2	6	4
9	1	1	2	1	2	3	7	5

NAME OF THE CHOSEN WRA
LINE NUMBER OF THE CHOSEN WRA

No.	Questions and filters	Coding categories	Skip to
Q100	In what month and year were you born?	Month[_][_] Year [_][][_] Don't know 8888 No Response 9999	
Q101	How old are you now (at last birthday)? (COMPARE AND CORRECT Q100 IF NEEDED)	Years old[_][_] Don't know 88 No Response 99 ESTIMATE BEST ANSWER	IF UNDER 15 OR OVER 49 END INTERVIEW
Q102	Have you <u>ever</u> attended school?	Yes 1 No 2 No Response 9	→Q106 →Q106
Q103	What is the highest level of school you have attended?	Primary 1 Secondary 2 University 3 Vocational/Technical 4 No Response 9	→Q105
Q104	Did you complete that level?	Yes 1 No 2 No Response 9	
Q105	Are you currently attending school?	Yes 1 No 2 No Response 9	
Q106	Can you read easily, with difficulty, or not at all?	Read easily 1 With difficulty 2 Not at all 3 No Response 9	
Q107	Can you write easily, with difficulty, or not at all?	Write easily 1 With difficulty 2 Not at all 3 No Response 9	
Q108	Do you currently work outside of the home?	Yes 1 No 2 No Response 9	
Q109	During the war from 1999-2003	Yes 1	

	were you ever displaced from your home?	No 2 No Response 9	→ Q113 → Q113
Q110	How many different times were you displaced because of the war?	One time 1 Two times 2 Three or more times 3 NR 9	
Q111	What is the longest period of time that you have been displaced? (In either months or years)	Month[_ _] Year [_ _] DK 88 No Response 99	
Q112	Are you displaced from your home now?	Yes 1 No 2 No Response 9	
Q113	In what ways were you or your family personally affected by the war from 1999-2003? (CIRCLE ALL THAT APPLY)	Displaced within Liberia 1 Left Liberia for another country (refugee)2 Lost shelter 3 Lost livelihood 4 War widow (lost husband or partner) 5 War orphan (lost mother and father) 6 Lost other family member(s) 7 Physical injury with permanent disability 8 Physical injury without permanent disability 9 Abducted by combatants 10 Other 11 No response 99	
Q114	How long have you lived here in _____ (NAME OF COMMUNITY/ TOWN/ VILLAGE)?	Number of years [_ _] Less than 1 year 00 Entire life 77 Don't know 88 No Response 99	
Q115	What is the main source of drinking water for members of your household?	Piped water 1 Well water 2 Surface water 3 Rainwater 4 Bottled water 5 Other 6 No response 9	

Q116	What kind of toilet facility does your household have?	Flush toilet 1 Pit latrine 2 No facility/bush/field 3 Other 4 No response 9	
Q117	WHAT IS THE OVERALL CURRENT CONDITION OF THE HOUSE? (OBSERVE STRUCTURE AND SELECT ONE OF THE FOLLOWING)	Heavily damaged/Destroyed 1 Rebuilt 2 Under construction 3 Good condition4 Unable to determine 8	
Q118	WHAT IS THE MAIN MATERIAL OF THE FLOOR OF THE HOUSE?	Natural floor/sand/earth 1 Finished floor/tile/cement 2 Other 3 Unable to determine 8	
Q119	How long does it take you to get to the nearest health facility? (ANSWER IN HOURS OR MINUTES, BUT NOT BOTH)	[_] Minutes [_] Hours Don't know 88 No response 99	
Q120	Does your household have or does anyone in your family own any of the following items: Generator? Radio? Bicycle? Motorcycle Motor vehicle (car, truck, tractor, etc)	Yes No Generator 1 2 Radio 1 2 Bicycle 1 2 Motorcycle 1 2 Motor vehicle 1 2	
Q121	What religion do you practice? CIRCLE ONE	Traditional/Animist 1 Christian 2 Muslim 3 Other 4 None 5 No Response 9	
Q122	To which ethnic group do you belong? CIRCLE ONE	Gbandi 1 Lorma 2 Kissi 3 Kpelleh 4 Mandingo 5	

		Mende 6 Bassa 7 Mixed ethnicity 8 Other 9	
Q123	What is your current marital status? Are you...? READ 1 THROUGH 6 AND CIRCLE ONLY ONE THAT APPLIES	Married and living with your husband 1 Living with a man like married 2 Separated due to the war 3 Divorced/separated <u>NOT</u> due to the war 4 Husband died because of war 5 Husband died NOT because of war 6 Never married 7	→Q124 →Q124 →Q126 →Q126 →Q126 →Q126 →Q127
Q124	What is the highest level of education that your husband/partner attended?	None 1 Primary 2 Secondary 3 University 4 Vocational/Technical 5 Don't know 8 No Response 9	
Q125	Is your husband/partner currently employed outside the home? We mean does he get cash for his work.	Yes 1 No 2 No Response 9	
Q126	How old were you when you were married/lived with a man (for the first time)?	___ ___ years Don't know 88 No Response 99	
Q127	How many people live in the household? (A household is defined as all the people who cook and eat from the same cooking pot) EXCLUDE VISITORS AND DON'T FORGET TO INCLUDE CHILDREN AND ELDERS.	NÚMBER OF PEOPLE <input type="text"/> <input type="text"/> MALES <input type="text"/> <input type="text"/> FEMALES..... <input type="text"/> <input type="text"/>	
Q128	Head of the household is?	Male 1 Female 2	

Household composition

First, we want to ask about the people that currently live IN YOUR HOUSEHOLD, or those persons who eat from the same cooking pot with you. We then want to ask if any of these people were injured or disabled as a result of the war from 1999 to 2003. Let's discuss the experiences of one person at a time, starting with the head of the household. Don't forget to include yourself as part of the household.

HEAD OF HOUSEHOLD ON
1ST LINE

- 1. Beaten
- 2. Gunshot
- 3. Sexual assault
- 4. Landmine/UXO
- 5. Bomb/Grenade
- 6. Motor Vehicle
- 7. Fall .
- 8. Fire
- 9. Other
- 88. Don't know
- 99. No response

Q129	Q130	Q131	Q132	Q133	Q134
Person no.	Age (years)	Sex (circle one)	Was he/she injured during 1999-2003? (circle one)	If Yes, how were they injured ² (circle all that apply)	Is he/she currently disabled from this/any of the injury/ies? ³
1	<input type="text"/>	M / F	Yes No → GO TO LINE 2	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2
2	<input type="text"/>	M / F	Yes No → GO TO LINE 3	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2
3	<input type="text"/>	M / F	Yes No → GO TO LINE 4	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2
4	<input type="text"/>	M / F	Yes No → GO TO LINE 5	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2
5	<input type="text"/>	M / F	Yes No → GO TO LINE 6	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2
6	<input type="text"/>	M / F	Yes No → GO TO LINE 7	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2
7	<input type="text"/>	M / F	Yes No → GO TO LINE 8	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2
8	<input type="text"/>	M / F	Yes No → GO TO LINE 9	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2
9	<input type="text"/>	M / F	Yes No → LINE 10	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2
10	<input type="text"/>	M / F	Yes No → Q135	1 2 3 4 5 6 7 8 9 88 99	Yes 1 No 2

² If injured more than once, record all types of injuries suffered.

³ Disability means any limitation or inability in performing normal daily activities such as walking, seeing, eating, and talking.

Now, we want to ask about the people that used to live IN YOUR HOUSEHOLD but were killed during the war from 1999 to 2003).

Q135. Was anyone in your household killed as a result of the war from 1999 to 2003?

1. Yes
2. No→Q200
3. Unknown Q200

List the age, sex, and cause of death for each person killed.

136 Person no.	137 Age (years)	138 Sex	139 How was he or she killed? (circle all that apply)
1	<input type="text"/>	Male 1 Female 2	1 2 3 4 5 6 7 8 9 88 99
2	<input type="text"/>	Male 1 Female 2	1 2 3 4 5 6 7 8 9 88 99
3	<input type="text"/>	Male 1 Female 2	1 2 3 4 5 6 7 8 9 88 99
4	<input type="text"/>	Male 1 Female 2	1 2 3 4 5 6 7 8 9 88 99
5	<input type="text"/>	Male 1 Female 2	1 2 3 4 5 6 7 8 9 88 99

Section 2: Reproduction/Safe motherhood

Now I am going to ask you questions about your current and previous pregnancies.

No.	Questions and filters	Coding categories	Skip to
Q200	Please tell me any danger signs during pregnancy that you know? CIRCLE ALL MENTIONED	<p>Mentioned MentioneD</p> <p>Feeling very weak or tired (anemia) 1 2</p> <p>Severe abdominal pain (pain in the belly) 1 2</p> <p>Bleeding from the vagina 1 2</p> <p>Fever 1 2</p> <p>Swelling of hands or face 1 2</p> <p>Headache 1 2</p> <p>Blurred vision 1 2</p> <p>Other 1 2</p> <p>Don't know 1 2</p>	NOT
Q201	Have you ever been pregnant? (including current pregnancy)	<p>Yes 1</p> <p>No 2</p> <p>Don't Know / No Response 9</p>	<p>→Q302</p> <p>→Q302</p>
Q202	How many times have you been pregnant? (including current pregnancy)	<p>Total number of pregnancies ___ ___</p> <p>Don't know 88</p> <p>No response 99</p>	
Q203	Are you currently pregnant?	<p>Yes 1</p> <p>No 2</p> <p>Don't know 8</p> <p>No Response 9</p>	<p>→Q206</p> <p>→Q206</p> <p>→Q206</p>
Q204	How far are you in your pregnancy? ENTER MONTHS	<p>Months [__][__]</p> <p>Don't know 88</p> <p>No Response 99</p>	
Q205	Is this your first pregnancy?	<p>Yes 1</p> <p>No 2</p> <p>No Response 9</p>	→Q301
Q206	Now speaking about your children who are alive... How many sons and how many daughters do you have? They can be living with you or elsewhere.	<p>Sons [__][__]</p> <p>Daughters [__][__]</p> <p>Total children alive[__][__]</p> <p>No Response 99</p> <p>IF THERE ARE NONE WRITE 00</p>	
Q207	Did you have any sons or daughters who were born alive and later died, even if they only lived a short time?	<p>Yes 1</p> <p>No 2</p>	→Q209

		No Response 9	→Q209
Q208	How many of these sons and daughters were born alive and have died?	Sons who died [_] [_] Daughters who died [_] [_] Total children who have died [_] [_] Don't Know / No Response 99	

BIRTH HISTORY

Now, I would like to talk to you about all of your deliveries (including children who have died) since the beginning of 2001. Please make sure you include all births, whether live births or stillborn births, during that time.

Q209	How many deliveries have you had since the beginning of 2001?	Total number of deliveries _____	If 0 deliveries, go to Q300
------	---	-------------------------------------	-----------------------------

		Last Birth--A	Next to last Birth--B	Second to last Birth--C
Q210	When was your delivery (month and year)?	Month ___ ___ Year ___ ___ Don't know 88 No response 99	Month ___ ___ Year ___ ___ Don't know 88 No response 99	Month ___ ___ Year ___ ___ Don't know 88 No response 99
		IF BEFORE 2001 GO TO Q300	IF BEFORE 2001 GO TO Q300	IF BEFORE 2001 GO TO Q300
Q211	How did your pregnancy end?	Live birth 1 Stillbirth 2→Q214	Live birth 1 Stillbirth 2→Q214	Live birth 1 Stillbirth 2→Q214
Q212	Is that child still alive?	1. Yes----GO TO Q214 2. No 8. DK-----GO TO Q214 9. NR-----GO TO Q214	1. Yes----GO TO Q214 2. No 8. DK-----GO TO Q214 9. NR-----GO TO Q214	1. Yes----GO TO Q214 2. No 8. DK-----GO TO Q214 9. NR-----GO TO Q214
Q213	At what age did he/she die?	MONTHS ___ ___ OR YEARS ___ ___ UNDER 1 MONTH 00 DK 8 8 NR 9 9	MONTHS ___ ___ OR YEARS ___ ___ UNDER 1 MONTH 00 DK 8 8 NR 9 9	MONTHS ___ ___ OR OR YEARS ___ ___ UNDER 1 MONTH 00 DK 8 8 NR 9 9
Q214	During that pregnancy, did you have any antenatal care visits?	1. Yes→Q216	1. Yes→Q216	1. Yes→Q216

		2. No 8 Don't know →Q221 9 No response →Q221	2. No 8 Don't know →Q221 9 No response →Q221	2. No 8 Don't know →Q221 9 No response →Q221
Q215	What are the reasons that you did not see someone? CIRCLE 1 FOR ALL MENTIONED	1=MENTIONED 2=Not Mentioned No health care provider available 1 2 Could not afford 1 2 Distance too far 1 2 Lack of transportation 1 2 Poor road conditions 1 2 Husband wouldn't permit 1 2 Afraid of Dr, nurse, etc. 1 2 Never used Dr, nurse before1 2 Not treated well in past 1 2 Embarrassed or ashamed 1 2 Other 1 2 DK/ No Response 1 2 GO TO Q221	1=MENTIONED 2=Not Mentioned No health care provider available 1 2 Could not afford 1 2 Distance too far 1 2 Lack of transportation 1 2 Poor road conditions 1 2 Husband wouldn't permit 1 2 Afraid of Dr, nurse, etc. 1 2 Not used Dr, nurse before 1 2 Not treated well in past 1 2 Embarrassed or ashamed 1 2 Other 1 2 DK/ No Response 1 2 GO TO Q221	1=MENTIONED 2=Not Mentioned No health care provider available 1 2 Could not afford 1 2 Distance too far 1 2 Lack of transportation 1 2 Poor road conditions 1 2 Husband wouldn't permit 1 2 Afraid of Dr, nurse, etc. 1 2 Not used Dr, nurse before 1 2 Not treated well in past 1 2 Embarrassed or ashamed 1 2 Other 1 2 DK/ No Response 1 2 GO TO Q221
Q216	How many months pregnant were you at the time of your first antenatal care visit?	Months _____ Don't know 88 No response 99	Months _____ Don't know 88 No response 99	Months _____ Don't know 88 No response 99

Q217	About how many antenatal visits did you have during that pregnancy?	Visits _____ Don't know 88 No response 99	Visits _____ Don't know 88 No response 99	Visits _____ Don't know 88 No response 99
Q218	Where did you have most of your antenatal care? Was it	Health clinic 1 Home 2	Health clinic 1 Home 2	Health clinic 1 Home 2

	from a health clinic, at home or somewhere else?	TBAs 3 Hospital 4 Refugee camp .. 5 Other 6 Don't know 8 No response 9 If answer 8 or 9 GO TO Q221	TBAs 3 Hospital 4 Refugee camp 5 Other 6 Don't know 8 No response 9 GO TO Q221	TBAs 3 Hospital 4 Refugee camp 5 Other 6 Don't know 8 No response 9 GO TO 221																																				
Q219	During those antenatal visits, did you receive any information about: (Read A-H)	<table border="0"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>NR</th> </tr> </thead> <tbody> <tr> <td>A. Nutrition</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>B. Smoking during pregnancy</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>C. Drinking alcohol during pregnancy</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>D. Breastfeeding</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>E. Safe Delivery</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>F. Contraception</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>G. Warning signs of Preg. Complications</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>H. Postnatal care</td> <td>1</td> <td>2</td> <td>9</td> </tr> </tbody> </table>		Yes	No	NR	A. Nutrition	1	2	9	B. Smoking during pregnancy	1	2	9	C. Drinking alcohol during pregnancy	1	2	9	D. Breastfeeding	1	2	9	E. Safe Delivery	1	2	9	F. Contraception	1	2	9	G. Warning signs of Preg. Complications	1	2	9	H. Postnatal care	1	2	9		
	Yes	No	NR																																					
A. Nutrition	1	2	9																																					
B. Smoking during pregnancy	1	2	9																																					
C. Drinking alcohol during pregnancy	1	2	9																																					
D. Breastfeeding	1	2	9																																					
E. Safe Delivery	1	2	9																																					
F. Contraception	1	2	9																																					
G. Warning signs of Preg. Complications	1	2	9																																					
H. Postnatal care	1	2	9																																					
Q220	During those visits, were you ever: (Read A-G)	<table border="0"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>NR</th> </tr> </thead> <tbody> <tr> <td>A. Tested for syphilis</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>B. Test positive for syphilis</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>C. Given medicine for syphilis</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>D. Vaccinated with Tetanus toxoid</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>E. Given iron tablets</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>F. Given vitamin A</td> <td>1</td> <td>2</td> <td>9</td> </tr> <tr> <td>G. Checked blood pressure</td> <td>1</td> <td>2</td> <td>9</td> </tr> </tbody> </table>		Yes	No	NR	A. Tested for syphilis	1	2	9	B. Test positive for syphilis	1	2	9	C. Given medicine for syphilis	1	2	9	D. Vaccinated with Tetanus toxoid	1	2	9	E. Given iron tablets	1	2	9	F. Given vitamin A	1	2	9	G. Checked blood pressure	1	2	9						
	Yes	No	NR																																					
A. Tested for syphilis	1	2	9																																					
B. Test positive for syphilis	1	2	9																																					
C. Given medicine for syphilis	1	2	9																																					
D. Vaccinated with Tetanus toxoid	1	2	9																																					
E. Given iron tablets	1	2	9																																					
F. Given vitamin A	1	2	9																																					
G. Checked blood pressure	1	2	9																																					
Q221	Thinking back about that pregnancy, before you started or went into labor, did you have a problem or complication during pregnancy (not labor or delivery)? CIRCLE ALL MENTIONED	<p>1=MENTIONED 2=Not Mentioned</p> <p>No complications 1 2</p> <p>Feeling very weak or tired (anemia) 1 2</p> <p>Severe abdominal pain (pain in the belly)</p>	<p>1=MENTIONED 2=Not Mentioned</p> <p>No complications 1 2</p> <p>Feeling very weak or tired (anemia) 1 2</p> <p>Severe abdominal pain</p>	<p>1=MENTIONED 2=Not Mentioned</p> <p>No complications 1 2</p> <p>Feeling very weak or tired (anemia) 1 2</p> <p>Severe abdominal pain</p>																																				

		1 2 Bleeding from the vagina 1 2 Fever 1 2 Swelling of hands and face 1 2 Blurred vision 1 2 Other 1 2 D DK/ No Response 1 2 If no complications→Q223	(pain in the belly) 1 2 Bleeding from the vagina 1 2 Fever 1 2 Swelling of hands and face 1 2 Blurred vision 1 2 Other 1 2 D DK/No Response 1 2 If no complications→Q223	(pain in the belly) 1 2 Bleeding from the vagina 1 2 Fever 1 2 Swollen hands and face 1 2 Blurred vision 1 2 Other 1 2 D DK// No Response 1 2 If no complications→Q223
Q222	Did you seek help for this problem? Where?	Did not seek help 1 TBA 2 Health clinic 3 Hospital 4 Refugee camp 5 Other 6 Don't Know / No Response 9	Did not seek help 1 TBA 2 Health clinic 3 Hospital 4 Refugee camp 5 Other 6 Don't Know / No Response 9	Did not seek help 1 TBA 2 Health clinic 3 Hospital 4 Refugee camp 5 Other 6 Don't Know / No Response 9
Q223	During pregnancy, did you have any signs or symptoms of malaria?	1. Yes 2. No-----Q226 88 Don't know—Q226 99 No response—Q226	1. Yes 2. No-----Q226 88 Don't know—Q226 99 No response— Q226	1. Yes 2. No-----Q226 88 Don't know—Q226 99 No response—Q226
Q224	Were you treated for malaria?	1. Yes 2. No-----Q226 88 Don't know—Q226 99 No response—Q226	1. Yes 2. No-----Q226 88 Don't know—Q226 99 No response—Q226	1. Yes 2. No-----Q226 88 Don't know—Q226 99 No response—Q226
Q225	Where did you seek treatment for malaria?	Health clinic Hospital Pharmacy Refugee camp Other 9 Don't know/no response	Health clinic Hospital Pharmacy Refugee camp Other 9 Don't know/no response	Health clinic Hospital Pharmacy Refugee camp Other 9 Don't know/no response
Q226	Where did you deliver your baby?	At home 1 Health clinic/hospital 2 On the way to the hospital/clinic 3 Refugee camp 4 Other	At home 1 Health clinic/hospital 2 On the way to hospital/clinic 3 Refugee camp 4 Other	At home 1 Health clinic/hospital 2 On the way to hospital/clinic 3 Refugee camp 4 Other

		5 Don't Know / No Response 9	5 Don't Know / No Response 9	5 Don't Know / No Response 9
Q227	Was the baby born by vaginal delivery or by cesarean section?	Vaginal 1 Cesarean 2 Don't Know 8 No Response 9	Vaginal 1 Cesarean 2 Don't Know 8 No Response 9	Vaginal 1 Cesarean 2 Don't Know 8 No Response 9
Q228	Who helped with the delivery?	No one 1 Relative/friend 2 Traditional birth attendant 3 Midwife, nurse, or doctor 4 Other 5 Don't Know / No Response 9	No one 1 Relative/friend 2 Traditional birth attendant 3 Midwife, nurse, or doctor 4 Other 5 Don't Know / No Response 9 GO TO Q232	No one 1 Relative/friend 2 Traditional birth attendant 3 Midwife, nurse, or doctor 4 Other 5 Don't Know / No Response 9 GO TO Q232
Q229	Were there any complications during labor and delivery? Circle all mentioned	1=Mentioned 2=Not Mentioned No complications 1 2→TO Q231 Heavy bleeding 1 2 Prolonged (>12 hours)/ obstructed labor 1 2 Vaginal tearing 1 2 Convulsions 1 2 Fever 1 2 Green or brown water from the vagina 1 2 Other 1 2 DK/ No Response 1 2→TO Q231		
Q230	Where did you seek help?	Did not seek help 1 Health worker came to home 2 Health clinic 3 Hospital 4 TBA 5 Refugee camp 6 Other		

		7 No Response 9		
Q231	How much did the baby weigh at birth? Do you know if the baby weighed less than 2500 grams or was considered too small?	Less than 2500 grams 1 At least 2500 grams 2 Don't know 8 No response 9		
Q232	During the 6 weeks after birth, did a health worker come to your home to check on you or did you go to the health clinic to check your health?	Yes, health worker visited 1 Yes, went to health clinic 2 Both 3 No check up 4 No Response 9 If answer 4 or 9 Go to-Q234	Yes, health worker visited 1 Yes, went to health clinic 2 Both 3 No check up 4 No Response 9 GO TO Q300	Yes, health worker visited 1 Yes, went to health clinic 2 Both 3 No check up 4 No Response 9 GO TO Q300
Q233	During those visits, did you receive information about: (Read A-F)	<u>Yes</u> <u>No</u> <u>NR</u> A. Breastfeeding 1 2 9 B. Breast care 1 2 9 C. Child care 1 2 9 D. Immunization 1 2 9 E. Nutrition 1 2 9 F. Contraception 1 2 9		
Q234	During the 6 weeks after birth, did you have any of the following complications? (READ A-G) If No →Q300	<u>Yes</u> <u>No</u> <u>NR</u> A. Severe bleeding 1 2 9 B. Bad smelling vaginal discharge 1 2 9 C. High fever 1 2 9 D. Painful urination 1 2 9 E. Hot, swollen painful		

		breasts 1 2 9 F. Infection of surgical wound 1 2 9 G. Obstetric fistula (abnormal opening that may leak urine/feces that did not go away) 1 2 9 IF NO COMPLICATIONS GO TO Q300		
Q235	Where did you seek help for these symptoms?	Did not seek help 1 Health worker came to home 2 Health clinic 3 Hospital 4 Refugee camp 5 Other 6 Don't Know 8 No Response 9		

Section 3: Family Planning

No.	Questions and filters	Coding categories	Skip to
Q300	In what month and year did your most recent pregnancy end?	Month ___ __ Year ___ __ Currently pregnant 66 66 Never pregnant 77 77	IF EARLIER THAN 2001 OR NEVER PREGNANT, GO TO Q302
Q301	Just before you became pregnant that time, did you want to get pregnant, did you want to get pregnant later, or did you not want to have any more children?	Wanted to get pregnant then 1 Wanted to get pregnant later 2 Wanted no more children 3 Not sure 8 No Response 9	
Q302	Are you (or your partner) currently using (in the last 30 days) any method to delay or avoid pregnancy?	Yes 1 No 2 No Response 9	→Q311 →Q311
Q303	Which method have you been using? CIRCLE ONE (DO NOT READ METHODS)	Pills 1 IUD 2 Male condom 3 Female condom 4 Foam/Jellies/Creams (spermicides) 5 Condom and spermicide 6 Injectables (Depo Provera) 7 Norplant (rods placed in arm) 8 Tubal ligation (female sterilization) 9 Vasectomy (male sterilization) 10 Rhythm/Calendar method 11 Withdrawal 12 Herbs, traditional methods, etc. 13 No Response 99	→Q305 →Q305 →Q305 →Q305
Q304	Where did you last obtain your method?	Health center in or near the community 1 Hospital 2 Market 3 Pharmacy 4 Outside Liberia 5 Other 6 Don't Know 8 No response 9	
Q305	In the last 30 days, did you or your partner ever use a condom in addition to the	Yes 1 No 2 Don't know	

	method you are using?	8 9 No response	
Q306	Do you have any problems or concerns with your current method?	Yes 1 No 2 No response 9	→Q308 →Q308
Q307	What is the most important problem or concern?	Side effects 1 Health concerns 2 Access/availability 3 Cost 4 Sometimes forget to use 5 Sometimes difficult/inconvenient to use 6 Husband/partner disapproves 7 Less effective method/got pregnant using it 8 Other 9	
Q308	Would you prefer to use a different method of family planning than the one you are currently using?	Yes 1 No 2 Don't know 8	→Q314 →Q314
Q309	What method would you prefer to use?	Pills 1 IUD 2 Male condom 3 Female condom 4 Foam/Jellies/Creams (spermicides) 5 Condom and spermicide 6 Injectables (Depo Provera) 7 Norplant (rods placed in arm) 8 Tubal ligation (female sterilization) 9 Vasectomy (male sterilization) 10 Rhythm/Calendar method 11 Withdrawal 12 Other 13 No Response 99	
Q310	What is the most important reason that you do not use that method?	Doctor will not prescribe it 1 Too expensive/Cost 2 Unavailable/unreliable supplies/difficult access 3 Too far away 4 Do not know how to obtain it 5 Husband/partner objects to it 6 Religious reasons 7 Fear of side effects 8 Has not yet made up her mind 9 Other 10 Don't know 88 No response 99	CIRCLE RESPONSE AND GO TO Q314
Q311	What is the main reason that you are not	Wants more children now 1	

	<p>using a method to delay or avoid getting pregnant?</p> <p>(DO NOT READ REASONS)</p>	<p>Desired method unavailable 2</p> <p><i>Fertility Related Reasons</i></p> <p>Not having sex/infrequent sex 3</p> <p>Currently pregnant 4</p> <p>Unable/difficult to get pregnant 5</p> <p>Postpartum (4 weeks after birth) 6</p> <p>Breastfeeding 7</p> <p><i>Opposition to Use</i></p> <p>Respondent opposed 8</p> <p>Husband opposed 9</p> <p>Others opposed 10</p> <p>Religious prohibition 11</p> <p><i>Lack of Knowledge</i></p> <p>Knows no method 12</p> <p>Knows no source 13</p> <p><i>Access/Method-Related Reasons</i></p> <p>Fears side effects 14</p> <p>Lack of access/too far 15</p> <p>Too expensive 16</p> <p>Inconvenient to use 17</p> <p>Other _____ 18</p> <p>Don't Know 88</p> <p>No Response 99</p>	
Q312	Do you think you can physically get pregnant now if you want to or are you currently pregnant?	<p>Yes 1</p> <p>No 2</p> <p>Currently pregnant 3</p> <p>Don't Know 8</p> <p>No Response 9</p>	<p>→Q314</p> <p>→Q314</p> <p>→Q314</p> <p>→Q314</p>
Q313	What is the main reason that you think you cannot physically get pregnant?	<p>Menopause/Too old 1</p> <p>Operation which makes pregnancy impossible 2</p> <p>Tubal ligation/Sterilization 3</p> <p>Tried to get pregnant at least 2 years without success 4</p> <p>Respondent is not sexually active 5</p> <p>Postpartum/Breastfeeding 6</p> <p>Other 7</p> <p>Don't know 8</p> <p>No Response 9</p>	
Q314	Some people use condoms for reasons other than birth control, for instance because they are concerned about getting diseases that can result from sexual intercourse. Have you ever used a condom with a partner only for birth control, only to prevent diseases, or have you used them for both reasons?	<p>Birth control only 1</p> <p>Disease prevention only 2</p> <p>Both 3</p> <p>Neither/Never used a condom 4</p> <p>Other 5</p> <p>No response 9</p>	

	IF NOT CURRENTLY MARRIED (Q122 IS NOT 1 OR 2), GO TO Q400 IF CURRENTLY MARRIED (Q122 IS 1 OR 2), CONTINUE WITH Q315	
Q315	Now I want to talk to you about your husband's/partner's views about family planning. Do you think he would approve of you using a family planning method to avoid pregnancy?	Yes 1 No 2 Don't know 8
Q316	How often have you and your husband/partner talked about family planning in the past year?	Never 1 Once or twice 2 More than twice 3 Don't know 8

Section 4: Gender Based Violence

Now I would like to focus on difficulties that may have happened to you during the conflict or displacement from 1999 to 2003. I am asking about things that may have been done to you by persons outside of your family such as soldiers, militia, police officers, and guards. These acts could have happened in places such as on the road, in a refugee camp or in another village. I would like to know if any of them were done to you during the conflict or during displacement from your home by persons outside of your family. Please remember that if you need to, we can stop and take a break at any time. And also please remember that I will continue to make sure your answers are absolutely confidential. We also want you to know that we can refer you to someone who can help.

INSTRUCTIONS TO INTERVIEWER 4.1

IF ANY VIOLENCE REPORTED, DURING THE CONFLICT OR DISPLACEMENT (Q400),
CONTINUE TO →Q404
IF NO VIOLENCE REPORTED, GO TO →Q420

<p>Q400. During the conflict or displacement, were you subjected to any of these forms of violence by people outside of your family? These acts could have been done by anyone who are not family members. Were you (READ A-J)</p>	<p>Q401. How often did this happen to you? Would you say once or twice, several times, or many times?</p>	<p>Q402. Who did this to you? CIRCLE 1 FOR ALL MENTIONED, 2 IF NOT MENTIONED 1= MENTIONED 2=Not Mentioned</p>	<p>Q403. Where did this take place most often? CIRCLE 1 FOR ALL MENTIONED, 2 IF NOT MENTIONED 1= MENTIONED 2=Not Mentioned</p>
<p>Physically hurt, such as slapped, hit, choked, beaten, or kicked? Yes 1 No 2 →LINE B DK / NR 9 →LINE B</p>	<p>Once or twice..1 Three or four times.....2 More than four times.....3 DK/ NR ..9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>
<p>Threatened with a weapon of any kind Yes 1 No 2 →LINE C DK / NR 9 →LINE C</p>	<p>Once or twice..1 Three or four times.....2 More than four times.....3 DK/ NR .9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>
<p>Shot at or stabbed Yes 1 No 2 →LINE D DK / NR 9 →LINE D</p>	<p>Once/twice 1 Three or four times 2 More than four times.....3 DK/ NR 99</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>

<p>Detained against your will</p> <p>Yes 1</p> <p>No 2 →LINE E</p> <p>DK / NR 9→LINE E</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2</p> <p>Paramilitary 1 2</p> <p>Police 1 2</p> <p>Jail or prison guard 1 2</p> <p>Doctor/medical person 1 2</p> <p>Religious worker 1 2</p> <p>Humanitarian relief worker 1 2</p> <p>Neighbor/community member 1 2</p> <p>Fellow refugee/IDP 1 2</p> <p>Other 1 2</p> <p>Don't Know / No Response 1 2</p>	<p>Current location 1 2</p> <p>Any previous camp 1 2</p> <p>Home village/town 1 2</p> <p>Traveling by road/boat 1 2</p> <p>Other 1 2</p> <p>DK/NR 1 2</p>
<p>Subjected to improper sexual comments</p> <p>Yes 1</p> <p>No 2 →LINE F</p> <p>DK / NR 9 →LINE F</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2</p> <p>Paramilitary 1 2</p> <p>Police 1 2</p> <p>Jail or prison guard 1 2</p> <p>Doctor/medical person 1 2</p> <p>Religious worker 1 2</p> <p>Humanitarian relief worker 1 2</p> <p>Neighbor/community member 1 2</p> <p>Fellow refugee/IDP 1 2</p> <p>Other 1 2</p> <p>Don't Know / No Response 1 2</p>	<p>Current location 1 2</p> <p>Any previous camp 1 2</p> <p>Home village/town 1 2</p> <p>Traveling by road/boat 1 2</p> <p>Other 1 2</p> <p>DK/NR 1 2</p>
<p>Forced to remove or stripped of your clothing</p> <p>Yes 1</p> <p>No 2 →LINE G</p> <p>DK / NR 9 →LINE G</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2</p> <p>Paramilitary 1 2</p> <p>Police 1 2</p> <p>Jail or prison guard 1 2</p> <p>Doctor/medical person 1 2</p> <p>Religious worker 1 2</p> <p>Humanitarian relief worker 1 2</p> <p>Neighbor/community member 1 2</p> <p>Fellow refugee/IDP 1 2</p> <p>Other 1 2</p> <p>Don't Know / No Response 1 2</p>	<p>Current location 1 2</p> <p>Any previous camp 1 2</p> <p>Home village/town 1 2</p> <p>Traveling by road/boat 1 2</p> <p>Other 1 2</p> <p>DK/NR 1 2</p>
<p>Forced or threatened with harm to make you give or receive oral sex or have vaginal or anal sex</p> <p>Yes 1</p> <p>No 2 →LINE I</p> <p>DK / NR 9→LINE I</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR .9</p>	<p>Military 1 2</p> <p>Paramilitary 1 2</p> <p>Police 1 2</p> <p>Jail or prison guard 1 2</p> <p>Doctor/medical person 1 2</p> <p>Religious worker 1 2</p> <p>Humanitarian relief worker 1 2</p> <p>Neighbor/community member 1 2</p> <p>Fellow refugee/IDP 1 2</p> <p>Other 1 2</p> <p>Don't Know / No Response 1 2</p>	<p>Current location 1 2</p> <p>Any previous camp 1 2</p> <p>Home village/town 1 2</p> <p>Traveling by road/boat 1 2</p> <p>Other 1 2</p> <p>DK/NR 1 2</p>

<p>Compelled to engage in sex in order to receive something such as food, water, protection or other reasons (describe)</p> <p>Yes 1 No 2 →LINE J DK / NR 9 →LINE J</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR.....9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>
<p>Anything else ?</p> <p>Yes 1 No 2 → Instruction box 4.1 DK/NR 9 → Instruction box 4.1</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR ..9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>
No.	Questions and filters	Coding categories	Skip to
Q404	Did you ever have any injuries from any of these incidents?	<p>Yes 1 No 2 Don't Know / No Response 9</p>	<p>→ Q408 → Q408</p>
Q405	<p>What type of injury did you have?</p> <p>Probe: Any other injury?</p> <p>CIRCLE 1 FOR ALL MENTIONED CIRCLE 2 FOR ALL NOT MENTIONED</p>	<p>A) CUTS, PUNCTURES, BITES 1 2 B) SCRATCHES, ABRASIONS, BRUISES 1 2 C) SPRAINS, DISLOCATIONS 1 2 D) BURNS 1 2 E) DEEP CUTS, GASHES 1 2 F) BROKEN EARDRUM, EYE INJURIES 1 2 G) FRACTURES, BROKEN BONES 1 2 H) BROKEN OR LOST TEETH 1 2 I) VAGINAL/ANAL BLEEDING 1 2 J) OTHER _____ 1 2</p>	
Q406	Did you see a doctor or any other medical care provider for medical treatment of these injuries?	<p>Yes 1 No 2</p>	→ Q408

		Don't Know / No Response 9	
Q407	What were the reasons you did not seek medical care for your injuries? (CIRCLE 1 FOR ALL MENTIONED, 2 FOR NOT MENTIONED)	A. DID NOT NEED MEDICAL CARE 1 2 B. DID NOT KNOW WHERE TO GO 1 2 C. MEDICAL CARE NOT AVAILABLE 1 2 D. NO USE/WOULD NOT DO ANY GOOD 1 2 E. EMBARRASSED 1 2 F. AFRAID OF FURTHER VIOLENCE 1 2 G. WOULD NOT BE BELIEVED 1 2 H. THOUGHT SHE WOULD BE BLAMED 1 2 I. BRING BAD NAME TO HER FAMILY 1 2 J. BRING BAD NAME TO HUSBAND'S FAMILY 1 2 K. HAD NO MONEY 1 2 L. HAD NO TRANSPORT 1 2 M. OTHER 1 2	
Q408	Were you already pregnant during any of these incidents of violence?	Yes 1 No 2 Don't Know / No Response 9	→ Q410 → Q410
Q409	What happened to the pregnancy?	Delivered live baby 1 Miscarriage 2 Stillbirth 3 Abortion 4	AFTER ANY RESPONSE SKIP TO Q412
Q410	Did you become pregnant as a result of any of these incidents?	Yes 1 No 2 Don't Know / No Response 9	→ Q412 → Q412
Q411	What happened to that pregnancy?	Delivered live baby 1 Miscarriage 2 Stillbirth 3 Abortion 4	

Q412	Did you seek medical care for any incidents of sexual violence?	<p style="text-align: right;">Yes</p> <p>1</p> <p>No 2</p> <p>No sexual violence 3</p> <p style="text-align: right;">Don't Know / No Response</p> <p>9</p>	<p>→ Q414</p> <p>→ Q418</p> <p>→ Q418</p>
Q413	<p>What services did you receive? (CIRCLE 1 FOR EACH MENTIONED, 2 IF NOT MENTIONED.)</p> <p>Emergency contraception(w/in 3 days)</p> <p>Treatment for sexually transmitted infections</p> <p>Voluntary counseling and testing for HIV/AIDS offered</p> <p>Counseling / referral for mental health</p> <p>Treatment for injuries</p> <p>Evidence collection for report</p>	<p style="text-align: center;"><u>YES</u> <u>NO</u></p> <p>A) 1.....2</p> <p>B) 1.....2</p> <p>C) 1.....2</p> <p>D) 1.....2</p> <p>E) 1.....2</p> <p>F) 1.....2</p>	
Q414	<p>Did you have any of the following medical complications as a result of any of the incidents of sexual violence?</p> <p>Sexually transmitted infection</p> <p>HIV / AIDS</p> <p>Unable to have a successful pregnancy</p> <p>Incontinence (unable to control urination or bowel movements)</p> <p>Vaginal / anal fistula (abnormal opening that may leak urine or feces)</p>	<p style="text-align: center;"><u>YES</u> <u>NO</u> <u>DK/NR</u></p> <p>A) 1.....2.....9</p> <p>B) 1.....2.....9</p> <p>C) 1.....2.....9</p> <p>D) 1.....2.....9</p> <p>E) 1.....2.....9</p>	
Q415	Did you seek medical treatment for any of these complications?	<p>Yes 1</p> <p>No 2</p> <p style="text-align: right;">Don't Know</p> <p>8</p> <p style="text-align: right;">No Response</p> <p>9</p>	→ Q417
Q416	<p>What services did you receive? (CIRCLE 1 FOR EACH MENTIONED, 2 FOR EACH NOT MENTIONED)</p> <p>Treatment for sexually transmitted infection</p> <p>Voluntary counseling and testing for HIV/AIDS offered</p> <p>Counseling / referral for mental health</p> <p>Treatment for injuries to reproductive organs</p>	<p>A) 1.....2</p> <p>B) 1.....2</p> <p>C) 1.....2</p>	

		D) 1.....2	
Q417	Are you still in need of medical care for any of these complications?	Yes 1 No 2 8 9	Don't Know No Response
Q418	Did you talk about this/these incidents of violence (any type) with (READ A-H) A. A family member B. A friend C. A doctor/other provider D. Police/military E. NGO worker F. A religious authority G. A women's group	<u>YES</u> <u>NO</u> <u>DK/NR</u> A) 1.....2.....9 B) 1.....2.....9 C) 1.....2.....9 D) 1.....2.....9 E) 1.....2.....9 F) 1.....2.....9 G) 1.....2.....9	
INSTRUCTION TO INTERVIEWER 4.2 IF TALKED TO <u>ANYONE ABOUT THE VIOLENCE</u> , GO TO →Q420 IF RESPONDENT DID <u>NOT TALK TO ANYONE ABOUT THE VIOLENCE</u> , CONTINUE TO →Q419			
Q419	What were the main reasons that you did not talk to anyone about the violence? CIRCLE 1 FOR ALL MENTIONED CIRCLE 2 FOR ALL NOT MENTIONED	Did not know where to go 1 2 No use/would not do any good 1 2 Embarrassed 1 2 Afraid of more violence 1 2 Afraid of causing problems in relationship 1 2 Would not be believed/taken seriously 1 2 Violence normal/no need to complain 1 2 Thought she would be blamed 1 2 Bring bad name to family 1 2 Other 1 2 Don't Know / No Response 1 2	

Now I would like to focus on difficulties that may have happened to you since the elections of 2005 until now I am asking about things that may have been done to you by persons outside of your family such as soldiers, militia, police officers, and guards. These acts could have happened in places such as on the road, in a refugee camp or in another village. I would like to know if any of them were done to you after the conflict by persons outside of your family. Please remember that if you need to, we can stop and take a break at any time. And also please remember that I will continue to make sure your answers are absolutely confidential. We also want you to know that we can refer you to someone who can help.

Q420. After the conflict or displacement within the last year, were you subjected to any of these forms of violence by	Q421. How often did (A-J) happen to you? Would you say once	Q422. Who did this to you? CIRCLE 1 FOR ALL MENTIONED, 2 FOR NOT MENTIONED	Q423. Where did this take place most often? CIRCLE 1 FOR ALL MENTIONED, 2 FOR NOT MENTIONED 1= MENTIONED 2=Not Mentioned
--	---	---	---

people outside of your family? These acts could have been done by anyone who are not family members. Were you (READ A-J)	or twice, three to four times, or more than four times?	1= MENTIONED 2=Not Mentioned	
Physically hurt, such as slapped, hit, choked, beaten, or kicked? Yes 1 No 2 →B DK / NR 9→B	Once or twice.....1 Three or four times.....2 More than four times.....3 DK/ NR9	Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2	Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2
B. Threatened with a weapon of any kind Yes 1 No 2 →C DK / NR 9→C	Once or twice.....1 Three or four times.....2 More than four times.....3 DK/ NR9	Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2	Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2
C. Shot at or stabbed Yes 1 No 2 →D DK / NR 9→D	Once or twice.....1 Three or four times.....2 More than four times.....3 DK/ NR9	Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2	Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2

<p>Detained against your will</p> <p>Yes 1 No 2 →E DK / NR 9→E</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>
<p>Subjected to improper sexual comments</p> <p>Yes 1 No 2 →F DK / NR 9→F</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>
<p>Forced to remove or stripped of your clothing</p> <p>Yes 1 No 2 →G DK / NR 9→G</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>

<p>Subjected to unwanted kissing or touching on sexual parts of your body</p> <p>Yes 1 No 2 →H DK / NR 9→H</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>
<p>Forced or threatened with harm to make you give or receive oral sex or have vaginal or anal sex</p> <p>Yes 1 No 2 →I DK / NR 9→I</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>
<p>Compelled to engage in sex in order to receive something such as food, water, protection or other reasons (describe)</p> <p>Yes 1 No 2 →J DK / NR 9→J</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2 Paramilitary 1 2 Police 1 2 Jail or prison guard 1 2 Doctor/medical person 1 2 Religious worker 1 2 Humanitarian relief worker 1 2 Neighbor/community member 1 2 Fellow refugee/IDP 1 2 Other 1 2 Don't Know / No Response 1 2</p>	<p>Current location 1 2 Any previous camp 1 2 Home village/town 1 2 Traveling by road/boat 1 2 Other 1 2 DK/NR 1 2</p>

<p>Anything else ?</p> <p>Yes 1</p> <p>No 2 → Instruction box 4.3</p> <p>DK / NR 9 → Instruction box 4.3</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>	<p>Military 1 2</p> <p>Paramilitary 1 2</p> <p>Police 1 2</p> <p>Jail or prison guard 1 2</p> <p>Doctor/medical person 1 2</p> <p>Religious worker 1 2</p> <p>Humanitarian relief worker 1 2</p> <p>Neighbor/community member 1 2</p> <p>Fellow refugee/IDP 1 2</p> <p>Other 1 2</p> <p>Don't Know / No Response 1 2</p>	<p>Current location 1 2</p> <p>Any previous camp 1 2</p> <p>Home village/town 1 2</p> <p>Traveling by road/boat 1 2</p> <p>Other 1 2</p> <p>DK/NR 1 2</p>
--	--	--	---

INSTRUCTIONS TO INTERVIEWER 4.3

IF ANY VIOLENCE REPORTED DURING THE LAST YEAR (Q421), CONTINUE TO Q424

IF NO VIOLENCE REPORTED, and currently married or living with partner GO TO Q440

IF NO VIOLENCE REPORTED, and Never married or living with partner GO TO Q500

No.	Questions and filters	Coding categories	Skip to
Q424	Did you ever have any injuries from any of these incidents?	Yes 1 No 2 Don't Know / No Response 9	→ Q428 → Q428
Q425	What type of injury did you have? Probe: Any other injury? Mentioned 1 Not Mentioned 2	A) CUTS, PUNCTURES, BITES 1 2 B) SCRATCHES, ABRASIONS, BRUISES 1 2 C) SPRAINS, DISLOCATIONS 1 2 D) BURNS 1 2 E) DEEP CUTS, GASHES 1 2 F) BROKEN EARDRUM, EYE INJURIES 1 2 G) FRACTURES, BROKEN BONES 1 2 H) BROKEN OR LOST TEETH 1 2 I) VAGINAL/ANAL BLEEDING 1 2 J) OTHER_____ 1 2	
Q426	Did you see a doctor or any other medical care provider for medical treatment of these injuries?	Yes 1 No 2 Don't Know 8 No Response 9	→ Q428 → Q428 → Q428
Q427	What were the reasons you did not seek medical care for your injuries? (CIRCLE 1 FOR ALL MENTIONED, 2 FOR NOT MENTIONED)	A.. DID NOT NEED MEDICAL CARE 1 2 B. DID NOT KNOW WHERE TO GO 1 2 C. MEDICAL CARE NOT AVAILABLE 1 2 D. NO USE/WOULD NOT DO ANY GOOD 1 2 E. EMBARRASSED 1 2 F. AFRAID OF FURTHER VIOLENCE 1 2 G. WOULD NOT BE BELIEVED 1 2 H. THOUGHT SHE WOULD BE BLAMED 1 2 I. BRING BAD NAME TO HER FAMILY 1 2	

		J. BRING BAD NAME TO HUSBAND'S FAMILY 1 2 K. HAD NO MONEY 1 2 L. HAD NO TRANSPORT 1 2 M. OTHER 1 2	
Q428	Were you already pregnant during any of these incidents of violence?	Yes 1 No 2 8 9 Don't Know No Response	→ Q430 → Q430 → Q430
Q429	What happened to the pregnancy?	Delivered live baby 1 Miscarriage 2 Stillbirth 3 Abortion 4	After any response → Q432
Q430	Did you become pregnant as a result of any of these incidents?	Yes 1 No 2 9 Don't Know / No Response	→ Q432 → Q432
Q431	What happened to that pregnancy?	Delivered live baby 1 Miscarriage 2 Stillbirth 3 Abortion 4	
Q432	Did you seek medical care for any incidents of sexual violence?	Yes 1 No 2 No sexual violence 3 9 Don't Know / No Response	→ Q438 → Q440 → Q440
Q433	What services did you receive? (CIRCLE 1 FOR EACH MENTIONED, 2 IF NOT MENTIONED.) A. Emergency contraception(w/in 3 days) B. Treatment for sexually transmitted infections C Voluntary counseling and testing for HIV/AIDS offered D. Counseling / referral for mental health E. Treatment for injuries F. Evidence collection for report	A) 1.....2 B) 1.....2 C) 1.....2 D) 1.....2 E) 1.....2 F) 1.....2	

Q434	<p>Did you have any of the following medical complications as a result of any of the incidents of sexual violence?</p> <p>A. Sexually transmitted infection B. HIV / AIDS C. Unable to have a successful pregnancy D. Incontinence (unable to control urination or bowel movements) E. Vaginal / anal fistula (abnormal opening that may leak urine or feces)</p>	<p><u>YES</u> <u>NO</u> <u>DK/NR</u></p> <p>A) 1.....2.....9 B) 1.....2.....9 C) 1.....2.....9 D) 1.....2.....9 E) 1.....2.....9</p>	
Q435	<p>Did you seek medical treatment for any of these complications?</p>	<p>Yes 1 No 2 Know 8 response 9</p> <p style="text-align: right;">Don't No</p>	<p>→ Q437 → Q437 → Q437</p>
Q436	<p>What services did you receive? (CIRCLE 1 FOR EACH MENTIONED AND 2 FOR EACH NOT MENTIONED)</p> <p>Treatment for sexually transmitted infection Voluntary counseling and testing for HIV/AIDS offered Counseling / referral for mental health Treatment for injuries to reproductive organs</p>	<p>A) 1.....2 B) 1.....2 C) 1.....2 D) 1.....2</p>	
Q437	<p>Are you still in need of medical care for any of these complications?</p>	<p>Yes 1 No 2 8 9</p> <p style="text-align: right;">Don't Know No response</p>	
Q438	<p>Did you talk about this/these incidents of violence (any type) with (READ A-H)</p> <p>A. A family member B. A friend C. A doctor/other provider D. Police/military E. NGO worker F. A religious authority G. A women's group</p>	<p><u>YES</u> <u>NO</u> <u>DK/NR</u></p> <p>A) 1.....2.....9 B) 1.....2.....9 C) 1.....2.....9 D) 1.....2.....9 E) 1.....2.....9 F) 1.....2.....9 G) 1.....2.....9</p>	

IF TALKED TO ANYONE ABOUT THE VIOLENCE, GO TO →Q440
IF RESPONDENT DID NOT TALK TO ANYONE ABOUT THE VIOLENCE, CONTINUE TO →Q439

Q439	<p>What were the main reasons that you were not able to talk to anyone about the violence?</p> <p>CIRCLE 1 FOR ALL MENTIONED CIRCLE 2 FOR NOT MENTIONED</p>	<p>1=MENTIONED 2=NOT MENTIONED</p> <p>Did not know where to go 1 2</p> <p>No use/would not do any good 1 2</p> <p>Embarrassed 1 2</p> <p>Afraid of more violence 1 2</p> <p>Afraid of causing problems in relationship 1 2</p> <p>Would not be believed/taken seriously 1 2</p> <p>Violence normal/no need to complain 1 2</p> <p>Thought she would be blamed 1 2</p> <p>Bring bad name to family 1 2</p> <p>Other 1 2</p> <p>Don't Know / No Response 1 2</p>	
------	---	--	--

This next set of questions is about things that may have happened between you and your husband (partner) or ex-husband (ex-partner) now or in the past.

IF RESPONDENT HAS NEVER BEEN MARRIED OR IS LIVING WITH A PARTNER, GO TO Q500.

Q440. Please tell me if your husband (partner) or ex-husband (ex-partner) <u>ever</u> (READ A-E):	Q441. During the past 12 months, how many times did (A-E) happen to you? Would you say once or twice, several times, or most of the time?
<p>Forbid you from participating in activities in the community such as seeing friends or family, educational opportunities, women's groups, or employment opportunities</p> <p>1. Yes → Q441 2. No → B 9. Don't Know / No Response → B</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>
<p>Threatened to hurt you with a weapon or himself</p> <p>1. Yes → Q441 2. No → C 9. Don't Know / No Response → C</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>
<p>Slapped you, twisted your arm, hit you with a fist or something else, pushed you down or kicked you, or choked you</p> <p>1. Yes → Q441 2. No → D 9. Don't Know / No Response → D</p>	<p>Once or twice.....1</p> <p>Three or four times.....2</p> <p>More than four times.....3</p> <p>DK/ NR9</p>

Threatened to hurt you or used force to make you have sex with him when you did not want to 1. Yes → Q441 2. No → E 9. Don't Know / No Response → E	Once or twice.....1 Three or four times.....2 More than four times.....3 DK/ NR9
Anything else? 1. Yes → Q441 2. No → Q442 9. Don't Know / No Response → Q442	Once or twice.....1 Three or four times.....2 More than four times.....3 DK/ NR9

IF ANY VIOLENCE REPORTED IN Q440 (A-E) CONTINUE TO →Q442

IF NO VIOLENCE REPORTED IN Q440 (A-E) GO TO →Q500

Q442	Did you ever have any injuries from any of these incidents?	Yes 1 No 2 Don't Know / No Response 9	→ Q447 → Q447
Q443	What type of injury did you have? PROBE: Any other injury? CIRCLE 1 FOR ALL MENTIONED CIRCLE 2 FOR ALL NOT MENTIONED	A) CUTS, PUNCTURES, BITES 1 2 B) SCRATCHES, ABRASIONS, BRUISES 1 2 C) SPRAINS, DISLOCATIONS 1 2 D) BURNS 1 2 E) DEEP CUTS, GASHES 1 2 F) BROKEN EARDRUM, EYE INJURIES 1 2 G) FRACTURES, BROKEN BONES 1 2 H) BROKEN OR LOST TEETH 1 2 I) VAGINAL/ANAL BLEEDING 1 2 J) OTHER _____ 1 2	
Q444	Did you see a doctor or any other medical care provider for medical treatment of these injuries?	Yes 1 No 2 Don't Know / No Response 9	→ Q446

Q445	<p>What services did you receive? CIRCLE 1 IF MENTIONED, CIRCLE 2 IF NOT MENTIONED</p> <p>TREATMENT FOR INJURIES COUNSELING / REFERRAL FOR MENTAL HEALTH EVIDENCE COLLECTION FOR REPORT LEGAL ADVICE / TRADITIONAL JUSTICE</p>	<p>A) 1.....2 B) 1.....2 C) 1.....2 D) 1.....2</p>	<p>Circle all responses then → Q447</p>
Q446	<p>What was the reason you did not seek medical care for your injuries? CIRCLE 1 IF MENTIONED, CIRCLE 2 IF NOT MENTIONED</p>	<p>A. DID NOT NEED MEDICAL CARE 1 2 B. DID NOT KNOW WHERE TO GO 1 2 C. MEDICAL CARE NOT AVAILABLE 1 2 D. NO USE/WOULD NOT DO ANY GOOD 1 2 E. EMBARRASSED 1 2 F. AFRAID OF FURTHER VIOLENCE 1 2 G. WOULD NOT BE BELIEVED 1 2 H. THOUGHT SHE WOULD BE BLAMED 1 2 I. BRING BAD NAME TO HER FAMILY 1 2 J. BRING BAD NAME TO HUSBAND'S FAMILY 1 2 K. HAD NO MONEY 1 2 L. HAD NO TRANSPORT 1 2 M. OTHER 1 2</p>	
Q447	<p>Were you pregnant during any episode of violence?</p>	<p>Yes 1 No 2 Don't Know / No Response 9</p>	<p>→ Q449 → Q449</p>
Q448	<p>What happened to the pregnancy?</p>	<p>Delivered live baby 1 Miscarriage 2 Stillbirth 3 Abortion 4</p>	
Q449	<p>Did you talk about this/these incidents of violence with (READ A-H):</p> <p>A family member A friend A doctor/other provider Police/military NGO Worker A religious authority A women's group</p>	<p><u>YES</u> <u>NO</u> <u>DK/NR</u></p> <p>A) 1.....2.....9 B) 1.....2.....9 C) 1.....2.....9 D) 1.....2.....9 E) 1.....2.....9 F) 1.....2.....9 G) 1.....2.....9</p>	

Section 5: HIV / Aids Marriage and Regular Partnerships

No	Questions and filters	Coding categories	Skip to
Q500		MARRIED/HAS REGULAR PARTNER 1 NOT MARRIED/NO PARTNER 2	→Q502 →Q501
Q501	Have you ever had sexual intercourse?	1 Yes 2 No response 9	→Q513 →Q513
Q502	Do you think your spouse or any of your regular partner(s) has sex with anyone else? <i>DO NOT COUNT CO-WIVES OF POLYGAMOUS MEN</i>	Yes 1 No 2 Don't know 8 No response 9	
Q503	When did you last have sexual intercourse?	Within last 7 days 1 Within last 4 weeks 2 Wit in last 12 months 3 Longer ago 4 Don't know 8 No response 9	→Q505 →Q505
Q504	For that last sexual intercourse, was a condom used?	Yes 1 No 2 Don't know 8	
Q505	Now think back to the past. How old were you when you had sexual intercourse for the first time?	___ ___ Years Don't know 88 99 No response	
Q506	Were you married yet at that time?	Yes 1 No 2 No response 9	

NONREGULAR AND COMMERCIAL SEX

No	Questions and filters	Coding categories	Skip to
Q507	Have you had sexual intercourse with anyone other than your spouse or regular partner in the last 12 months?	Yes 1 No 2 response 9 No	→Q513 →Q513
Q508	With how many different men have you had sexual intercourse in the last 12 months (apart from your spouse/ regular partner)?	men ___ ___ Don't	

		know 88 response 99	No
Q509	When did you last have sexual intercourse with someone other than your spouse/regular partner)?	Within last 7 days 1 Within last 4 weeks 2 Within last 12 months 3 Longer ago 4 know 8 response 9	Don't No
Q510	For that last sexual intercourse, did you receive money, goods or protection in exchange for sex?	Yes 1 No 2 NR 9	
Q511	Was a condom used for that last sexual intercourse?	Yes 1 No 2 DK 8 NR 9	-->Q 513 -->Q 513 -->Q 513
Q512	What was the main reason you did not use a condom that time? ONE ANSWER ONLY	Not available 1 Too expensive 2 Partner objected 3 Don't like it 4 it 5 Other 6 DK 8	No need for

KNOWLEDGE OF HIV/AIDS

No.	Questions and filters	Coding categories	Skip to
Q513	Have you ever heard of a disease called HIV/ AIDS? <i>USE LOCAL TERMS</i>	Yes 1 No 2	End of interview
Q514	What are ways a person can prevent getting HIV/AIDS? (DO NOT READ) (MARK ALL RESPONSES) CIRCLE 1 IF MENTIONED, CIRCLE 2 IF NOT MENTIONED	1=MENTIONED 2=Not Mentioned Using Condoms 1 2 Have only one partner/ Be faithful 1 2 Not having sex with prostitutes 1 2 Not having sex with men that sleep around	

		1 2 Avoid anal sex 1 2 Not having sex with strangers 1 2 Avoid unsterilized/dirty syringes 1 2 Avoid unsafe blood transfusions 1 2 Avoid oral sex 1 2 Not having sex 1 2 Reducing the number of partners 1 2 Other 1 2 Don't know 1 2	
Q515	<p>I am going to read out some statements about protection against HIV/AIDS. For each statement, please tell me whether you think it is true or not.</p> <p>People can protect themselves from HIV/AIDS by.....</p> <p>Having a good diet Staying with one faithful partner Avoiding public toilets Using condoms during sexual intercourse Avoiding touching a person who has AIDS Avoiding sharing food with a person who has AIDS Avoiding being bitten by mosquitoes or similar insects Making sure any injection is done with a clean needle Abstinence</p>	<p><u>True</u> <u>Not</u> <u>Don't</u> <u>True</u> <u>know</u></p> <p>a) 1 2 3 b) 1 2 3 c) 1 2 3 d) 1 2 3 e) 1 2 3 f) 1 2 3 g) 1 2 3 h) 1 2 3 i).....1.... 2....3</p>	
Q516	<p>Do you think that you can catch AIDS in the following situations?</p> <p>a) During Sexual Intercourse b) Using injection needle/syringe that has been used on someone with the HIV virus? c) Using public toilet? d) . Hugging and touching e) . Shaking hands f) . Kissing g) . Bathing together? h) . A pregnant woman who has AIDS can give it to her unborn baby. i) . By receiving blood from someone who has HIV/AIDS j) . By using razor blade that has been used by someone who Has the virus. k)....Breastfeeding</p>	<p><u>Yes</u> <u>No</u> <u>Don't</u> <u>know</u></p> <p>a) 1 2 3 b) 1 2 3 c) 1 2 3 d) 1 2 3 e) 1 2 3 f) 1 2 3 g) 1 2 3 h) 1 2 3 i) 1 2 3 j) 1 2 3 k).....1....2....3</p>	
Q517	<p>Do you think that a person infected with HIV always shows symptoms or can such a person look perfectly healthy?</p>	<p>Always show symptoms 1 Can look healthy 2 Don't know 8</p>	

RISK PERCEPTION, BEHAVIOR CHANGE AND ATTITUDES TO PERSONS WITH HIV/AIDS
VOLUNTARY COUNSELING AND TESTING FOR HIV/AIDS

No	Questions and filters	Coding categories	Skip to
Q525	I am going to ask you some questions about HIV/AIDS testing. I do not want to know the results of the test. Have you ever requested to have a HIV/AIDS test?	Yes 1 No 2 Don't know 8 No response 9	
Q526	Do you know of a place where a woman could go for to have an HIV/AIDS test done?	Yes 1 No 2 No Response 9	→Q529 →Q529
Q527	What kind of place is that?	Hospital 1 Health center/Clinic/Etc. 2 Other 3 Don't know 8 No response 9	
Q528	How long would it take to get there from here? (ANSWER IN HOURS OR MINUTES)	___ ___ HOURS ___ ___ MINUTES 88 Don't know	
Q529	Have you ever had a HIV/AIDS test done?	Yes 1 No 2 Don't know 8 No response 9	→Q532 →Q532 →Q532
Q530	Did you receive counseling before the test, after the test or both before and after?	No counseling 1 Pre-test only 2 Post-test only 3 Both pre-test and post-test 4 Don't know 8 No response 9	
Q531	Please remember that I do not want to know the results of the test. Did you receive the results of the test?	Yes 1 No 2 Don't know 8 No response 9	
Q532	From which of these sources do you think you have heard/learned most about HIV/AIDS? Please choose only one answer.	1. Radio 2. TV 3. Health workers 4. Hospital/clinic doctors 5. Posters/handouts 6. Billboards 7. Church/Mosque 8. Family members 9. Friends	

		10. Government Officials 11. At school/teachers 12. Workplace 13. Others 88. Don't know 99. No response	
--	--	--	--

Appendix D. Survey Staff

Team Leaders

Mamai K. Kpadeh Mabel Foday Shirley K. Willie Arrena T. Wollie

Interviewers

Comfort Ngafuan Kebeh Y. Toe Rhoda T. McCarty Sonnita Roberts

Watta H. Kollie Winnifred K. Sannah Kumba Karngba Tamay N. Jaiblai

Esther D. Ballah Victoria S. Kollie Majassah B. Kamara Bendu A. Kelleh

Judianna Martor Korlu Dorbor Korpor T. Gayflor Kolu S. Goovi

Miatta Komeh

Data Entry

Joseph Nyan-Progammer Madea Robertson Jannie Fahnbulleh

Drivers

James Fayia Togba Gono Musah Donor Themo Keita

Morris Kromak Munah Kamara

Supervisors, Survey Coordinators, and Trainers

Rose Gakuba, Representative, UNFPA, Liberia

Dr. Geetor Saydee, UNFPA, Consultant

Dr. Stenly Sajow, Emergency Coordinator, UNFPA, Liberia

Priya Marwah, Programme Analyst, Humanitarian Response Unit, UNFPA, NY

Dr. Basia Tomczyk, CDC, Atlanta

Dr. Howard Goldberg, CDC, Atlanta

Ritu Singh, USAID, Washington DC

Statistician

Curtis Blanton, CDC, Atlanta

Operational Support and Logistics

Ms. Magbush Snoh, Secretary, UNFPA

Mr. Michael Weah, Finance, UNFPA

Mr. Bobby Kamara, UNFPA

Meriwether Beatty, JSI Research and Training Institute, Washington DC

Paula Nawrocki, Country Director Liberia, American Refugee Committee

Melissa Sharer, American Refugee Committee, Washington DC

Connie Kamara, American Refugee Committee, Minneapolis

Dr. Liberty, The Liberian Institute for Statistical and Geo-information Services (LISGIS)

The International Rescue Committee, New York, Monrovia and Lofa County, Liberia

Funding

UNFPA New York (Humanitarian Response Unit)

UNFPA Liberia country office

United States Agency for International Development