

ELIZABETH YARROW

BASELINE
SURVEY:
HIGHLANDS
SEXUAL,
REPRODUCTIVE
AND MATERNAL
HEALTH
PROJECT



Grandmother and child in Simbari

**Coram International
at Coram Children's Legal Centre (CCLC)**

2016

Commissioned by: CARE International in Papua New Guinea



Table of contents

Table of contents.....	2
1. Introduction	4
1.1. About the Baseline	4
1.2. About the HSRMH Project.....	4
2. Baseline Design.....	6
2.1. Overall approach	6
2.2. Key concepts and definitions	6
Women’s Empowerment (WE)	6
Gender	7
Sexual and gender based violence	7
Family and sexual violence (FSV)	7
2.3. Research Sites	7
2.4. Sampling.....	10
2.5. Data collection methods	11
2.6. Data analysis.....	13
2.7. Limitations.....	14
3. Findings: Basic Demographic features of sample	15
3.1. Age.....	15
3.2. Marital status	15
3.3. Age of marriage	16
3.4. Age of first sex.....	18
3.5. Age of first pregnancy	18
3.6. Size of household	19
3.7. Education.....	19
4. Findings: Healthy Island Criteria	21
4.1. Source of cash income	21
4.2. Purifying drinking water	22
4.3. Disposal of rubbish.....	23
4.4. Healthy eating	23
4.5. Cooking utensils	25
4.6. Mosquito nets	25
4.7. Vaccinations	25
4.8. Healthy Island Score.....	25
5. Findings: Education, Knowledge and Information about SRMH.....	27

5.1.	General health education.....	27
5.2.	Family planning	28
5.3.	Sexuality education	30
5.4.	Sexually Transmitted Infections (STIs)	31
6.	Findings: SRMH Attitudes and practices	35
6.1.	Family planning	35
6.2.	Rates of Fertility and Mortality	38
6.3.	Access to SRMH services	41
6.4.	Birthing	42
6.5.	Support for women during pregnancy.....	45
6.6.	Sexual activity and STIs	47
7.	Findings: Women’s Empowerment.....	53
7.1.	Decision making	53
7.2.	Labour and work	55
7.3.	Domestic violence	57
7.4.	Empowerment through action.....	63
7.5.	7.5 Women’s Empowerment (WE) Score	64
8.	Findings: Health Facilities Assessment.....	66
8.1.	Overall status of the facilities/ infrastructure.....	66
8.2.	Maternal and child health services	68
8.3.	STIs	70
8.4.	Services for survivors of FSV	70
8.5.	Clinical Drug Supplies & Equipment.....	70
9.	Conclusions	74
9.1.	Objective 1: Community support for SRMH.....	74
9.2.	Objective 2: Underlying Determinants of Health.....	76
9.3.	Objectives 3&4: Governance and Health Systems Strengthening.....	79
9.4.	Recommendations	79
ANNEX 1.	Evaluation Matrix	83

1. Introduction

1.1. About the Baseline

CARE International Papua New Guinea (CARE PNG) commissioned a baseline survey prior to beginning implementation of its Highlands Sexual, Reproductive and Maternal Health Project (HSRMH).

The research results are intended to serve as a baseline for measuring change in SRMH-related behaviour, women's empowerment (WE), and governance for improved health service delivery in the remote highlands of PNG over the course of the implementation of the HSRMH project.

The research was designed and led by a research consultant based at Coram International,¹ in collaboration with the CARE PNG team.

1.2. About the HSRMH Project

The Highlands SRMH project is a 4-year project focused on the highlands of Papua New Guinea, and involves collaboration between CARE PNG, the National Department of Health, Provincial Departments of Health and Health Administrations, District Administrations, Church Health Services, local community groups, and other stakeholders. The project is designed to integrate community based analysis of local gender and power issues with best practice sexual, reproductive and maternal health interventions to address both underlying and intermediate causes of SRMH-related morbidity and mortality, including family and sexual violence (FSV).

Purpose and objectives

Goal: The health and wellbeing of women, their families and communities in targeted rural, disadvantaged areas of Papua New Guinea will be meaningfully and sustainably improved.

Impact group: Women and girls in targeted catchment areas.

Purpose 1: Improved sexual, reproductive, and maternal health related behaviours among women in rural, disadvantaged areas of Papua New Guinea.

- *Objective 1, Healthy Women:* Increased community support for SRMH.

- *Objective 2, Underlying Determinants of Health:* Women, girls, and their communities have the knowledge and tools they need to create healthy living environments that are free from violence.

Purpose 2: Target systems and structures are increasingly supporting the availability of appropriate, acceptable, quality health services.

¹ Coram International is a research consultancy based at the Coram Children's Legal Centre, UK, specialising in international legal and social research concerning gender and childhood.

- *Objective 3, Governance & Enabling Environments:* Increased community-level and structural support for women's sexual, reproductive, and maternal health.
- *Objective 4, Health Systems Strengthening:* Health systems are supported to provide high-quality services – particularly sexual, reproductive, and maternal health services – that are available, accessible, and acceptable to local communities.

2. Baseline Design

2.1. Overall approach

The methodology for the baseline was primarily quantitative, in order to gather objective and measurable information against which results of the HSRMH project can be tracked. A limited amount of qualitative data was collected for triangulation and interpretation of quantitative findings.

The baseline survey focused on collecting data in relation to objectives 1) and 2) of the HSRMH project. Data in relation to objectives 3) and 4) was collected through a separate health facility assessment conducted alongside the baseline. Data from this assessment is included in this report.

In addition, a limited amount of data was collected in relation to objective 3 through key informant interviews (KIIs) with local leaders and village court stakeholders.

2.2. Key concepts and definitions

Several key concepts informed the development of the research design, and analysis of research findings.

Sexual, reproductive and maternal health (SRMH)

Sexual, reproductive and maternal health (SRMH) is fundamental to the general health and well-being of men, women and children. SRMH encompasses a variety of issues across their lifespan including: contraception, family planning, safe abortion, pre-natal and postnatal care, miscarriage, stillbirth and neonatal death, maternal and infant mortality, sexually transmitted infections including HIV, and sexual and gender based violence. Good sexual and reproductive health includes the right to a satisfying and safe sex life free from coercion and violence, and the capability to reproduce and the freedom to decide if, when, and how often to do so.² This implies that individuals must have access to safe, effective, affordable and acceptable methods of fertility regulation, and the right of access to appropriate health care services that provide men and women with the best chances of conceiving at a time of their choice, transitioning safely through pregnancy and childbirth, and raising a healthy infant.³

Women's Empowerment (WE)

CARE PNG has placed women's empowerment (WE) at the centre of its programming and operations, and has recognised that women's empowerment is an essential factor in improving sexual, reproductive and maternal health. CARE conceptualises women's empowerment as 'the sum total of changes needed for a woman to realise her full human

² World Health Organization, "Defining Sexual Health", retrieved on 25 July 2015 from http://www.who.int/reproductivehealth/topics/sexual_health/sh_definitions/en/.

³ World Health Organization, "Reproductive Health", retrieved on 25 July 2015 from http://www.who.int/topics/reproductive_health/en/.

rights'.⁴ According to CARE's WE framework there are three central domains of WE: 'agency' – a women's aspirations, confidence, capabilities and knowledge; 'relations' – women's ties with husbands, children, siblings, parents, neighbours, communities and authorities, through which she must negotiate power and navigate her life; and 'structure' – the environment that surrounds her and conditions her choices and ability to act. Removing barriers within all three of these realms is the key to achieving sustainable empowerment of women.

Gender

SRMH has a strong relationship to norms about gender and gender roles. It is therefore important to define the concept of gender, and how it will be understood in the context of the research. 'Gender' refers to ideas, norms and identities associated with being male or female or otherwise sexed. Plan International provides a particularly useful definition of gender, describing gender as: *'[the] socially constructed roles, responsibilities, behaviours, activities and attributes which society considers appropriate and expected for men and women and boys and girls, [including] the social organisation of women's and men's lives and relations.'*⁵

Sexual and gender based violence

Sexual and gender based violence (SGBV) is a broad term that refers to any action that is perpetrated against an individual because of sex, gender or sexuality; and that results in, or is likely to result in, physical, sexual or psychological harm or suffering; including threats of such action or coercion. SGBV is committed for the purposes of maintaining power structures that privilege masculinity and traditional views of gender, seeking to ensure that individuals' identity and behaviour conform to dominant ideas about gender.⁶

Family and sexual violence (FSV)

Within Papua New Guinea, the term 'Family and Sexual Violence' (FSV) is used more commonly than SGBV because it captures the predominant type of violence against women and girls that occurs in PNG contexts. FSV includes violence perpetrated against women by their in-laws, husbands, sons, and other family members, violence between co-wives, and violence perpetrated against children. The term 'FSV' is also reflective of the cultural importance placed on the family unit as the centre of social life and the most frequent source of violence against women and children.

2.3. Research Sites

The baseline was conducted in three highland sites in Morobe Province: Yamaya, Umba and Siaka.

⁴ CARE International, "Women's Empowerment Framework", retrieved on 25 July 2015 from <http://www.care.org/our-work/womens-empowerment/gender-integration/womens-empowerment-framework>.

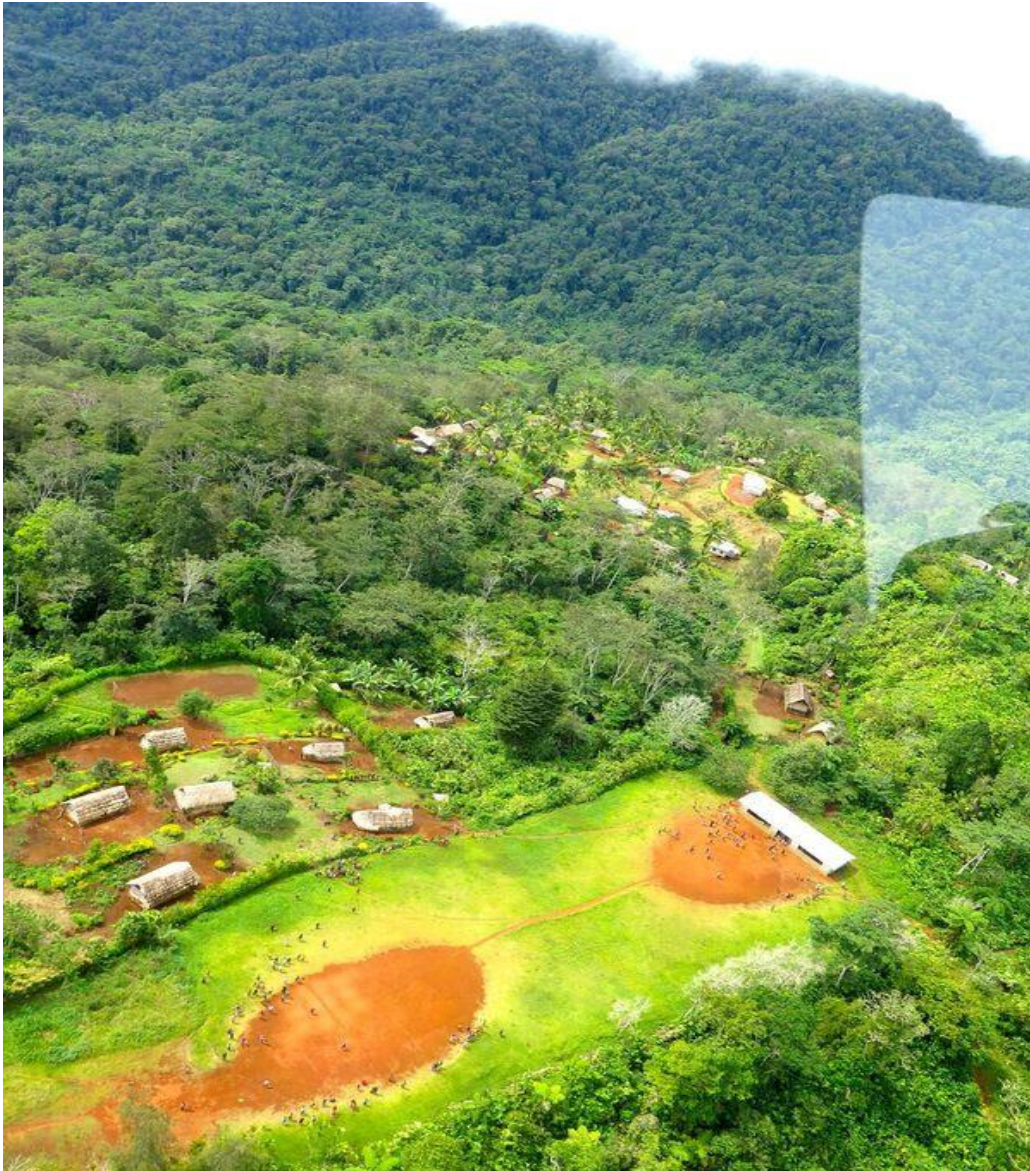
⁵ Plan International (2011), "Because I Am A Girl: So what about the boys?" Retrieved on 25 July 2015 from <http://plan-international.org/girls/pdfs/biaag-report-2011-english.pdf>.

⁶ UNHCR, "Sexual and Gender Based Violence: Guidelines for Prevention and Response" Retrieved on Retrieved on 25 July 2015 from http://www.unicef.org/emerg/files/gl_sgbv03.pdf

The table below outlines some of the basic features of each site. The terrain across all three sites is extremely remote, mountainous, and characterised by large sections of jungle.

Site	Features
Umba	<p><i>Road Access</i> Umba has road access, although the condition of the road is very poor, and it is unclear how passable it would be in the rainy season. The road is currently open, although it is under maintenance. Marie Stopes PNG has been able to access this area for family planning outreach in the dry season due to the road.</p> <p><i>Education Institutions</i> Umba has 3 schools (1 primary, 1 community and 1 elementary) that are currently operating and have been for some time.</p> <p><i>Health Infrastructure</i> There is a non-operational health facility (aid post), a government facility which has been closed since 1989 due to an instance of retaliation after a community death. There is a health worker based at the site, supported by the district hospital, who is instead working out of his own home (this is discussed in more detail in Section 8, below). There appear to be at least two village health volunteers (VHV) based at Umba. These volunteers have not, however, undergone the PNG VHV training as approved by the government through the National Department of Health.</p> <p><i>Policing and Justice</i> There are only two official village courts across the district of Yamaya, neither of which is located in Umba. There is a peace committee in place in the catchment that is responsible for conducting mediation when disputes arise between members of the community. However, peace committees are not authorized to make formal charges and therefore frequently rely on compensation as a form of settlement; matters requiring formal consequences must be handled at the village court level.</p>
Yamaya	<p><i>Road Access</i> One ward in Yamaya is located along the main Menyamya-Lae road. A further single-lane dirt road was completed in mid-2015, running as far as 4 wards from the main road, but this is only passable during dry season. Otherwise wards are located 2-3 days walk to the nearest road.</p> <p><i>Education Institutions</i> There is a large primary school and 2-3 elementary schools, which serve the entire off-road area covered by this assessment. A new primary school and 3-4 new elementary schools were scheduled to open in 2014, but no evidence of this was seen.</p>

	<p><i>Health Infrastructure</i></p> <p>There is an aid post in Yamaya, which has been in operation since 1982. Services at the aid post are very limited, so most villagers use the Aseki or Bulolo Health Centres for STI and other services, which range from 1-3 days' walk from Yamaya's wards.</p> <p>2-3 VBAs are working in the area who were trained by the government in the 1990s. They remain somewhat active, but have not received any refresher courses since their initial trainings.</p> <p><i>Policing and Justice</i></p> <p>There are only 2 official village courts in Menyamya District. Kapao LLG, which covers the Yamaya catchment area, has the closest official village court, located along the main Menyamya-Lae road. Otherwise peace committees are the only system of courts available in Yamaya.</p>
Siaka	<p><i>Road Access</i></p> <p>There is no road access to Siaka. The nearest road is at Yasuru, which is 8 hours walk away. This means residents have limited access to markets, and spend most of their time gardening for subsistence.</p> <p><i>Education Institutions</i></p> <p>There is an abandoned school building in the area, but it has not been open for more than 5 years. There nearest school is in Yasuru, 8 hours walk from Siaka. The community reports that children are typically not sent to school here due to concerns for their safety on the path.</p> <p><i>Health Infrastructure</i></p> <p>Evangelical Brotherhood Church is operating a health facility (aid post) here with a newly constructed maternity ward. The facility is supplied by the Church Health Services through the Eastern Highland Province rather than Morobe.</p> <p>The church health services held VHV trainings within the community in relation to the healthy island criteria a month or so prior to data collection for this assessment.</p> <p><i>Policing and Justice</i></p> <p>There are 2 village courts in operation in this area in addition to peace committees in each village. Peace committees, as described above, are recognized by the PNG legal system but not authorized to give out formal punishment.</p>



Picture 1: Helicopter landing area at site in Siaka; access to this site in rainy season is available by 2-day mountain trek or helicopter only

2.4. Sampling

Due to significant lack of infrastructure in the research sites, and the limited time available for conducting the research, it was necessary to take a pragmatic approach to selecting respondents for the survey. The team walked from village to village, and requested to survey all individuals encountered aged 15 years and above.

A total of 500 participants were surveyed across all three sites, including 258 females, and 242 males.

Table 1: summary of survey sample

District	Research Site	Ward	Villages	Sample
Menyama	Yamaya	7	Damauma, Hagona, Konoma, Okenaiwa, Ondino, Paiwini	57
		8	Hagona, Keango, Kwanbianga, Papatia, Quatunge, Yamaya	59
		9	Angini, Aiyanga, Andadua, Anigi, Dawe, Ekwato, Hakini, Kananga, Kapuanga, Komakota, Kukise, Pasia, Wimave	59
		11	Awaika, Kapuanga, Papatia	20
	Umba	3	Aiwamba, Kondogogo, Samasai, Wiwisimej, Umba	198
Markham	Siaka	2	Imani, Orent	6
		3	Kusing, Yasuru	20
		4	Siaka 1, Siaka 2	76
		5	Tombuna	5
Total:				500

2.5. Data collection methods

Quantitative data was gathered through the oral administration of a structured **survey** consisting of closed and multiple-choice questions. Questions were devised to collect data in relation to each of the indicators set out in the Evaluation Matrix, which is annexed to the report below. The survey tool was tailored to the HSRMH project design and M&E framework, whilst drawing on existing proven tools such as CARE's Women's Empowerment Multidimensional Evaluation of Agency, Social Capital and Relations tool (WE-MEASR) and Promundo's Gender Equitable Men (GEM) scale.

In addition to distributing the survey, the team carried out a number of **key informant interviews (KIIs)** with selected stakeholders in each of the research areas, including community chiefs, religious leaders, health providers, village health volunteers, ward councillors, and representatives from women’s groups. These interactions were useful for gathering data in relation to indicators contained within Objective 3 of the Evaluation Matrix (health systems governance), and for interpreting and triangulating survey data.

Finally, a number of **in-depth interviews (IDIs)** were carried out with women in the community in relation to experiences of family and sexual violence (FSV), SGBV more broadly, and access to services and support. Given the sensitivity around issues of FSV and SGBV, it is challenging to collect reliable and accurate data on this issue when delivering a closed-ended survey with a predefined set of questions and responses. Therefore, it was decided that carrying out a number of qualitative, open-ended and in-depth interviews would be important for filling gaps in evidence in relation to these particularly sensitive and complex subject areas.

KIIs and IDIs were conducted in a participatory manner: the researcher was guided by the participant’s responses within the broader frame of the research questions. Questions were asked based on the respondents’ experiences and with a view to encouraging the most authentic and responsive data. A set of semi-standardised qualitative research tools was developed to guide the content and process of the interview.

The following qualitative interactions were carried out in each research location:

Table 2: summary of qualitative sample

District	Research Site	KIIs	IDIs
Menyamya	Yamaya	1 x ward councillor 1 x peace officer 1 x Sunday school teacher 1 x women’s group/ church leader	5 x female survivors of FSV
	Umba	1 x English teacher 1 x ward councillor 1 x peace officer 1 x community evangelist 1 x women’s group representative 1 x community health worker 1 x village health volunteer 1 x community chief	1 x female survivor of FSV

Markham	Siaka	1 x LLG President 2 x peace officers 1 x village health volunteer 1 x community/ religious leader 1 x aid post committee member 1 x WDC member 1 x Pigin teacher/ village leader	--
---------	-------	--	----

2.6. Data analysis

Quantitative Data

Quantitative data was analysed with the use of SPSS software to provide a descriptive profile of results from the sample in relation to each of the indicators set out in the evaluation matrix. These results may be used as a baseline against which the impact of the HSRMH project can be measured.

A number of inferential quantitative analysis techniques were also used in order to identify and analyse patterns in the data set that provide evidence of a link between key demographic characteristics in the population and particular experiences, attitudes, or practices in relation to SRMH. This information may support CARE to appropriately target HSRMH activities to the most vulnerable groups within the population. It also has the potential to assist the team to measure the impact of the project in the areas where it is needed most.

Inferential quantitative analysis techniques used include:

‘Comparison of means’ (T-test): a statistical hypothesis test that can be used to determine whether two populations are significantly different from each other. It could be used to test, for example, whether the level of SRMH knowledge varies significantly according to research site.

‘Chi-squared test’: a statistical hypothesis test that examines the strength of association between two categorical variables, such as a participants’ sex, and their experience accessing a health service. A chi-squared test can be used to identify significant associations between categorical variables, suggesting that they may be impacting on each other.

ANOVA: or ‘Analysis of variance’, is a technique which examines whether variation within a population can be explained through its division into groups. One-way ANOVA involves one continuous dependent variable (e.g. age) and one categorical independent variable (or factor). ANOVA could be used to test, for example, whether a person’s age is associated with the method of family planning they use.

Correlation: this test describes the existence and strength of a linear relationship between two continuous variables; for example, the number of years a person has been in school, and their age of first pregnancy. A significant correlation indicates the existence of such a relationship (though it does not imply that the relationship is causal).

Regression: a statistical technique that builds an optimal linear model of the relationship between one or more independent or explanatory variable(s) and a dependent or response variable. It is useful because it explains the proportion of the variance of one variable that can be predicted from the other, and, therefore, provides some information about causality. Conducting a regression could provide information, for example, about whether a household's level of income predicts the number of neo-natal deaths in the family.

Qualitative Data

Qualitative data was coded both manually and with the assistance of Nvivo software to identify key themes, connections and explanations relevant to the research questions. Qualitative data analysis was primarily informed by case-study analysis⁷, and discourse analysis⁸.

2.7. Limitations

- Due to limited infrastructure in the research locations, the research team had to travel between wards and villages on foot. As a result, the teams were unable to cover the entire health catchment area in each of the research locations. Some villages were as far as 2 days walk from the aid post; given the limited time frame within which the field data was collected, visiting these villages was not possible. The team worked with village leaders to encourage individuals living in these areas to come to a more central location to participate in the survey. This was successful in some locations of Yamaya.
- Participants were accessed at random based on coming into contact with surveyors in the villages visited. The original sample size was calculated based on existing available population data, to ensure a representative sample based on simple random sampling. The target for Yamaya was 306 respondents, 273 for Umba and 281 for Siaka. These targets were not achieved due to the unavailability of respondents in research locations. There were times in which the team walked for hours without coming across a single person to survey. It may be that existing population data – mainly gathered through the latest census, from 2011 – does not accurately represent the actual number of people resident in the research locations. One possible explanation for this may be recent rural-urban migration.
- Many respondents were unclear about their date of birth and age, both at the time of conducting the survey, and at the time of key events that they were asked about (for example, their age of marriage, or age of first pregnancy). As a result, data in relation to age should be treated with some caution, and considered a broad estimate rather than an exact measure.
- Language barriers somewhat limited the research team's ability to collect in-depth, detailed and accurate information from respondents, especially in relation to the qualitative elements of the research. This was particularly the case during interactions where respondents had limited knowledge of Tok Pisin, the main language used to conduct the surveys.

⁷ A detailed account or study of one or more cases.

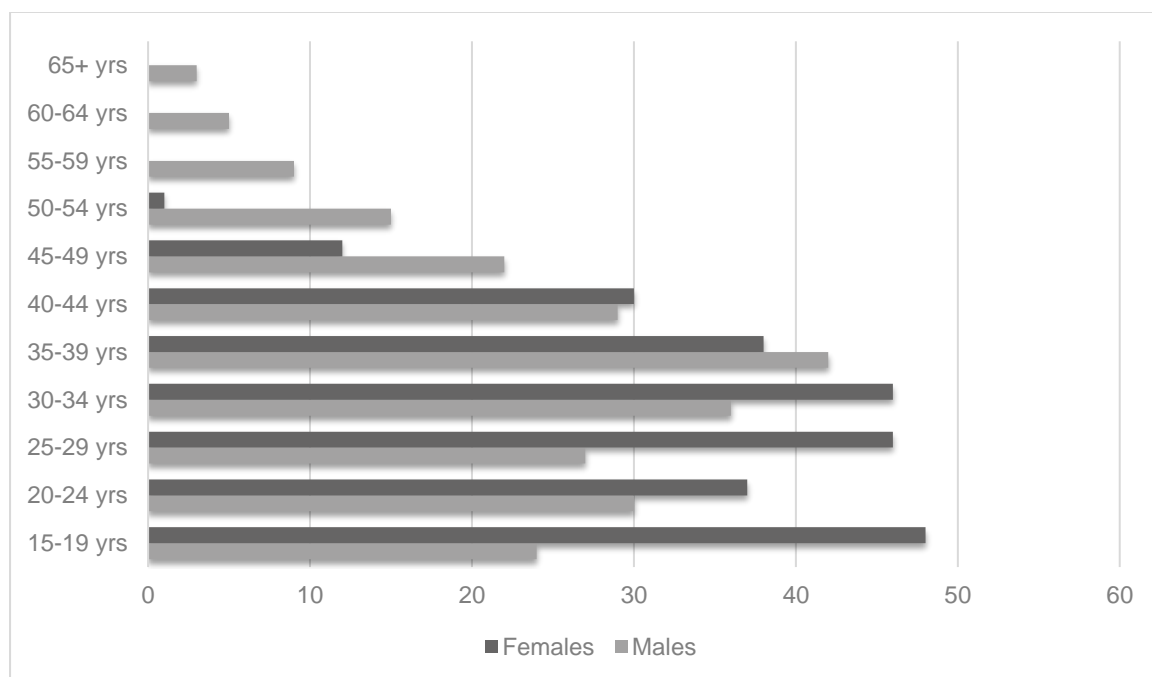
⁸ A close engagement with the language used by respondents to communicate about issues such as, gender, sex, FSV and SGBV and access to support.

3. Findings: Basic Demographic features of sample

3.1. Age

As discussed, data concerning age should be treated with some caution, as most participants appeared unsure of their exact birthdate or age. Given this, data on age is presented in 'groupings' (as per the graph below); an individual's reported age at the time of the survey, or during a significant event in their life (e.g. marriage), is presented in the analysis as an estimate age falling within a period of 5 years.

Chart 1: distribution of age of sample disaggregated by gender



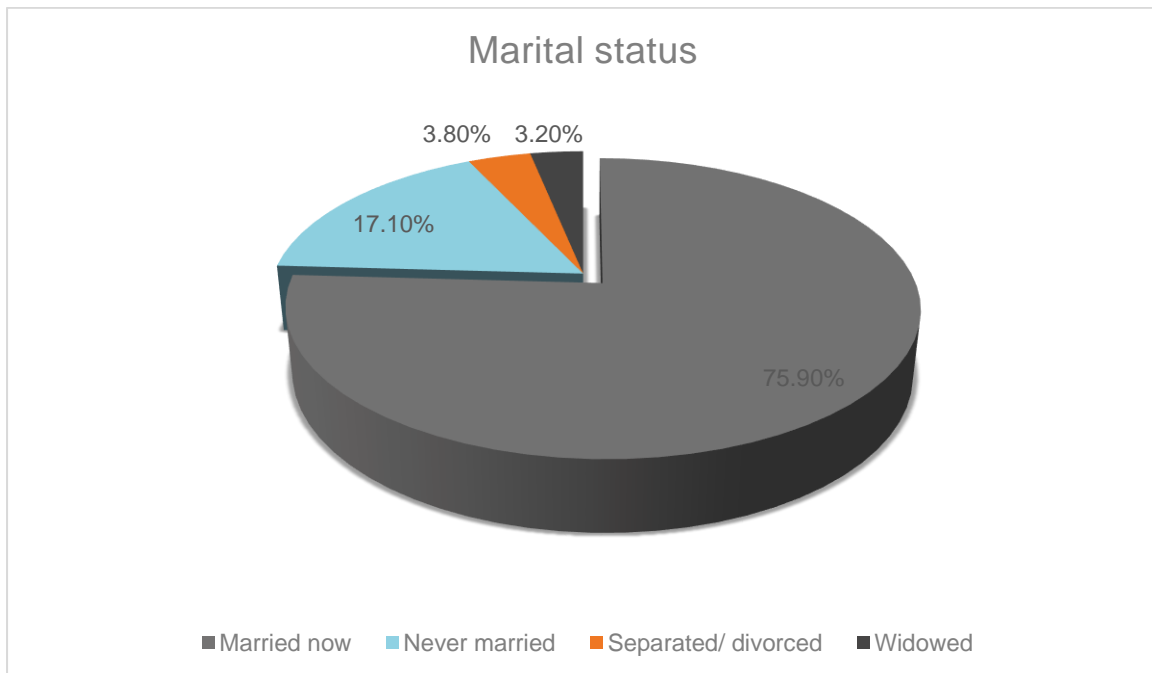
As the above graph demonstrates, females in the sample tended to be significantly younger than males; the mean age for female in the sample was 29.4 years, compared to 35.1 years for males (t-test, $p < .0001$). It is unclear why this is the case. It may be that younger men were unavailable in the villages due to work and migration. Alternatively, given that many participants were unaware of their actual date of birth it could be that females tended to estimate their age as slightly younger, whilst males tended to estimate their age as slightly older.

3.2. Marital status

The majority of respondents, 75.9%, in the sample were married; 17.1% were 'never married', and the remaining 7% were separated, divorced or widowed. Most unmarried respondents, 67.1%, were under the age of 20 years; and as many as 87.1% of all unmarried respondents were under the age of 25 years.

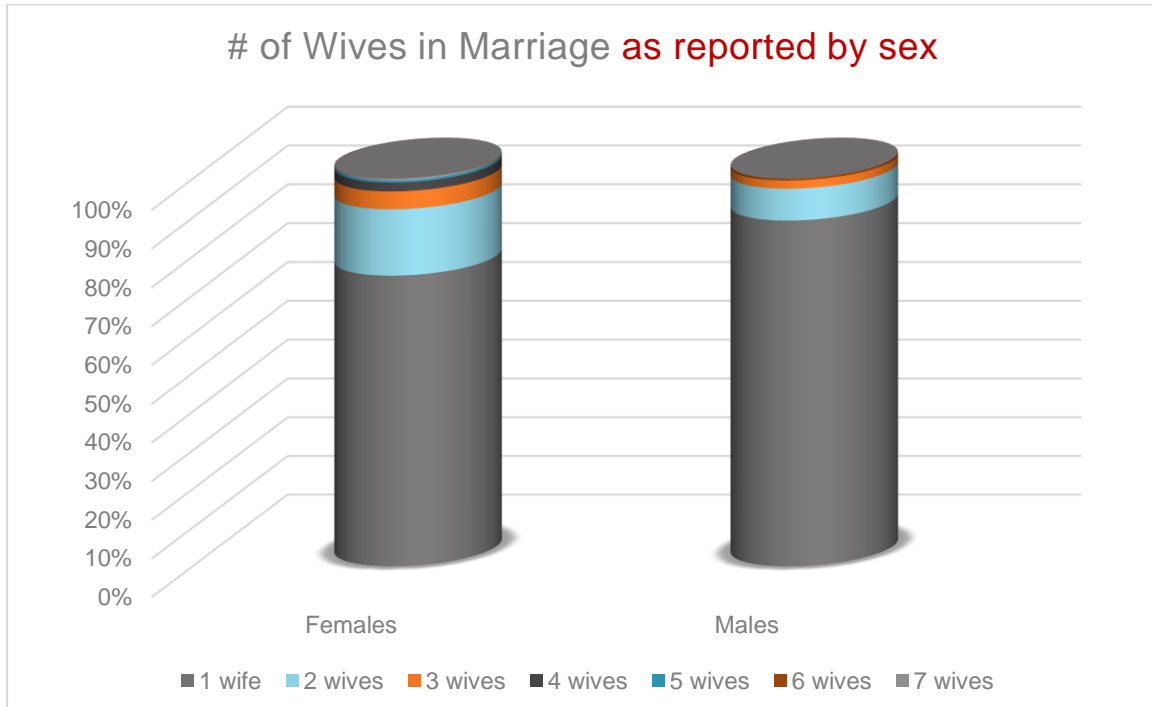
As few as 2.2% of respondents over the age of 25 years reported that had never been married. This suggests that remaining unmarried beyond this age is a highly unusual circumstance.

Chart 2: marital status of respondents



A high proportion – just over a quarter, 25.3%, of married women were in a polygamous marriage. The largest number of wives in one marriage was found to be 7 wives.

Chart 3: no of wives per marriage

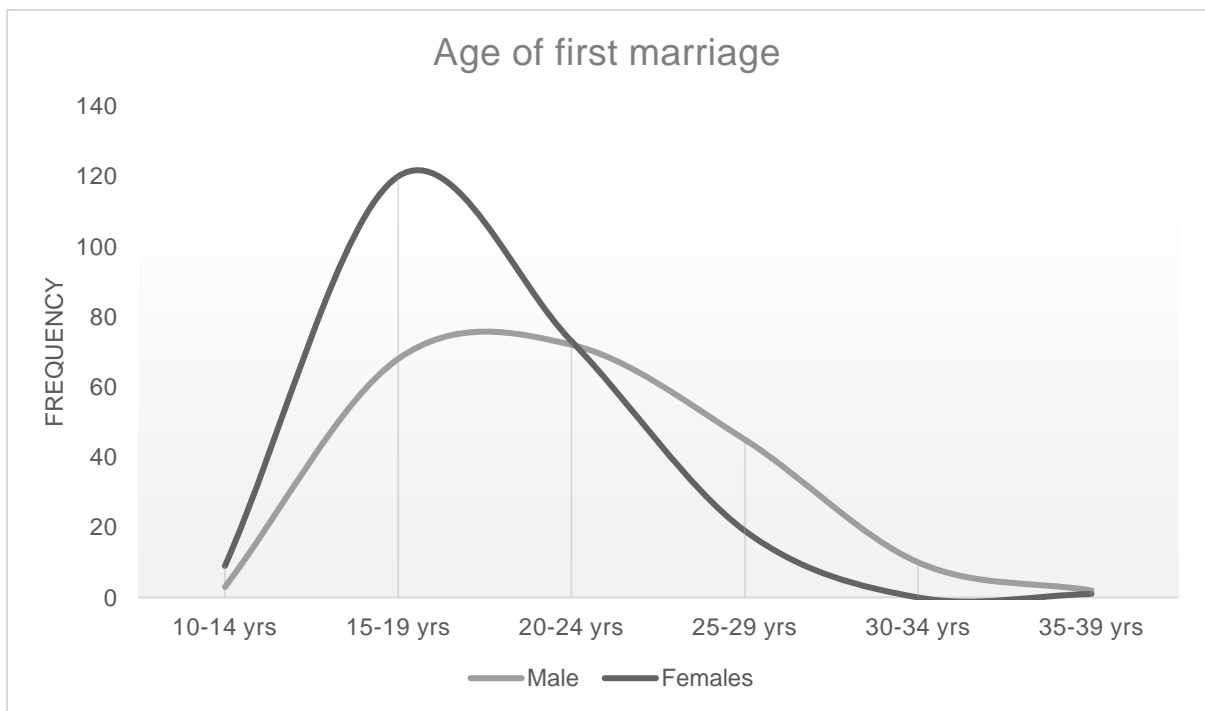
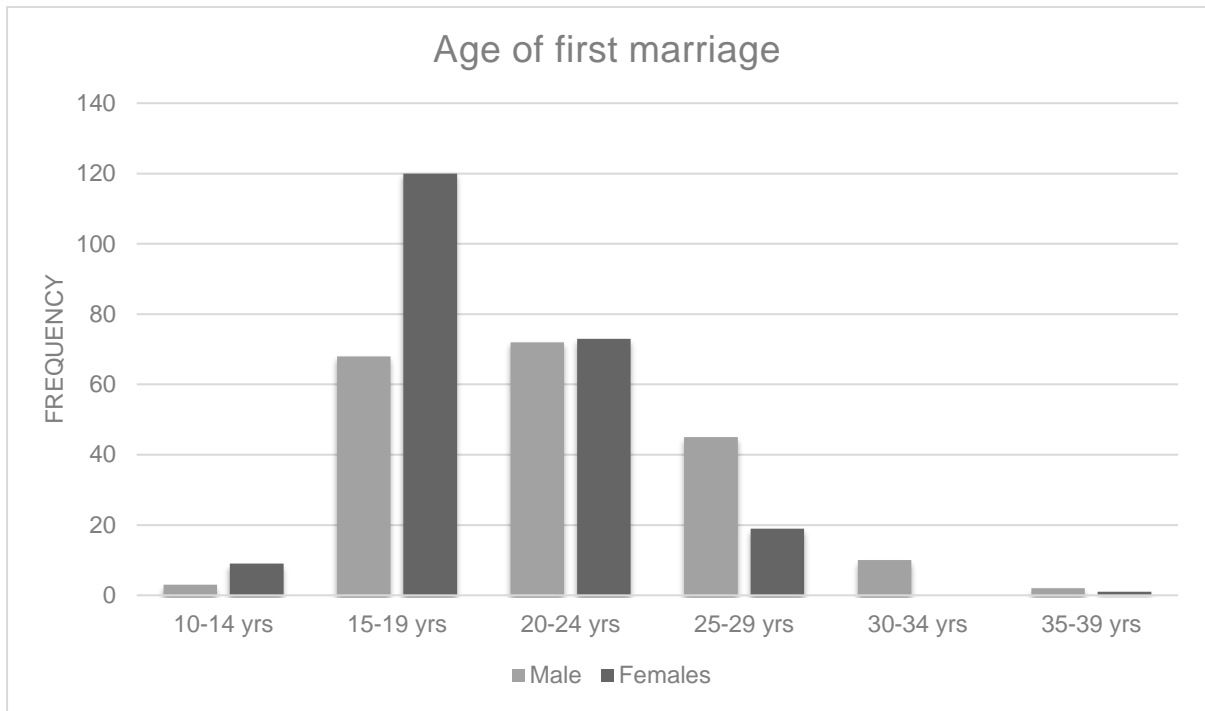


3.3. Age of marriage

Females in the sample were first married significantly younger than males (t-test, $p < .0001$). The mean age of first marriage of women was 18.99 years, and 22.00 years for men. Given

that respondents were unaware of their specific date of birth this may be an overestimate of the mean age of first marriage, especially for females. Tellingly, when female respondents were unsure of their age of first marriage, they tended to estimate their age as having been either '18' or '20' years. The youngest reported age of marriage for girls was 10 years, and 13 years for boys.

Charts 4 & 5: distribution of age of first marriage of sample disaggregated by gender



Participants in the qualitative research explained that older males tend to marry younger females because “*the man is the head of the household*”;⁹ and so the age of the husband and wife should reflect the hierarchy that exists between them. One participant explained: “*even the marriage of a 12 or 13 year old girl to an old man is fine. It all depends on the wealth [of the man].*”¹⁰

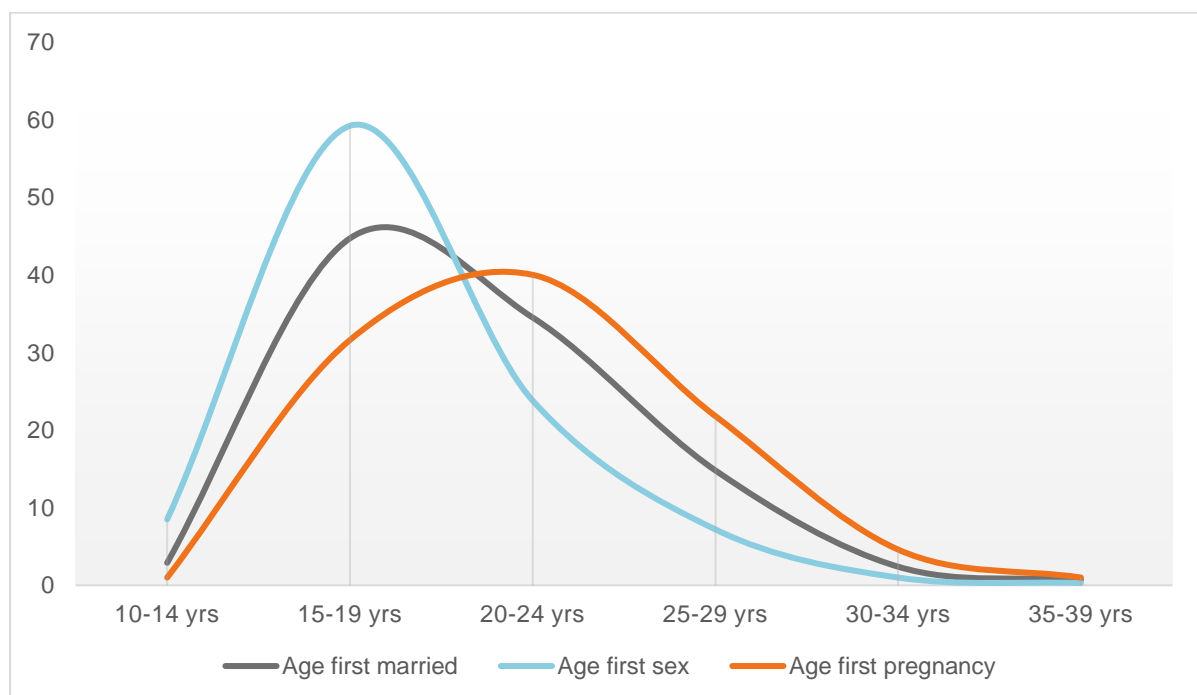
3.4. Age of first sex

Both males and females in the sample tended to report their age of first sex as slightly younger than their age of first marriage. The difference between the age of first marriage and age of first sex was found to vary significantly according to gender (t-test, $p < .0001$); the mean difference in age of first sex and age of first marriage was 2.68 years for males - males tended to report that they first had sex almost 3 years before marriage, and 0.76 years for females - females tended to report that they first had sex less than 1 year before marriage. The youngest reported age of first sex was 10 years for both boys and girls. About one fifth of the sample, 19.6%, reported that they had first had sex aged 15 years or younger.

3.5. Age of first pregnancy

The majority of participants in the sample, 65.3%, reported that they or their wife first got pregnant within 1 year of marriage, and 96.2% of respondents in the sample were pregnant within 5 years of marriage.

Charts 6: distribution of age of first sex, marriage and pregnancy



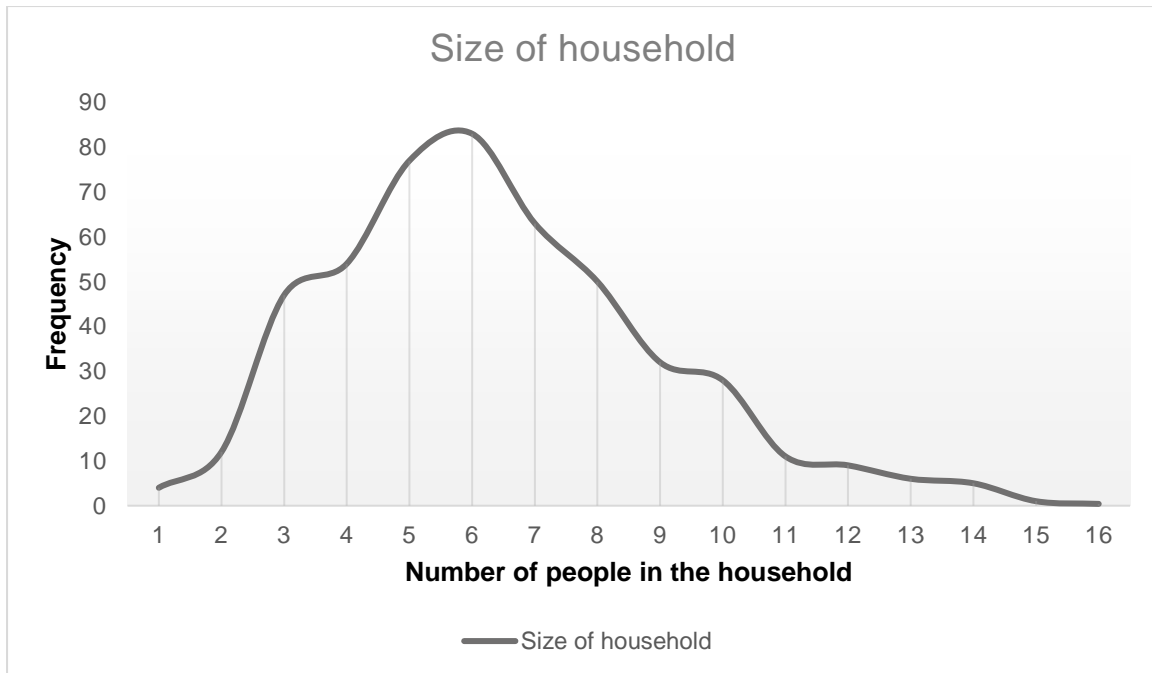
⁹ KII, English teacher, Uмба, 8th August 2015

¹⁰ KII, English teacher, Uмба, 8th August 2015

3.6. Size of household

The mean size of households in the sample was 6.4 people. Households were defined as the number of people living under one shelter or structure, so the count of individuals in each household is not inclusive of grown children or of multiple wives in polygamous families where those wives were not living together.

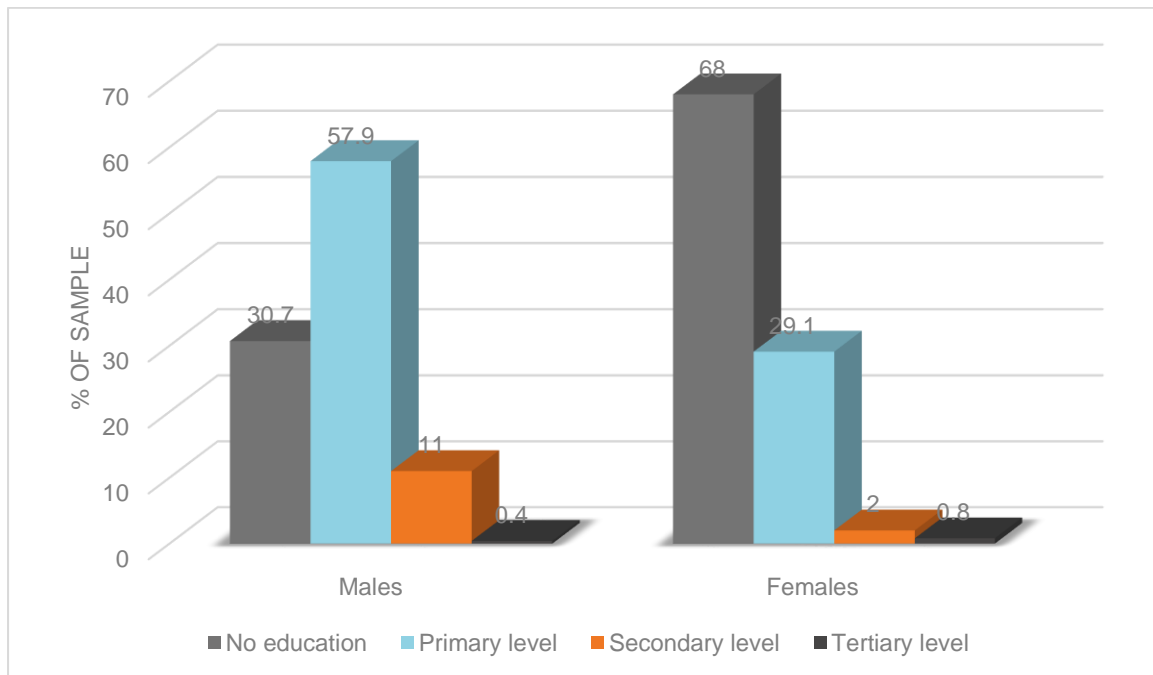
Chart 7: distribution of frequency of size of household in sample



3.7. Education

50% of the sample reported to have had no formal education at all; most of the remainder had some primary level education. Only 7% of the sample reported to have reached secondary level education or higher. Level of education was significantly associated with gender: as much as 68% of the sample of female respondents had received no education at all, compared to a substantially reduced 30% of males (2-sided chi-square, $p < .0001$). Furthermore, only 2.8% of females had reached secondary education or higher, compared to a considerably higher 11.4% of males.

Charts 8: level of education of sample by gender



There were also significant differences in the level of education of females in the sample according to research site (2-sided chi-square, $p < .0001$). Almost three quarters of females in Siaka and Yamaya, 74.5% of the sample in both sites, had received no formal education at all, compared to significantly lesser (but still high) 57.9% of women in Umba. There were no significant differences observed in the level of education of males according to research site.

The low numbers of women/ girls who were found to have attended school in Yamaya and Siaka is likely partially due to the remoteness of the research sites, and the lack of schools in these areas. The nearest school to villages in Siaka were over 8 hours walk away, and parents in qualitative interviews explained that they were not willing to send their daughters such a long distance to school as they felt it was unsafe.

4. Findings: Healthy Island Criteria

The survey included a limited number of questions in related to the PNG Department of Health's Healthy Island Criteria in order to establish a baseline against which the progress of the HSRMH project can be measured.¹¹

4.1. Source of cash income

The majority of respondents in the sample were cash-poor. Almost half the entire sample, 47.2%, reported that their household earns less than 300 Kina per year; 65.2% reported to earn less than 500 Kina per year, and 83.6% less than 1,000 Kina. Participants in the qualitative research explained that lack of infrastructure and the poor conditions of roads leave communities with only very limited access to markets.¹²

There were significant differences observed in (reported) levels of household cash income according to the gender of the respondent. On average, female respondents reported that their household possesses significantly lower levels of cash income than did male respondents (t-test, $p < .0001$); 10% of female respondents reported that their household earns no cash income whatsoever, compared to a reduced 3.7% of male respondents. It may be the case that female-headed households - including those within polygamous marriages - have less cash income than male-headed households; as one female respondent explained during an IDI in Yamaya:

*"[My husband] is still the head of the family, so every market and selling of pigs he ends up with all the money. Sometimes I make 700-800 kina in marketing – sometimes a pig alone up to 1000 kina – and he spends it all with his second wife, whilst I suffer as a poor woman."*¹³

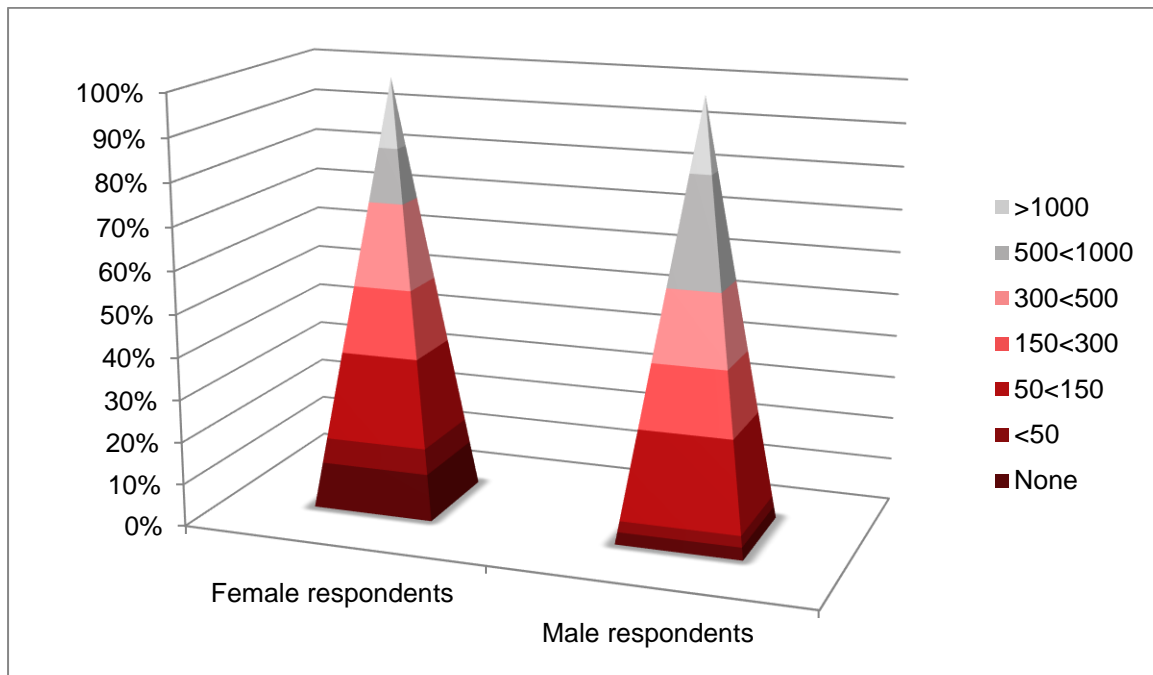
It may also be the case that female members of households have less access to, and therefore less knowledge about, the total cash income of their household.

¹¹ Due to lack of time to conduct the survey only a limited number of indicators were included

¹² KII 1, English teacher, Umba, 8th August 2015

¹³ IDI, female community member, Yamaya, DATE.

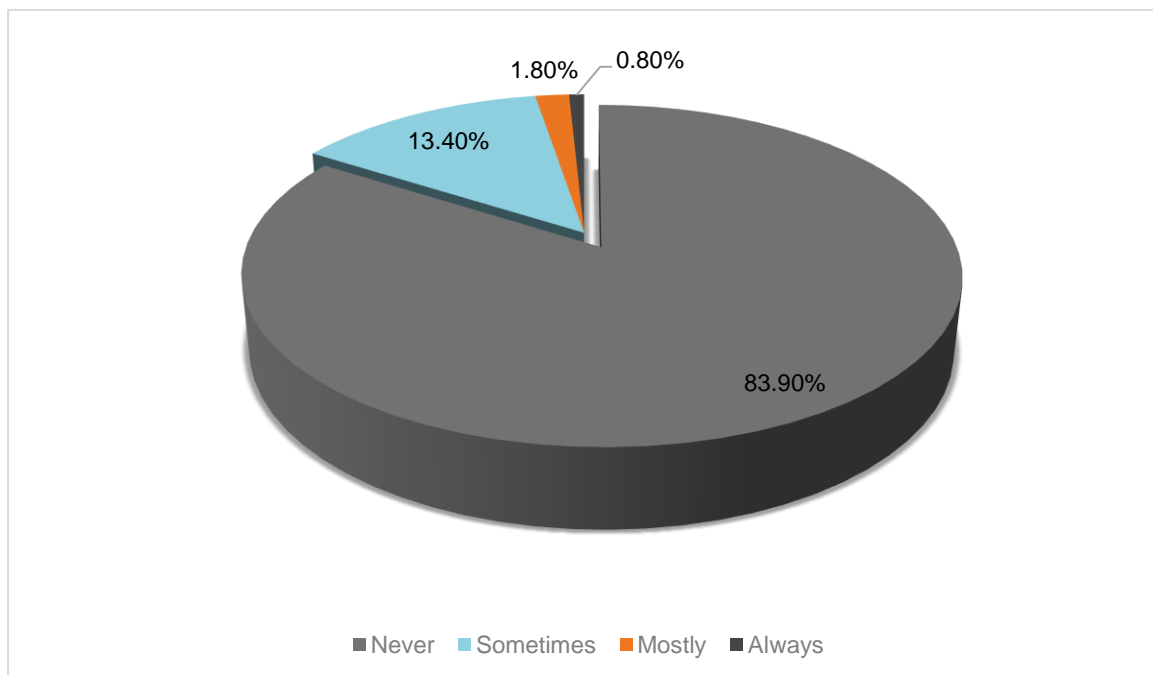
Chart 9: Reported cash income of households by gender



4.2. Purifying drinking water

The overwhelming majority, 83.9%, of participants in the sample claimed that they ‘never’ boil water before drinking it. Only 4 participants, 0.8% of the sample said that they ‘always’ boil water before drinking it, and a further 9 participants, 1.8% of the sample, said that they ‘mostly’ do this. The final 13.4% of participants said that they ‘sometimes’ boil water before drinking it.

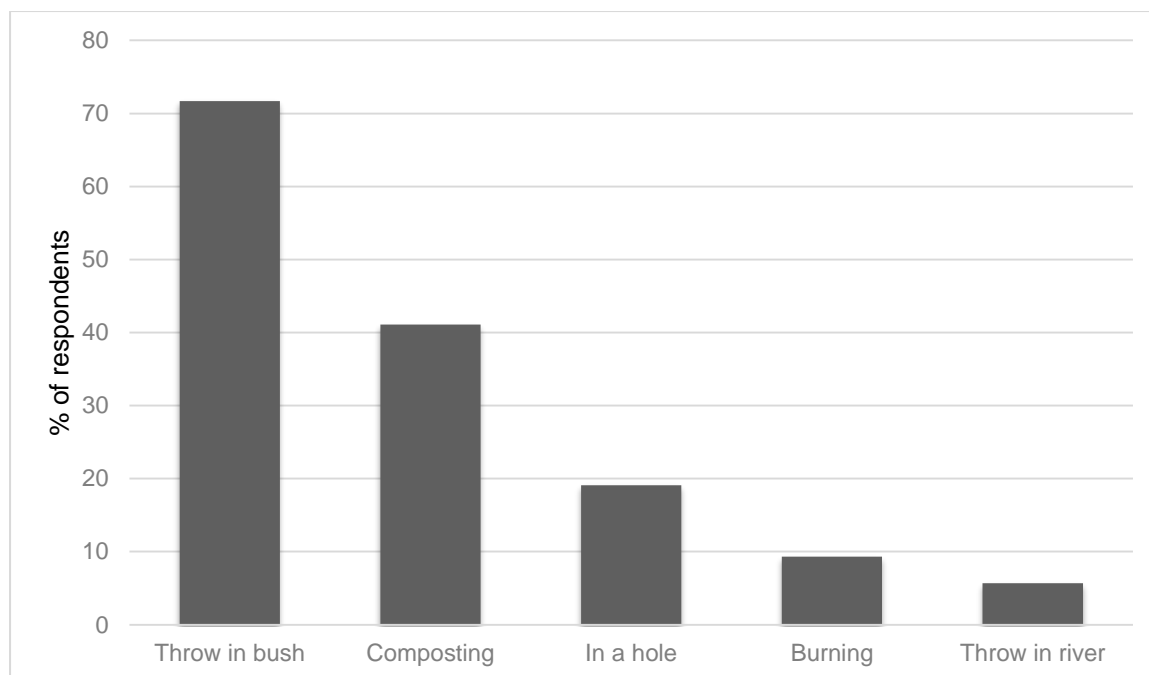
Chart 10: Do you boil water before drinking?



4.3. Disposal of rubbish

The most common method of rubbish disposal was reportedly to ‘throw it in the bush’; 71.7% of households claimed to dispose of rubbish in this way. Less than half of all household reported using any other method of rubbish disposal, including composting (41.1%) and disposal of rubbish in a hole (19.1%).

Chart 11: Methods of rubbish disposal



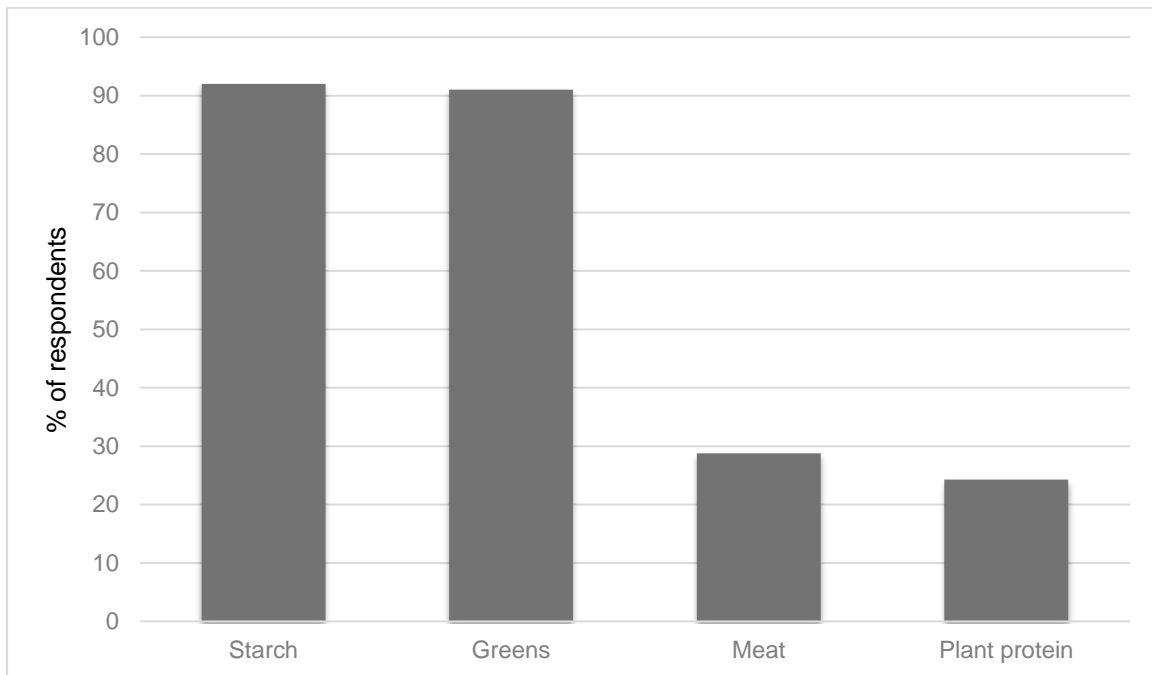
4.4. Healthy eating

Participants were asked what they had to eat the day before; and specifically whether they ate any greens, starch, plant protein and/or meat protein.

On the day prior to the survey, 92% of the sample had eaten starch, and 91% of the sample had eaten greens. Less than half, 42.6% of the sample, however, had eaten any protein: 28.8% of the sample had eaten meat and 24.3% of the sample had eaten plant protein. Participants in the qualitative research in Menyamya district explained that the community primarily live off “vegetables grown in our gardens”, and tend to eat meat only rarely.¹⁴

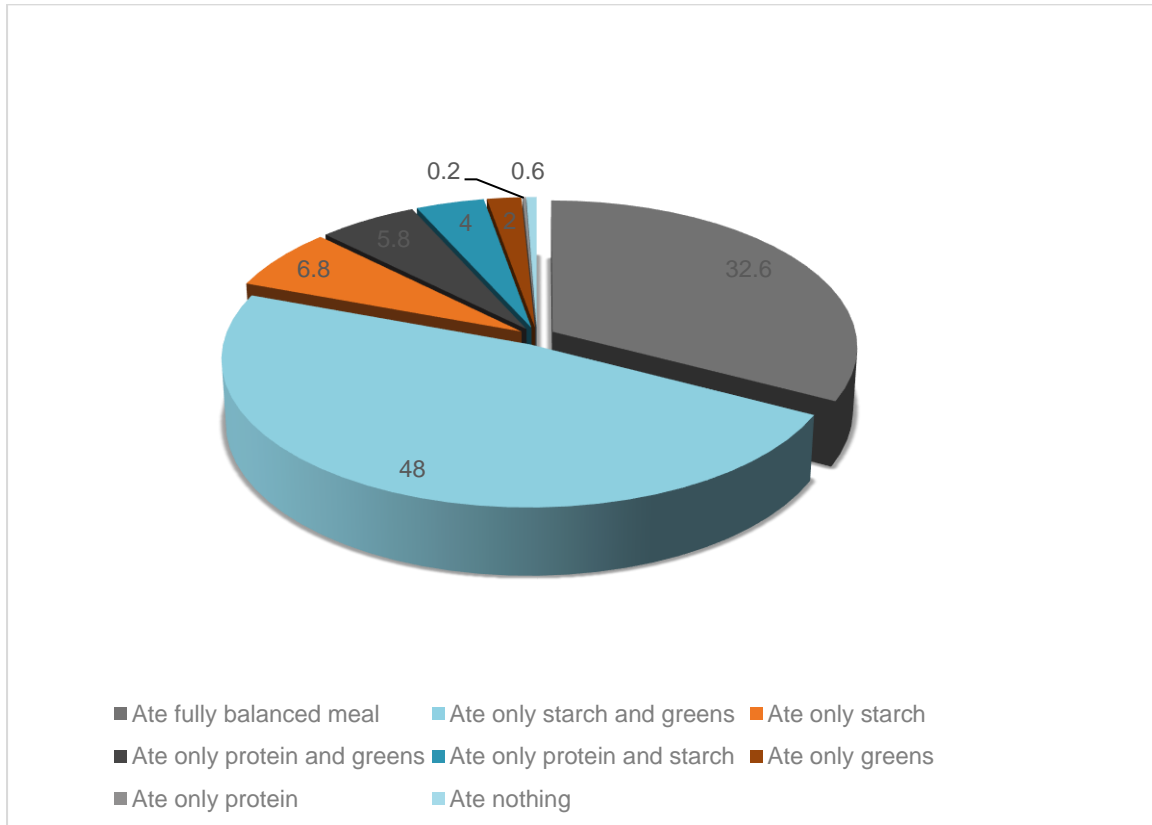
¹⁴ KII 1, English teacher, Umba, 8th August 2015

Chart 12: Frequency of type of food ate by participants



Only 32.6% of participants reported that they had eaten a fully balanced meal the day before, including starch, greens, and a source of protein (either meat protein or plant protein).

Chart 13: % of participants who ate a balanced meal the day before



Males in the survey were more likely to report that they had eaten a fully balanced meal the previous day than female respondents: 36.4% of males had eaten a fully balanced meal the previous day, compared to 29.1% of females (2-sided chi-square, $p < .1$).

4.5. Cooking utensils

Only a quarter, 25.1%, of respondents reported that their household uses a dish rack for drying cooking utensils.

4.6. Mosquito nets

About half, 47.4% of participants across the sample reported that they sleep under a mosquito net. There were wide variations in responses to this question according to research site. Whilst a little over a third of respondents in Umba (39.6%) and Yamaya (36.6%) reported to sleep under a net, as many as 82.2% of respondents in Siaka said that they sleep under a mosquito net.

4.7. Vaccinations

About half, 50.4%, of participants reported that all of their children had received vaccinations. There were significant differences in rates of vaccination of children according research site (2-sided chi-square, $p < .0001$). Whilst 64.5% of participants in Siaka reported that their children were vaccinated, this was the case for a reduced 54.0% of participants in Umba. Rates of vaccination of children were found to be lowest in Yamaya, at 39.0%. In qualitative interactions participants explained that the vaccine refrigerator in Menyamy hospital (which serves both Yamaya and Umba) had been broken for over a year, which may partially explain lower rates of vaccination of children in Umba and Yamaya compared to Siaka.

Three quarters, 75.6% of female respondents reported that they had received vaccinations. Once again there were significant differences in reported rates of vaccination according to research site. 83.6% of women in Siaka reported to have received vaccinations, compared to 78.9% of women in Umba, and 67.3% of women in Yamaya.

4.8. Healthy Island Score

Healthy Island Score (HIS)

Based on the data collected in relation to each of the above indicators, households were assigned a total 'Healthy Island Score' on a scale from 0-91.¹⁵

The Healthy Island Score was created by aggregating participants' responses in relation to each of the indicators (set out above) and assigning an equal weight to each.

Siaka was found to be the site with the highest mean Healthy Island Score – achieving a mean score of 42; meaning that Siaka appears to be faring best in relation to PNG's Healthy

¹⁵ This score is based on the data collected during this survey, which did not include data in relation to the full range of 'healthy Island' indicators.

Island Criteria. Umba's mean Healthy Island Score was very slightly lower than Siaka's at 41.

Whilst there was only a very marginal difference between the mean Healthy Island Scores of Siaka and Umba, it is also important to note that the distribution of Umba's (std. deviation 16.13) score was more variable than Siaka's (std. deviation 14.54); meaning that whilst some households in Umba appear to be faring very well in relation to the healthy island criteria, others are faring much more poorly, whereas the results for households in Siaka are more uniform.

Yamaya was found to have a significantly lower mean Healthy Island Score than the other two research sites (one-way anova, $p < .05$). The mean Healthy Island Score for households in Yamaya was found to be 37.

5. Findings: Education, Knowledge and Information about SRMH

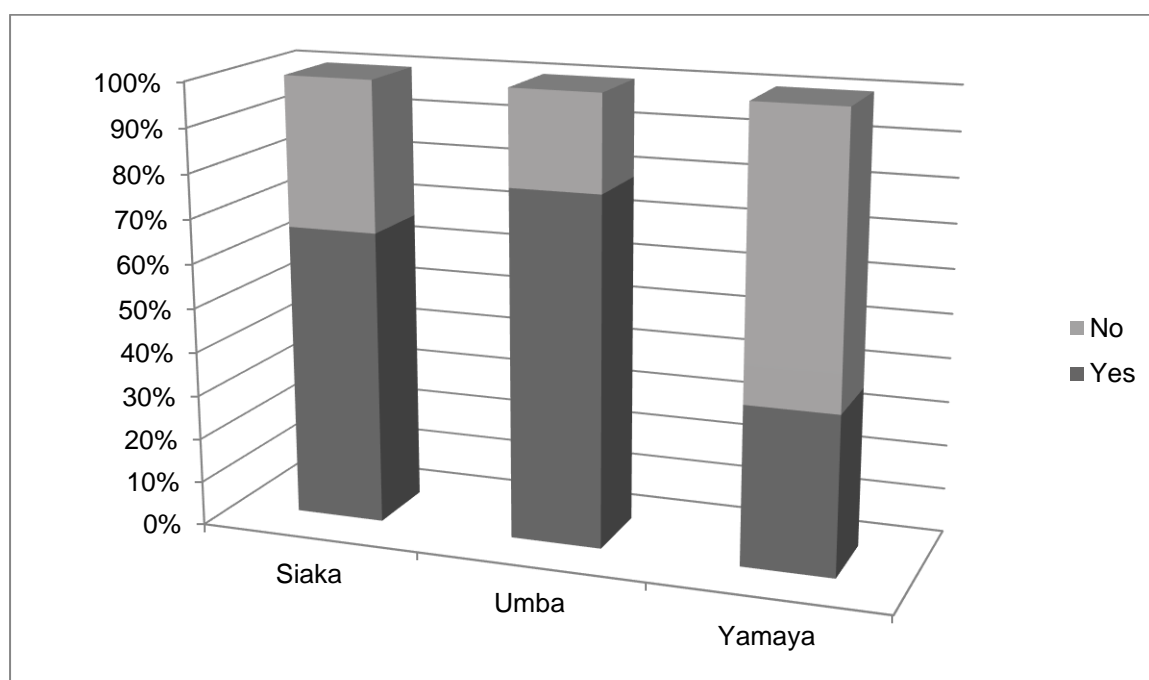
The data from the baseline indicates that participants in the research sites have received very limited education or information in relation to SRMH.

5.1. General health education

*"I have heard some talk about SRMH in my church. To me, being healthy means eating plenty of good food, washing clothes regularly, and bathing every day."*¹⁶

40.3% of participants reported to have never received any education, information or advice in relation to health care (broadly). The results were strikingly different according to research site. Whilst 78.6% of respondents in Umba reported to have received some education about health care, this was the case for a reduced 66.3% of respondents in Siaka. As few as 36% of respondents in Yamaya claimed to have received any information or advice about health care.

Chart 14: % of participants who had received health education



Unsurprisingly, respondents reported that health workers provide the most common source of information about health care: 43% of respondents said that they had received education about health care from a health worker. Notably, participants in Umba were significantly more likely to say that they had received information about health care from a health worker than participants in Siaka and Yamaya (2-sided chi-square, $p < .0001$).

¹⁶ KII, Pigin teacher, Siaka, 19th August 2015

The second most common source of information about health care is the family: 11.6% of the sample said that they had received education about health care from a family member. Other sources of information about health care appear to be very rare.

Role of women's groups and WDCs

One of the goals of the HSRMH project is to involve women's groups and WDCs in community based health education. According to the baseline survey, only 1.8% of respondents across the entire sample had received information about health care from either of these groups. A further 1.6% of the sample had received education about health care from a local church group, and 3.0% from a community or religious leader.

In general, women's groups in the research sites appear to have very limited capacity and are in need of considerable support; as one women's representative interviewed during the qualitative research in Yamaya explained:

"They chose me to lead the women but I am finding it difficult. I have not been to school so I cannot read and help women. And so I am not doing anything in the role. I'm just staying here - not sure what to do. So I do little things like visiting the sick old people and supporting them with food and firewood. But I do not do the big things."¹⁷

5.2. Family planning

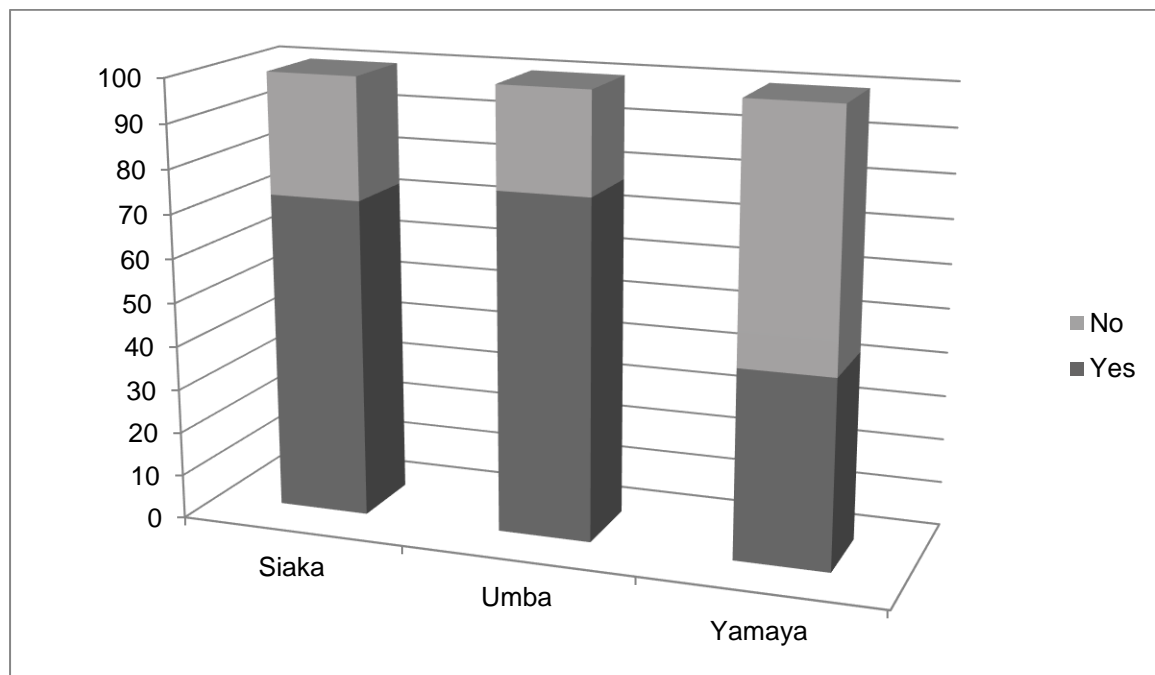
Education & Advice

More than a third, 37.4%, of respondents in the sample claimed to have 'never' received any education, information or advice in relation to family planning.

Again, there appear to be considerable disparities in provision of education about family planning across different research sites. Whilst 77.1% of respondents in Uмба and 72.5% of respondents in Siaka said that they had received information or advice about family planning, this was the case for less than half (42.9%) of respondents in Yamaya.

¹⁷ KII, Women's representative, Yamaya, 9th August 2015

Chart 15: % of participants who had received education about family planning



Of the respondents who had received advice or education about family planning, the majority of respondents had received this from a health worker, or village health volunteer. However, receiving information about family planning from a health worker was found to be significantly more likely in Uмба, than in Siaka or Yamaya (2-sided chi-square, $p < .0001$).

Interestingly, only a very small minority of respondents across all three research sites had received information or advice about family planning from a family member (9.4%) or friend (2.6%) suggesting that family planning may not be openly discussed in communities. As one participant in the qualitative research explained: *“people will feel ashamed. We never talk a lot about that.”*¹⁸

Only 1% of the sample had received information about family planning from a women’s group or WDC. One WDC member interviewed during the qualitative research described the advice he was providing:

*“I have talked to our youths about: abstinence and delaying sex until marriage to ensure that they do not get infected with any sickness; birth spacing and the importance of it - but not the nitty gritty of family planning because I do not know.”*¹⁹

Knowledge

40.8% of respondents were unable to identify any type or method of contraception; including traditional methods. Respondents in Yamaya were significantly less likely to be able to identify any type of contraception than respondents in Uмба or Siaka (2-sided chi-square, $p < .0001$);

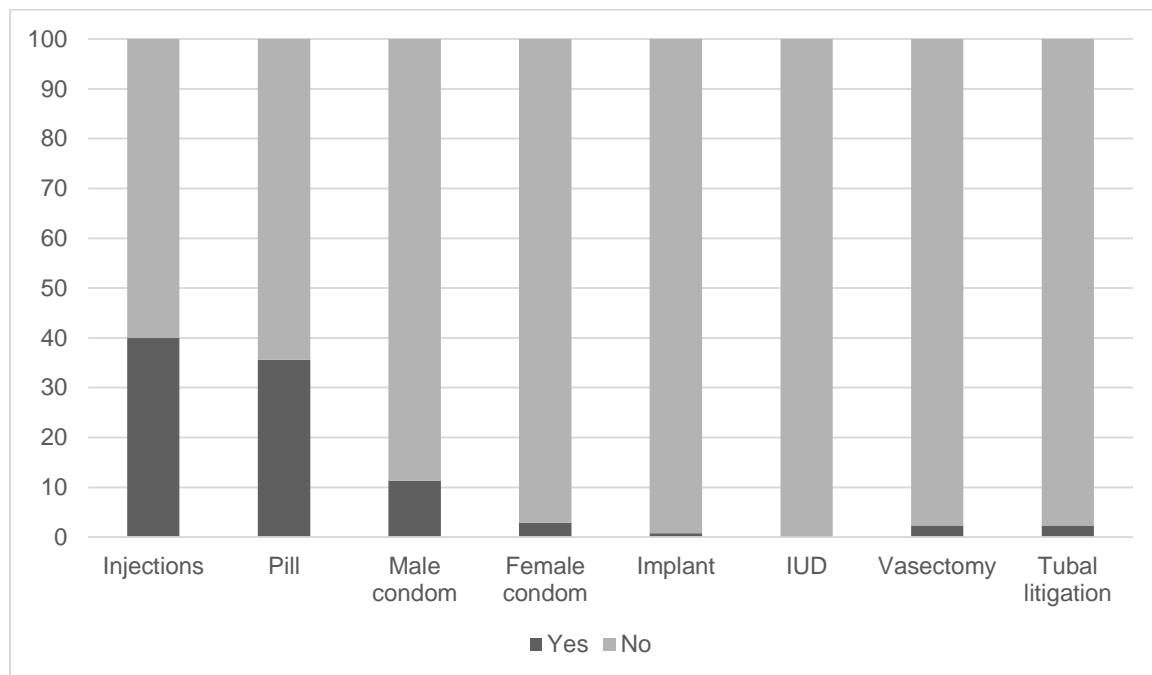
¹⁸ KII 2, community evangelist, Uмба 9th August 2015

¹⁹ KII, WDC member, Siaka, 24th August 2015

59.1% of respondents in Yamaya said that they had never heard of contraception compared to 32.1% in Siaka, and 27.4% in Uмба.

As the table below shows, knowledge of modern forms of contraception was found to be strikingly low across all research sites. The most recognised methods of modern contraception were injections and the oral contraceptive pill. Very few people could name any other type of modern contraception.

Chart 16: Knowledge of types of modern contraception



Furthermore, a low proportion of respondents – only 6.5% of the sample – were able to correctly identify that a woman is most fertile in the middle of her monthly cycle.

5.3. Sexuality education

Reported rates of education in relation to sexuality were lowest than for any other aspect of SRMH: 46.8% of respondents in the total sample reported to have never received any sexuality education. Only 28.2% of respondents had received education, information or advice from a health worker, and 16% said that they had received advice from a family member. One community member working as a village health volunteer explained: *“I don’t provide any education about sex. According to our custom we don’t provide education about that. But young people are playing around and practicing these things. We try to stop them but we can’t,”*²⁰ and another explained:

*“Most people learn about this in the traditional way – our local traditional ways. Only a few people go to the aid post for such services. Most people are shy and fear the health centre and so don’t go to the aid post to receive such services. They go back to their own folks at home for advice and information.”*²¹

²⁰ KII 2, community evangelist, Uмба, 9th August 2015

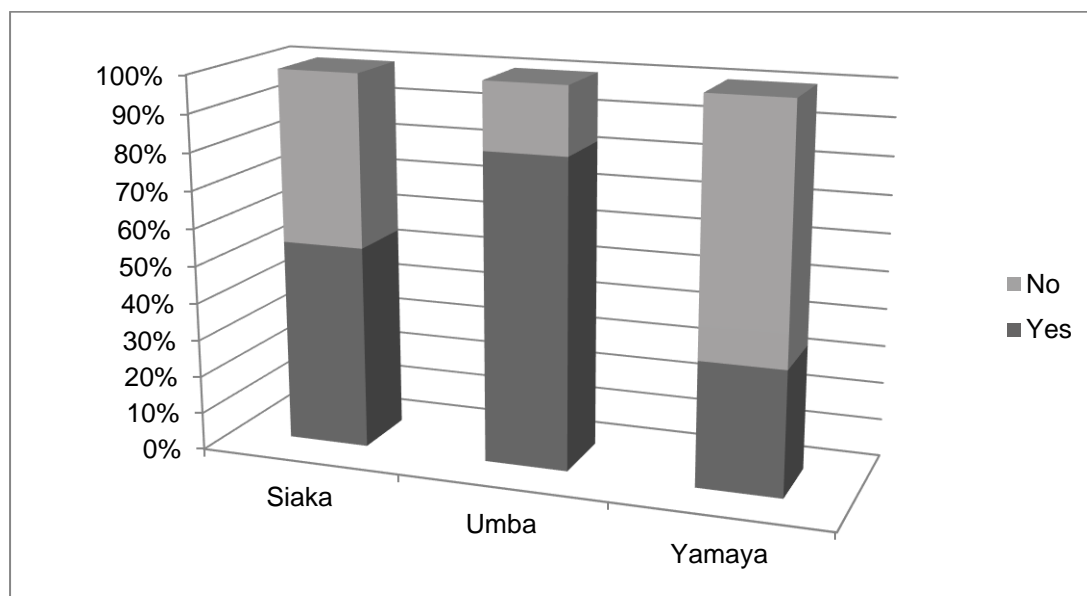
²¹ KII, community and church leader, Siaka, 24th August 2015

Respondents in the survey who were ‘never married’ were significantly more likely to say that they had never received any sexuality education than respondents who were already married (2-sided chi-square, $p < .05$). This finding was supported by evidence from the qualitative research: respondents consistently emphasised that education about sexuality generally happens just before or after marriage. As one respondent explained:

“We tell the youths about sex and related topics during initiations, but mostly on the night before their marriage. Communities gather in separate houses where the men educate the groom, whilst the women educate the bride.”²²

There were also significant differences in levels of sexuality education according to research site ($p < .0001$); 66.7% of participants in Yamaya had never received any sexuality education; compared to 45.8% of participants in Siaka, and a reduced 27.8% of participants in Uмба.

Chart 17: % of participants who had received education about sexuality



Only 4 participants (0.8% of the total sample) reported that they had received sexuality education from a women’s group or WDC.

5.4. Sexually Transmitted Infections (STIs)

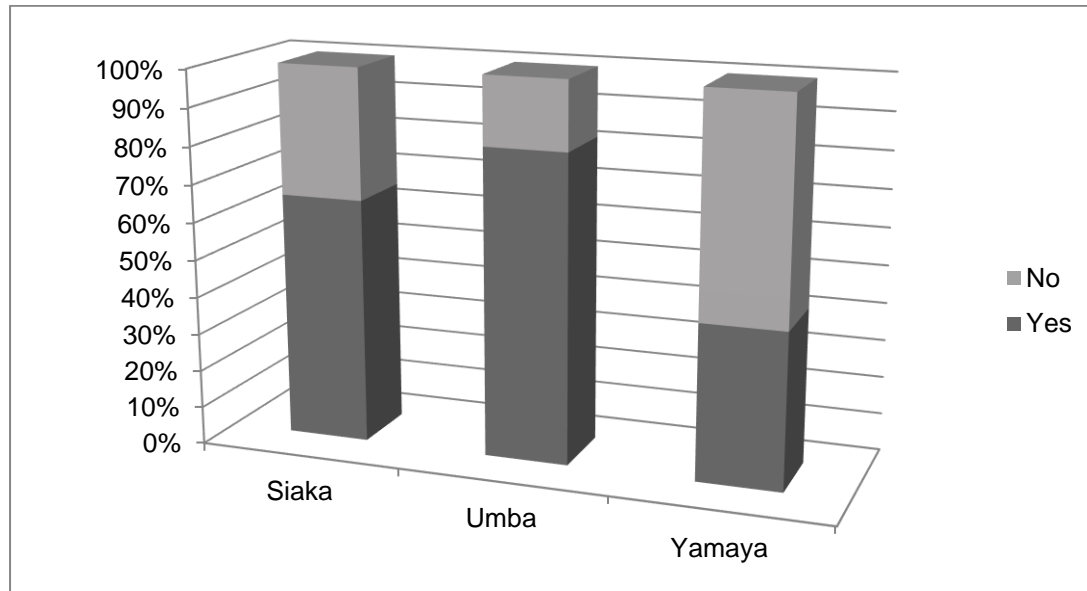
Education

Education about STIs appears to be the most prevalent form of SRMH education. Overall, 62.9% of participants reported to have received some education, information or advice in relation to STIs. The most common source of information about STIs comes (once again) from health workers, with 66.5% of participants who had received education about STIs reporting to have received this information from a health worker. 15.2% of the sample said that they had received information about STIs from a family member, 14.7% from a community leader, and 11.3% from a friend or peer. Only 1.7% said that they had received this information from a women’s group or WDC.

²² KII, WDC Member, Siaka, 24th August 2015

The likelihood of having received education about STIs significantly varied according to research site (2-sided chi-square, $p < .0001$). 81.8% of respondents in Uмба had received education about STIs, compared to 65.3% of respondents in Siaka, and 41.5% of respondents in Yamaya.

Chart 18: % of participants who had received education about STIs



Knowledge and understanding

Types of infection

Despite the majority of respondents claiming to have received education about STIs, their ability to identify or name particular STIs, as well as to recognise their symptoms, was found to be limited. HIV was by far the most recognised STI, with 41.6% of respondents having heard of HIV, followed by Gonorrhoea, 17.6%, and Syphilis, 4.9%. Very few participants were able to name any other type of STI.

Less than two thirds, 65.8%, of respondents were able to identify any symptom of having a STI, and only 8.2% were able to identify 2 or more symptoms. Ability to identify symptoms of STI infection was found to be significantly associated with gender, with female respondents significantly less likely to be able to identify STI symptoms than male respondents (2-sided chi-square, $p < .1$).

Causes of infection

Furthermore, less than half of the sample of respondents (47.9%) were able to correctly identify that having sex with an infected person without a condom can cause STI infection. 16.5% of the sample responded that STIs are transmitted through touching or kissing an infected person; and a third of respondents, 33.8%, thought that STIs are transmitted through engaging in 'immoral' sexual behaviour including having sex before marriage, having sex with a person of the same gender, or having sex with an 'easy' woman or girl. Respondents' tendency to associate infection with sexually 'immoral' behaviour was also evident in the qualitative research; as one respondent discussed:

“We teach young people about HIV and HIV infection. We tell them ‘if you do that [have sex] you might die’. But they always disobey – they never listen. So many [people] are doing this – they don’t wait for an arranged marriage. [Also] when you are married - if the lady disobeys [her husband] she can bring this [infection] into the marriage and spoil it.”²³

Here the respondent clearly associates STI infection with pre-marital sexual activity and female infidelity.

Accurate knowledge and understanding of how STIs are transmitted was significantly associated with gender: 56.2% of male respondents were able to correctly identify that STI infection is caused by having unprotected sex with an infected person, compared to a reduced 40.1% of female respondents (2-sided chi-square, $p < .001$). There were also variations according to research site: 63.5% of respondents in Uмба were able to correctly identify how STIs are transmitted, compared to 45.8% of respondents in Siaka, and less than a third, 32%, of respondents in Yamaya (2-sided chi-square, $p < .0001$).

Prevention of STIs

Less than a quarter, 24.4%, of respondents identified that wearing a condom when having sex prevents STI infection. The most common response to the question ‘what prevents STI infection’ was ‘being faithful to one partner’: 33.2% of participants reported that this prevents STI infection.

23.8% of respondents believed one or more myths about STI prevention, including that STI infection can be prevented by bathing before or after sex, by avoiding sex with a person who ‘looks unwell’, by using birth control pills, or by avoiding sex before marriage.

Responses to questions about STI prevention varied significantly according to research site: respondents in Yamaya and Siaka were significantly more likely to say that they ‘didn’t know’ what prevents STI infection compared to participants in Uмба (2-sided chi-square, $p < .0001$).

Responding to STI infection

Only 11.1% of the sample correctly identified that a person who has symptoms of an STI should abstain from sex or use a condom when having sex until their symptoms disappear.

Responses to what a person should do when they have an STI were significantly associated with both gender and research location of respondents.

Respondents in Uмба were significantly more likely to say that a person who has an STI should go to a health centre than respondents in Siaka or Yamaya (2-sided chi-square, $p < .05$); and respondents in Yamaya were significantly more likely to suggest the use of herbs for treating STIs (40.1% in Yamaya suggested this) than respondents in Uмба (8.7%) or in Siaka (2.8%) (2-sided chi-square, $p < .0001$).

Male respondents were significantly more likely than female respondents to state that a person with an STI should abstain from sex or use a condom until their symptoms disappeared; however there were no differences in the proportion of male and female

²³ KII, community evangelist, Uмба, 9th August 2015

respondents who recommended that a person with symptoms of STI infection should visit a health centre.

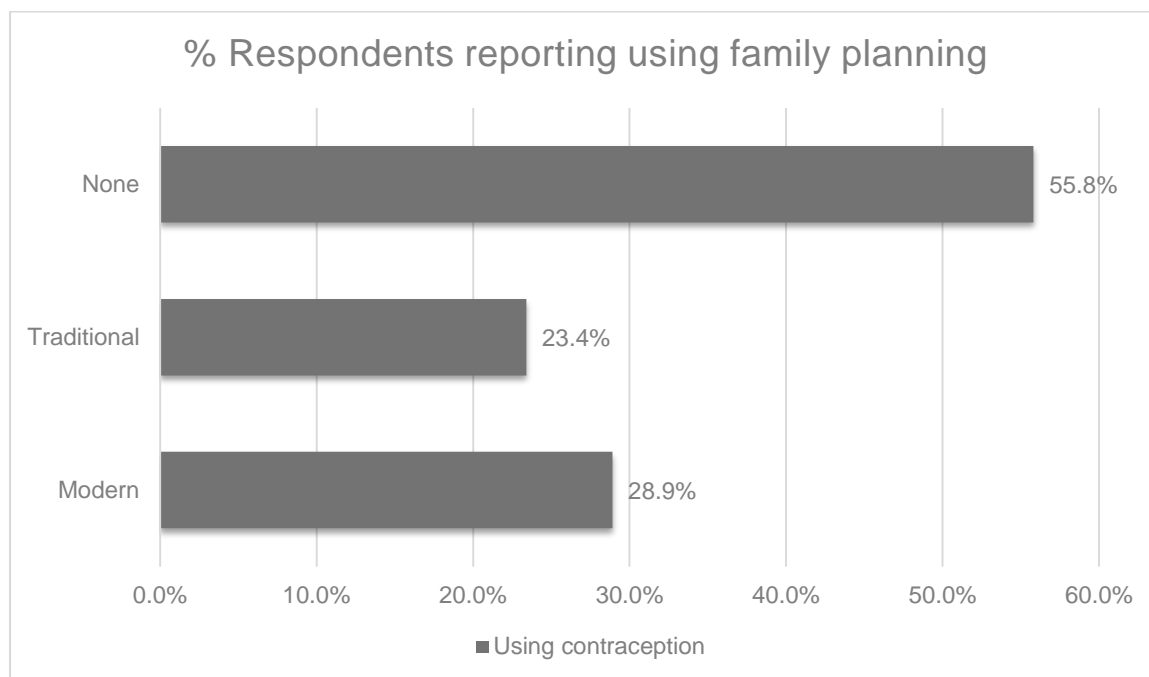
6. Findings: SRMH Attitudes and practices

6.1. Family planning

Use

A minority of participants, 44.2%, reported to be using any method of family planning method, and less than a third, 28.9%, were using a modern form of contraception.

Chart 19: % of participants that reported using family planning

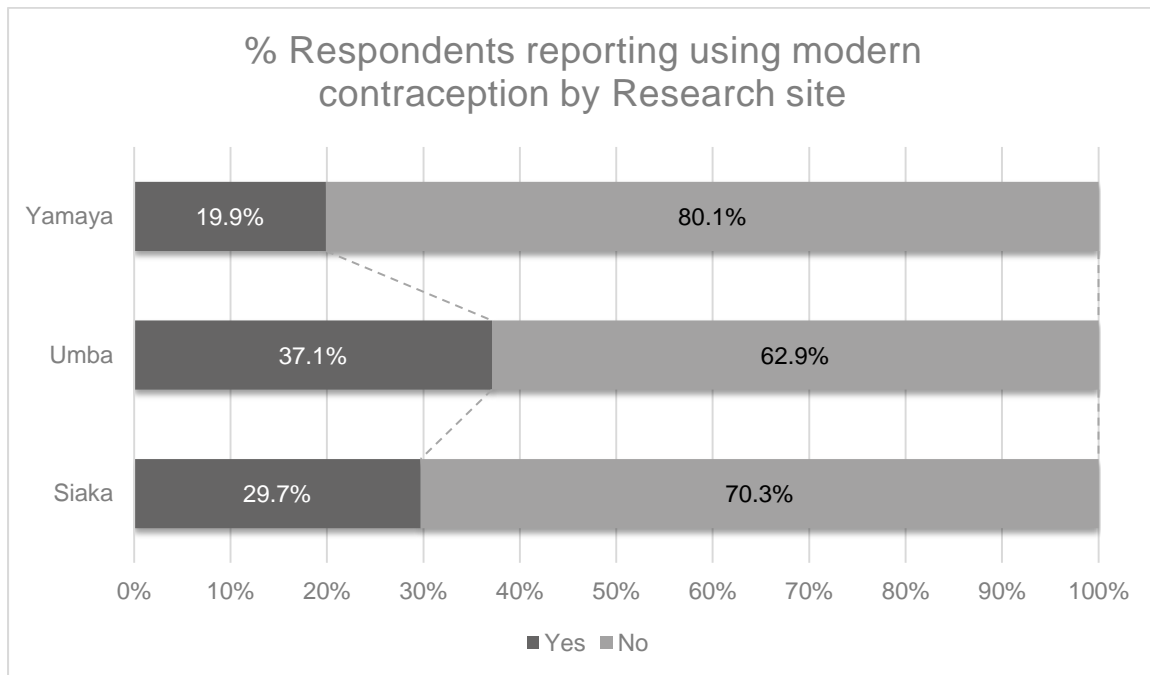


Injections were found to be the most common type of contraception used by couples: 34% of respondents using family planning with their partners reported to be using injections. The second most commonly used method of family planning was found to be leaves or herbs: 29.7% of couples reporting to be practicing family planning were using this method. 17.8% of the sample was using the contraceptive pill; 7% were using male condoms. A further 10.3% reported to be using a different form of modern contraception (implant, IUD, vasectomy etc.), and 12.8% were using a different type of traditional method (e.g. ovulation monitoring, withdrawal, etc.)

Tendency to use a method of family planning significantly varied according to research site. Only 19.9% of respondents in Yamaya reported to be using a modern form of contraception, compared to 29.7% of respondents in Siaka, and 37.1% of respondents in Umba (2-sided chi-square, $p < .005$). Furthermore, 70.2% of respondents in Yamaya reported to be using no contraception at all, compared to 59.3% in Siaka, and 40.1% in Umba (2-sided chi-square, $p < .0001$).

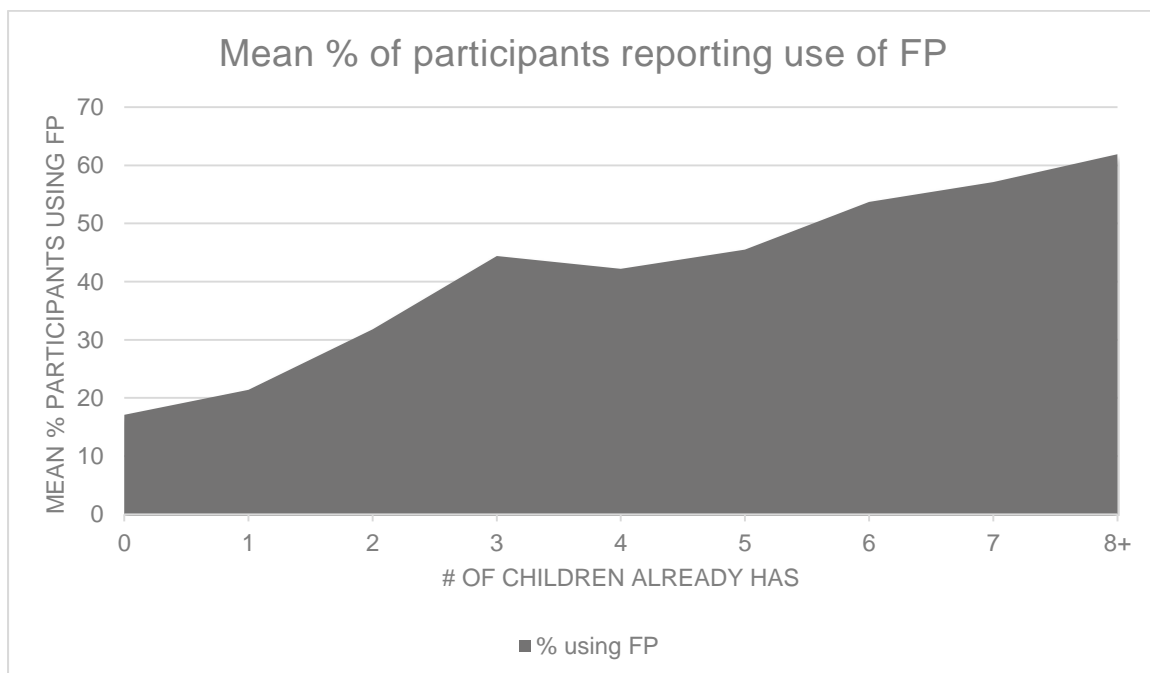
Furthermore, reported use of contraception varied according to gender; male respondents were significantly more likely to report using both traditional (2-sided chi-square, $p < .0001$) and modern (2-sided chi-square, $p < .05$) forms of family planning than female respondents.

Chart 20: % of participants that reported using modern contraception by research site



No unmarried participants in the sample reported using a modern form of contraception. Furthermore, participants who had never had children were significantly less likely to report using a form of family planning than participants who already had children (2-sided chi-square, $p < .0001$): in fact, only 6 participants without children reported to be using family planning. These results indicate that use of family planning, and especially modern forms of contraception, is rare until participants are already married and have at least one child. The data also demonstrates that as the number of children in the family increases, so does the propensity of couples to use family planning methods.

Chart 21: % of participants using family planning



The finding that family planning is more likely to be used by couples who have already had at least one, and often several, children is supported by evidence from the qualitative data: when asked about their role in providing advice related to SRMH one key stakeholder explained:

“During community meetings I have made some awareness about SRMH: I advise couple and youths to limit the number of children [they have] to less than 5 only. If you go beyond 5 children, you will have problems, which also includes providing for their needs.”²⁴

Decision making

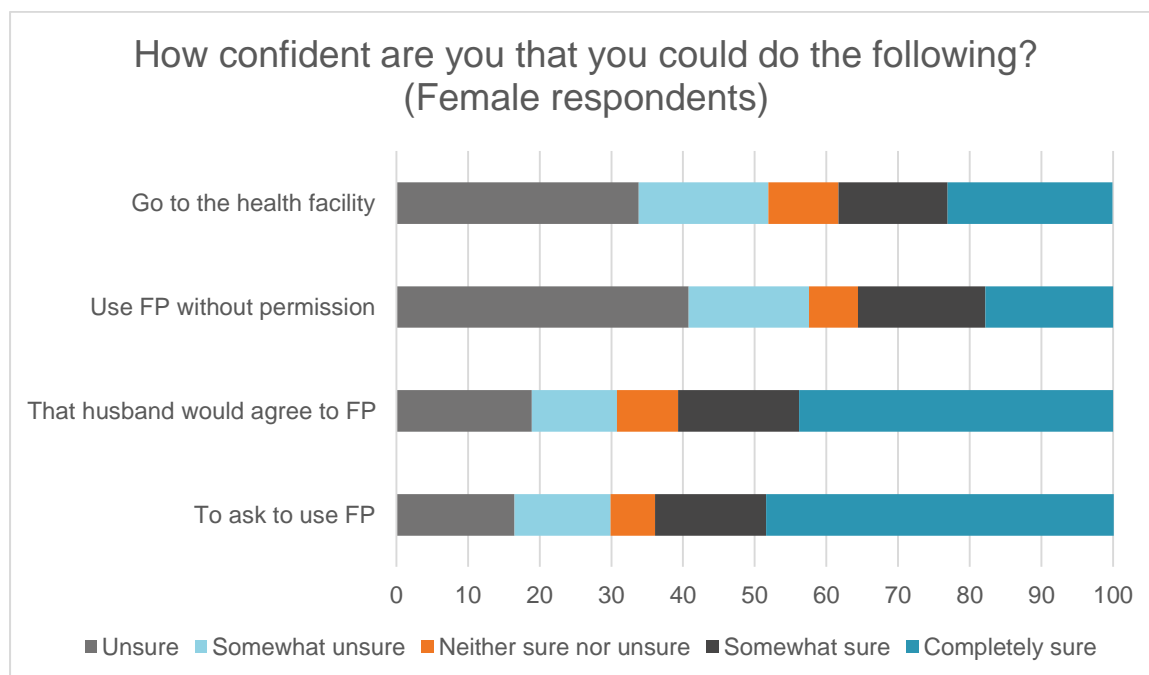
The majority (68.7%) of participants who were using a form of family planning said that they and their partner had decided together about the use of family planning (2-sided chi-square, $p < .05$). However, there were significant differences in responses to this question according to the gender of the respondent. Male respondents were more likely to say that the decision to use family planning had been made jointly than were female respondents: 73.6% of men said the decision was made jointly compared to 63% of women. Meanwhile female respondents were significantly more likely to say that their partner had been the one to make the decision to use family planning than were male respondents: 19.4% of women/ girls said this, compared to only 3.8% of men/ boys (2-sided chi-square, $p < .001$).

Furthermore, when participants who were not using family planning were asked to explain their reasons for not using family planning, female respondents were significantly more likely to say that the main reason that they were not using contraception was that ‘their partner did not want them to’: 30.7% of female respondents said this compared to only 4.2% of male respondents (2-sided chi-square, $p < .0001$).

Finally, male respondents were significantly more likely to claim that they ‘talk to their partners about family planning’ than female respondents (2-sided chi-square, $p < .05$). Less than half, 48.5%, of female respondents felt ‘completely sure’ that they would be able to ask their husbands to use family planning if they wanted to. An even lower proportion, 43.8%, felt completely sure that their husband would agree to the use of family planning if asked, and only 17.8% felt completely sure that they would be able to use family planning if they wanted to without their husband’s permission. Furthermore, less than a quarter of women, 23%, felt completely sure that they would be able to go to a health facility without their husband’s permission.

²⁴ KII, Pigin teacher, Siaka, 19th August 2015

Chart 22: Self efficiency of female respondents in relation to family planning



Together these findings indicate that men have more agency and control over the use of family planning than women. These findings were supported by evidence from the qualitative research:

*“My thought is that people in the community should know how to space their children so that the children can grow well – but at the moment couples are having many children and this has brought many problems. The male population have their own beliefs [about these things] which prevents mothers coming to seek help for family planning”.*²⁵

Data from the survey designed to collect evidence on dominant norms and attitudes concerning SRMH revealed a widespread norm that men have control over women’s health and reproduction. Very few respondents, including only 21.5% of female respondents, and 14.3% of male respondents agreed that a woman should be able to access healthcare without her husband’s permission. An even smaller proportion of respondents, 10.4% of females, and 2.2% of males, agreed that a woman can use family planning without her husband’s permission.

6.2. Rates of Fertility and Mortality

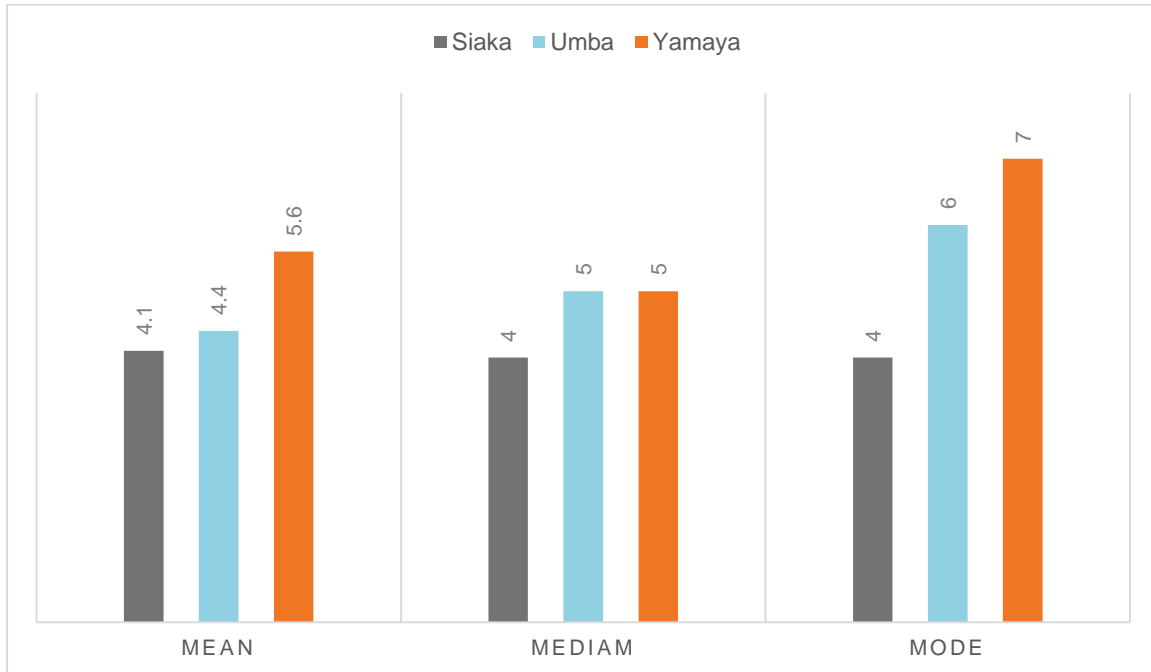
Fertility

Fertility rates in survey sites are high. The mean number of pregnancies per woman across the sample was 3.8. However, once women who have never given birth are removed from the sample, the average becomes 4.8 children per woman. The highest reported number of pregnancies for one woman was 14 pregnancies.

²⁵ KII, Peace officer, Siaka, 21st August 2015

Yamaya appears to be the research location with the highest fertility rate: in Yamaya the mean number of pregnancies per woman (discounting never pregnant women) was found to be 5.6 pregnancies.

Chart 23: average rates of fertility by research site



In the qualitative research, participants often emphasised that lack of knowledge about family planning, or failure to consider the risks associated with having many children was once reason why fertility rates are so high, as one participant noted:

“There are several couples I know of in Siaka who are enjoying the pleasure of creating many children - beyond their means - without proper family planning. Plenty of women have died due to pregnancy related issues. Plenty of couples need to go on family planning. There is need for more and proper awareness on family planning methods. Siaka health facility has to be fully equipped with family planning drugs.”²⁶

In addition to a lack of knowledge and access to services, participants also emphasised that the subordinate position of women in society, and the practice of bride price, also prevent women from being able to make an active choice to limit the number of children that they have. One woman explained:

“I told my husband that I don’t want to bear any more children, but he said to me – I paid a price for you so you will continue to bear my children.”²⁷

Women in IDIs explained how they would be beaten for failing to bear enough children, or being unable to conceive. The following extract is from an IDI conducted in a village in Uмба:

²⁶ KII, Pigin teacher, Siaka, 19th August 2015

²⁷ IDI, female community member, Uмба, 12th August 2015

Researcher: *Have you ever felt pressured into getting pregnant when you didn't want to?*

Respondent: *Sometimes I tell my husband that the children are too small and I am not ready to have any more children. But he beats me up. If I do not give in he will beat me up.*²⁸

Pregnancy loss

1 in 5, or 20.8%, of ever-pregnant females reported that they had experienced at least 1 miscarriage. The highest reported number of miscarriages experienced by one woman was 6 miscarriages.

These figures are likely to be an underestimate of the actual rate of miscarriage. Early term miscarriage is more common than late term miscarriage; many women may not realise they are pregnant before they miscarry and mistake early miscarriage for menstruation, especially in a context where access to health services are limited.

There were significant differences in rates of miscarriage according to research site, with the mean rate of miscarriage found to be significantly lower in Uмба, compared to Yamaya and Siaka where rates of miscarriage were higher (t-test, $p < .05$).

Neonate and infant loss

21.2% of households reported that they had lost at least one child under the age of 5 years, and 12.8% of families had lost at least 2 children in this age group. The highest number of infant deaths in one household was 6. There were significant variations in infant death according to research site; rates of infant death were lowest in Siaka and highest in Yamaya (anova, $p < .05$).

The number of infant deaths per household was found to be significantly negatively correlated with the age at which the mother was first married (bivariate correlation, $r = -.121$, $p = .086$), as well as her age of first pregnancy (bivariate correlation, $r = -.133$, $p < .058$). In other words, households in which the mother was first married and first pregnant at a younger age were significantly more likely to have lost children under the age of 5, than were households where the mother was older when she first had children.

Furthermore, the number of infant deaths per household was found to be significantly associated with the 'Healthy Island Score': households with multiple infant deaths had significantly lower 'healthy island scores' than those with no infant death, even when controlling for other factors (such as the age, age of first marriage, and age of first pregnancy) (hierarchical linear regression, $p < .01$), suggesting that living in a 'healthier' household reduces the likelihood of infant death.

Maternal mortality

24% of households were found to have suffered at least one maternal death, where a woman had died for reasons related to pregnancy or child birth. The largest number of maternal

²⁸ IDI, female community member, Uмба, 11th August 2015

deaths in one household was reported as 10. There were no significant differences in rate of maternal death according to research site.

During qualitative KII and IDI interactions, participants consistently emphasised that maternal death during pregnancy and child birth is one of the biggest challenges that their community faces in relation to SRMH. Participants explained:

“Maternal death is a big issue for my community. So far this year 2 young women have died within my community from child birth related complications. Within my ward, a total of five women have died so far this year.”²⁹

“The biggest problems are with labour and delivery of children due to there being no health facility nearby and the difficulty of getting to one. Last week a mother with 10 children wanted to deliver the 11th child and she nearly died. She had to be air lifted out to Lae for medical support.”³⁰

“I carry women in labour - walking from here to the health centre in Menyamyia [1 days’ walk from the village]. Some have passed away in the middle of the road. Women die in childbirth – it’s very common.”³¹

6.3. Access to SRMH services

Antenatal services

The majority of ever-pregnant respondents - 68.6% - said that they (or their wife if they were male) had attended at least one ante-natal care visit during last pregnancy. Male and female responses to this question appear to be broadly consistent with one another,³² suggesting that men are aware about whether their wives are attending ante-natal visits or not. There were no significant differences in the number of women who had attended ante-natal care according to research site, or according to ward within each research site.

Respondents who said that they or their wife had *not* attended prenatal care services during their last pregnancy were more likely to report that their last pregnancy had ended in miscarriage, still birth or neo-natal loss. These differences, however, were too small to be statistically significant.³³

Participants in the qualitative data stressed that it is often difficult for women to attend pre-natal care visits because health centres are scarce and may be located a long walking distance from their village. There may be additional reasons, however, why some women are reluctant to access pre-natal services, as one (male) health worker explained: *“only a few women per*

²⁹ KII, Aid post committee member, Siaka, 24th August 2015

³⁰ KII, Peace officer, Siaka, 19th August 2015

³¹ KII, Evangelist, Umba, 9th August 2015

³² 68.8% of females in the sample said that they had attended ante-natal care visits during their last pregnancy, and consistent with this 68.4% of males said that their wife had attended ante-natal care visits during their last pregnancy.)

³³ 1-sided chi-square, linear-by-linear association, p=0.23. These means that there is a 23% likelihood that these results are a consequence of chance; 23% is outside of the confidence level generally considered to be rigorous enough to draw firm conclusions about results.

month come to see me. Due to customary beliefs women don't feel comfortable opening up to a male for ante-natal checks.”³⁴

Post-natal services

A lower proportion of women, 47.7%, reported to have attended post-natal care visits. Women who attended post-natal care visits tended to have slightly higher levels of education, as well as more cash income, on average, than women who did not. However, results were too marginal to have statistical significance. Rates of post-natal care did vary significantly, however, according to research site: more women reported attending post-natal care visits in Siaka, than in Uмба and Yamaya (2-sided chi-square, $p < .01$). Women who attended post-natal care visits were significantly more likely to say that their children had been vaccinated than those who did not (2-sided chi-square, $p < .0001$).

Problems during pregnancy

Despite a majority of respondents attending at least one ante-natal care visit, the findings in relation to health seeking behaviour during problems in pregnancy are less encouraging. A third of all ever-pregnant women in the sample (33.7%) reported experiencing some bleeding during their last pregnancy.³⁵ Of those women who had experienced bleeding, only just over a third, 38.8%, said that they had accessed support from a health worker in relation to this bleeding. 17.9% said that they had accessed support from family or friends, and 41.8% said that they had sought support from no one at all. There were no significant differences in responses to this question according to research location.

Male SRH Services

Male respondents were asked whether they had visited a health services for any reason related to SRH in the last 2 years: 43.2% of respondents said that they had. Responses to this question varied significantly according research site, with less than a third (28.6%) of male respondents in Yamaya saying that they had SRH services in the last 2 years, compared to 48.1% of respondents in Siaka, and 51.8% in Uмба (2-sided chi-square, $p < .001$).

6.4. Birthing

“When women are giving birth they are ‘unclean’. They will stay in a birthing house, built by her husband for a week after giving birth. The men will bring her protein to eat. She rubs herself with soil and protein to become clean so that she can return to the house to cook for him again.”³⁶

Only 6.1% of the sample of women who ever gave birth delivered their most recent baby in a hospital; a further 5.3% said that they gave birth at a health centre or aid post. The majority

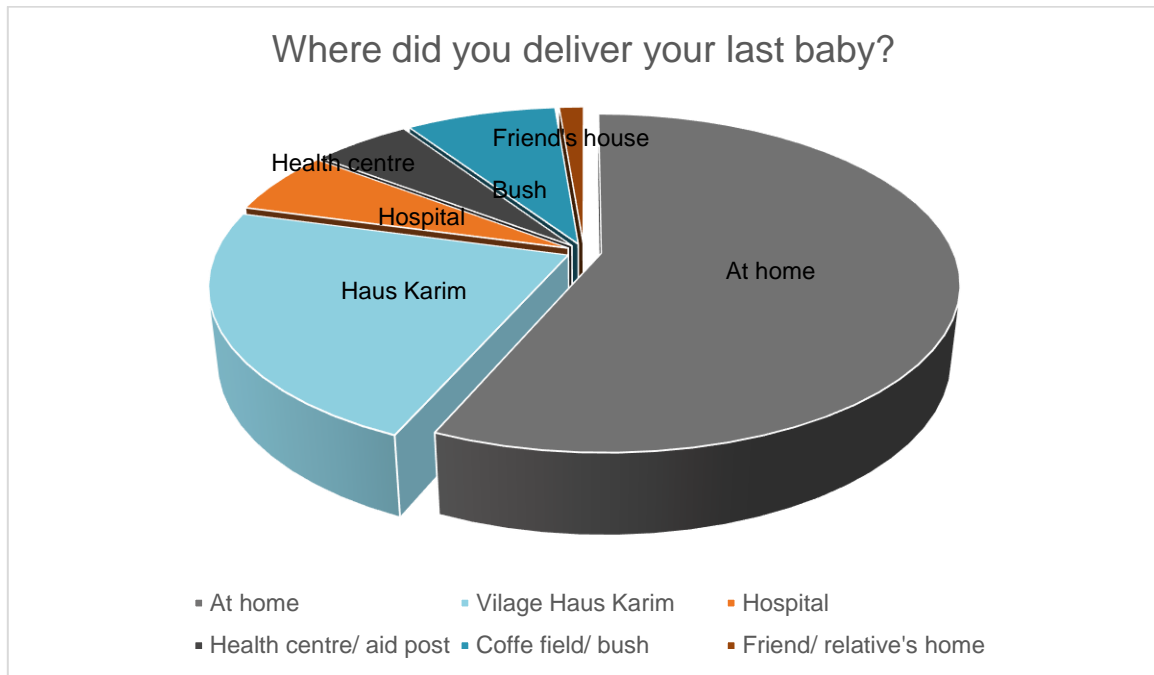
³⁴ KII, community health worker, Uмба, 10th August 2015

³⁵ As expected women who experienced bleeding during their last pregnancy were less likely to have a successful pregnancy than those who did not. (Chi-square, linear-by-linear association, $p = .094$.)

³⁶ KII, English teacher, Uмба, 8th August 2015

of participants – 56.6% - gave birth at home, and 22.6% gave birth in a village *Haus Karim*³⁷. 8.1% reportedly gave birth in a coffee field or bush.

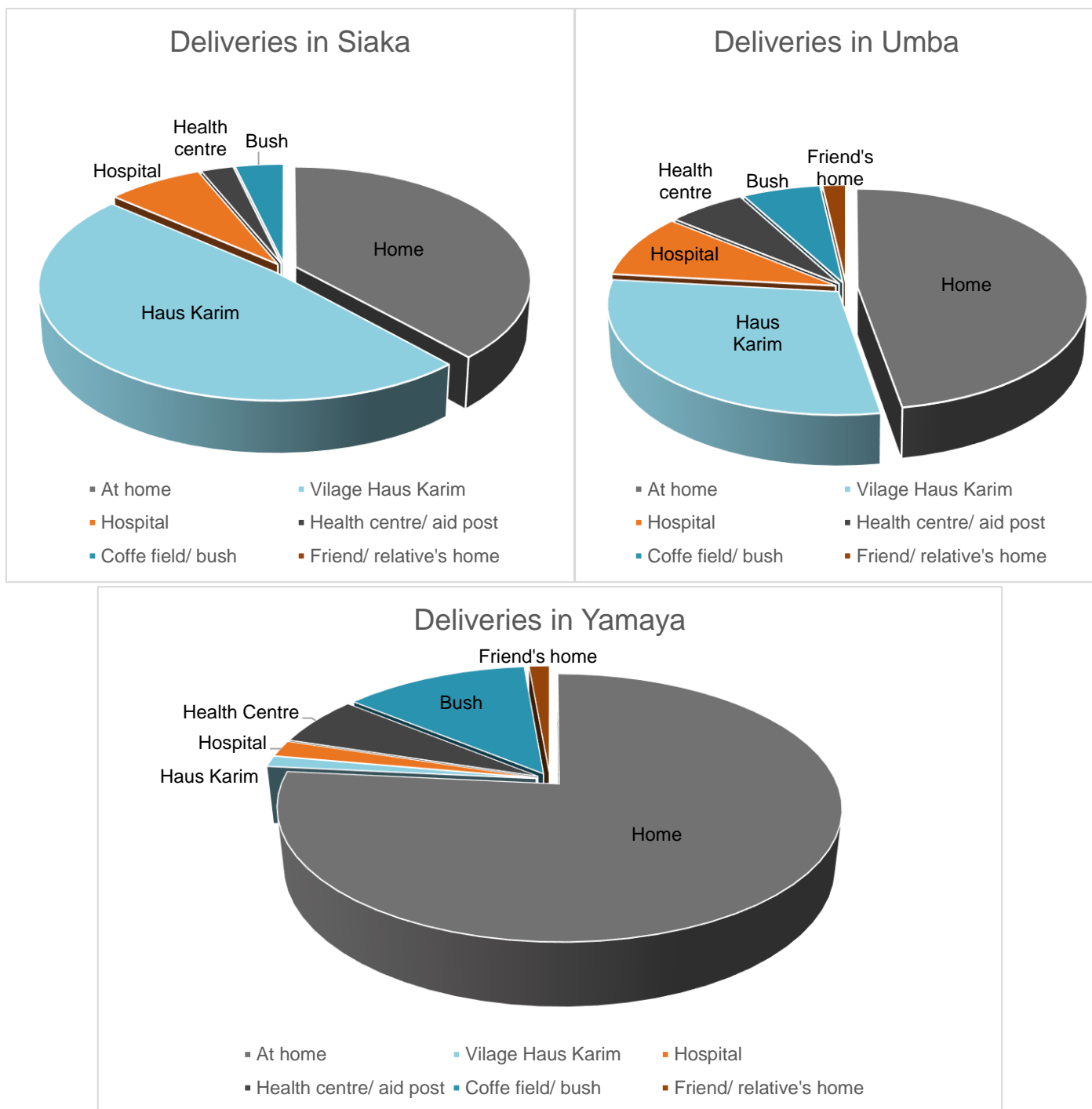
Chart 25: locations where women are giving birth



There were significant differences in responses to this question according to research site. In Yamaya, only 2% of respondents had delivered (or wife had delivered) their last baby in a hospital, compared to 7.4% in Siaka, and 9.2% in Umba (2-sided, chi-square, $p < .05$). 76.7% of respondents in Yamaya delivered their last baby at home, and 12.7% delivered in the bush, compared to Umba where 47.2% of respondents delivered at home, and 6.1% delivered in the bush, and Siaka, where 38.3% of respondents delivered at home, and 3.7% delivered in the bush (2-sided chi-square, $p < .05$).

³⁷ Traditional house built in villages for the purpose of labour and child birth

Charts 26-28: locations where women are giving birth in each research location



Participants in the qualitative research explained that the main reason that women give birth at home is due to a lack of available facilities nearby, and also emphasised that this is one of the main reasons why so many women die during childbirth:

“I have tried to set up an aid post in our community, but it doesn’t exist anymore. Our community is so far from the road. There is no health worker here. People just rely on the village health volunteer. When women are

pregnant and it is time for delivery they never get any help. A lot of mothers die because of that. Women give birth at home. If the road was better we could get an ambulance to come, but this place is too remote.”³⁸

“My wife died giving birth 4 years ago – the placenta was retained and she bled until she died. She gave birth at home. The baby survived.”³⁹

“Most women deliver their babies at home outside on the grass. Many mothers die from losing a lot of blood.”⁴⁰

Only 9.9% of participants said that they had been assisted during delivery by a health worker, and a further 2% said that they had been assisted by a VHV. The majority of respondents, 58.4%, said that they were assisted by a friend or family member. Almost a quarter, 29.7%, of respondents reported that they had given birth alone with no one assisting them. One male participant interviewed in the qualitative research explained some of the community norms and traditional ideas about child birth that discourage some husbands from attending the birth of their child: *“for me I stay close with my wife for delivery but most do not. They follow those customary ideas – that if a man stays near his wife during delivery he is not a strong man”⁴¹*. Other respondents, however, emphasised that these attitudes are slowly changing and that more and more men are tending to assist their wife through delivery.

6.5. Support for women during pregnancy

Only 44.8% of female respondents said that their husband/ partner had gone with them to their ante-natal care visits. Women in polygamous marriages were significantly less likely to say that their husband had gone with them to their antenatal care visit than those in monogamous marriages (1-sided chi-square, $p < .1$); only a third, 33.3%, of women in polygamous marriages said that their husband had accompanied them to their antenatal visits.

However, when males were asked whether they had accompanied their wife to their ante-natal care visits, as many as 85.5% said yes (2-sided, chi-square, $p < .0001$). The reasons for this are unclear. It may be that male respondents were inclined to tell researchers that they had accompanied their wives to these visits, even though in practice many had not.

Similarly, whilst only just over a third, 35.8%, of female respondents reported that their husband attended the birth of their last baby, well over half, 58.2%, of male respondents claimed to have done so (2-sided, chi-square, $p < .0001$).

Ever-pregnant female respondents were also asked about the amount of support that they had received from their husbands and community during the period of their latest pregnancy. Less than half, 47%, of ever-pregnant women said that they had received ‘more’ support from their husbands than usual during their pregnancy, and over a third, 34.3%, of women said that they had in fact received *less* support during their pregnancy. The remaining 17.7% said that

³⁸ KII, community chief, Uмба, 12th August 2015.

³⁹ KII, community health worker, Uмба, 10th August 2015

⁴⁰ KII, village health volunteer, 12th August 2015

⁴¹ KII, English teacher, Uмба, 8th August 2015

the amount of support that they had received remained the same. Women in polygamous marriages were considerably less likely to say that they had experienced more support from their husband during pregnancy, and more likely to say that they had received less support than usual during pregnancy, compared to women in monogamous marriages (2-sided chi-square, $p < .05$). One woman interviewed in Yamaya described her experience:

“The family did look after me well when I was pregnant – with all 6 of my children - helping me cook and bringing firewood. But my husband did hit me when I was pregnant. I didn’t know – maybe he was frustrated with something. But, yeah, I was pregnant and he didn’t seem to care.”⁴²

In terms of community support - only 12.7% of respondents felt that they had received more support than usual from the community during their pregnancy. 41.6% said that their amount of support had remained the same, and, 41.6% said that they had received *less* support.

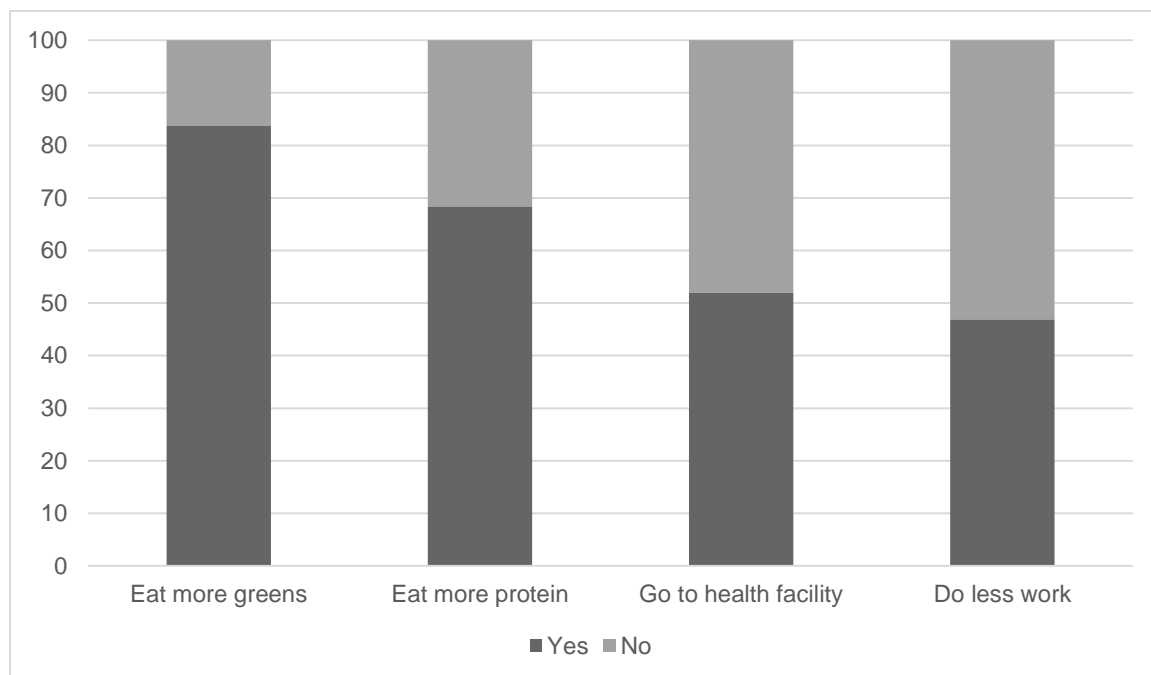
Furthermore, most women, 53.4%, said that they were required to do more work than usual during pregnancy. Less than a third, 27.5%, said that they had done less work, and the remainder, 17.6%, said that the amount of work they did remained the same. One woman interviewed during the qualitative research explained how she had a heavy workload throughout her pregnancies and was actually working in the garden when one of her children was born.⁴³

Although the majority of respondents recognised that a pregnant woman needs more nutrition – food – including more greens and protein, only about half of respondents felt that a pregnant woman should go to the health facility (52%), and should do less work (46.9%).

⁴² IDI, female community member, Yamaya, 9th August 2015

⁴³ IDI, female community member, Yamaya, 11th August 2015

Charts 29: What do pregnant women need?



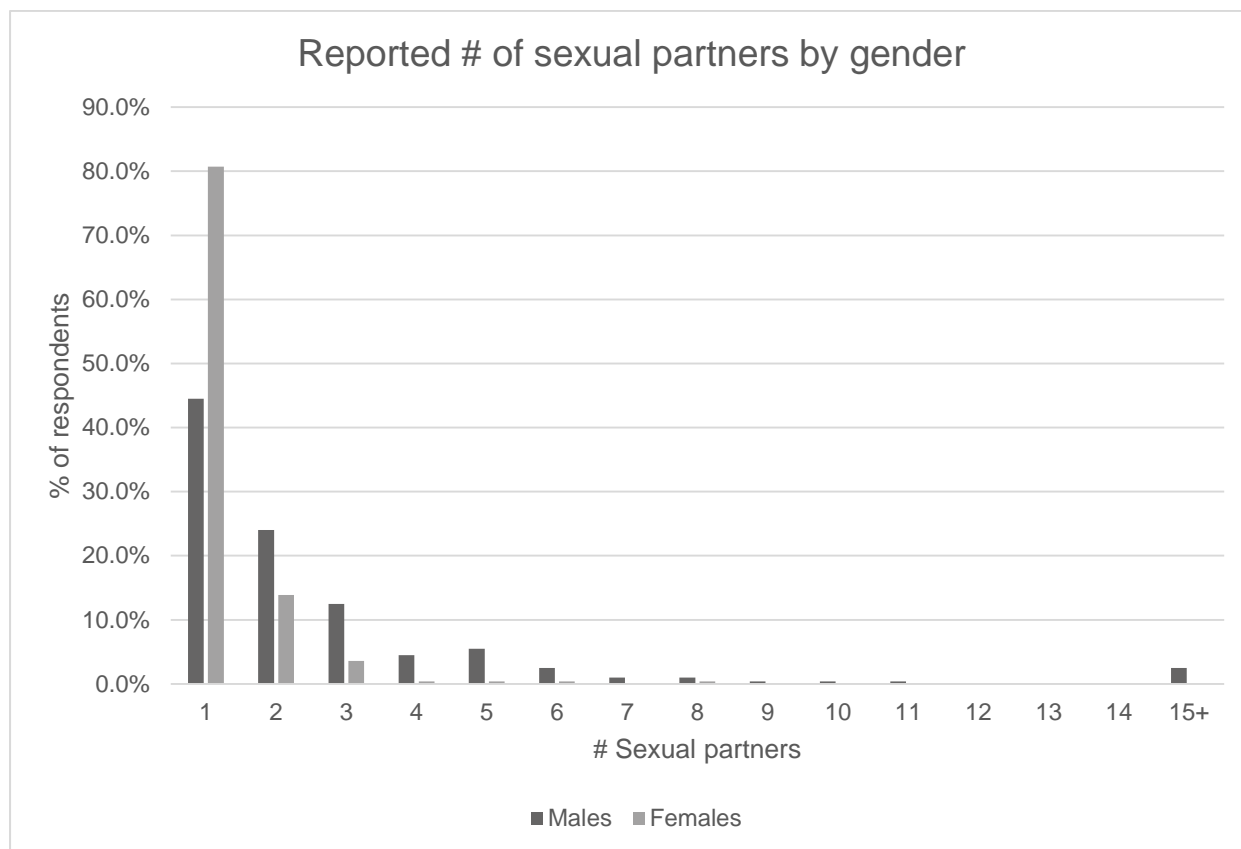
6.6. Sexual activity and STIs

Sexual partners

The majority of ever-sexually active respondents, 63.6%, claimed to have had only one sexual partner in their lifetime; 18.7% said that they had 2 or more sexual partners, 7.8% said that they had had 3 or more, and only 2.4% said that they had had 4 or more sexual partners. Furthermore, 94.6% of the sample claimed to *currently* have only one sexual partner. It is possible that these results may be an underestimate of the number of sexual partners that respondents actually have or have had, due to a powerful social norm that people, especially females, should remain virgins until married, and then faithful to their spouses. As a result of this, respondents may have felt unwilling to admit to having more than one sexual partner.

Responses to these questions about respondents' number of sexual partners, current and previous, were significantly associated with gender; whilst 80.7% of female respondents reported to have had only 1 sexual partner, this was the true of less than half, 44.5%, of male respondents (2-sided chi-square, $p < .0001$).

Chart 30: Number of sexual partners by gender



Sexual violence

Experiences

Rates of sexual violence are high: 1 in 5 women, 20.2%, of women reported having been subject to ‘forced sex’, as did 8% of males. Meanwhile (and consistently) 21.6% of males reported having ‘forced’ someone into sex; 17.6% said that the person they had forced was their wife, and 4.1% said that they had forced sex with another woman or girl.

Furthermore, 54.3% of women said that they had sex when ‘they didn’t want to’ and only a minority of married female respondents (16.5%) reported that they felt completely sure they could refuse their husband sex when they didn’t want it. Women who participated in IDIs explained how in practice they have very limited agency to refuse sex with their husbands:

Researcher: *Have you ever had sex with your husband when you didn’t want to?*

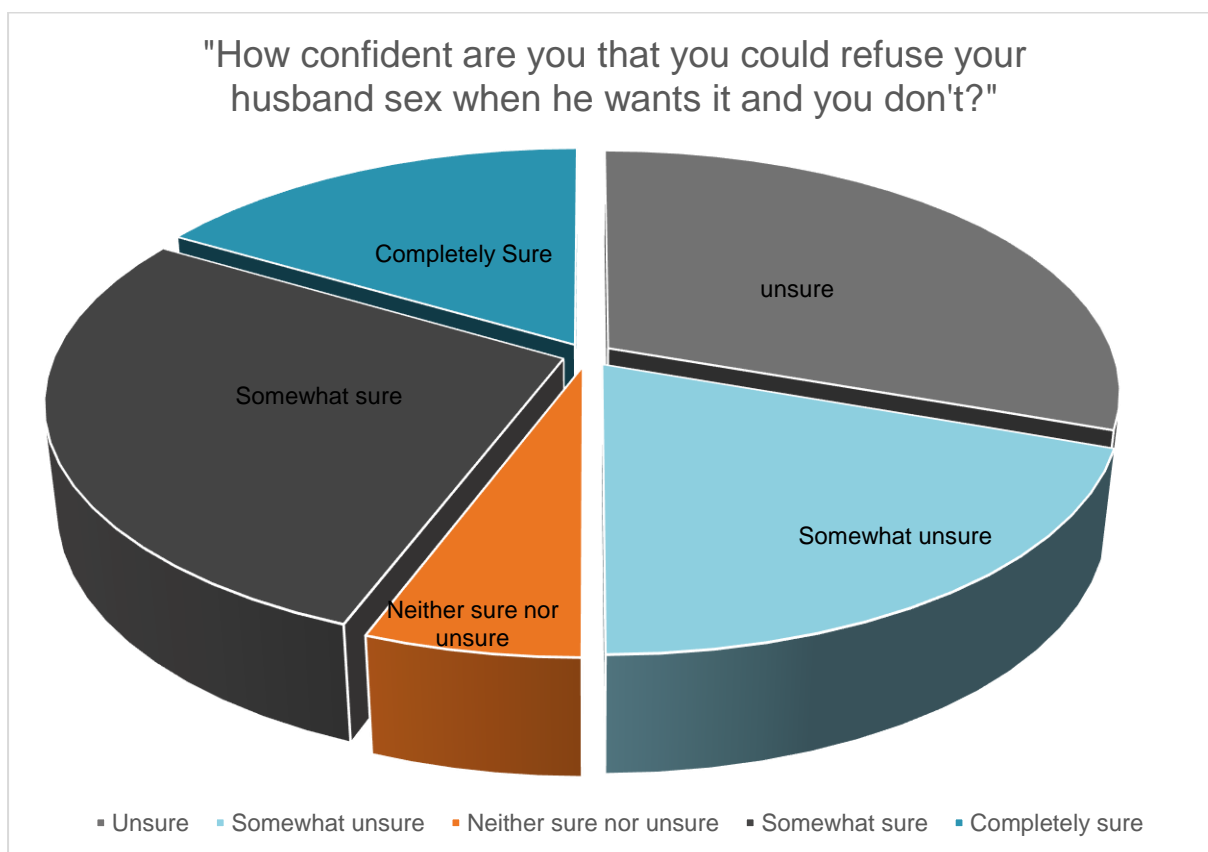
Respondent: *Yes, because he will beat me up if I did not.*⁴⁴

⁴⁴ IDI, female community member, Uмба, 11th August 2015

"There were times when I didn't want to have sex with my husband, but because he's a man he gets what he wants."⁴⁵

13.7% of females and 3.6% of males also reported to have had sex in exchange for goods or money.

Chart 31: Women's self-efficacy to refuse sex



Attitudes

Respondents' attitudes towards sexual violence were found to be indicative of widespread victim-blaming⁴⁶. Two thirds, 67%, of respondents identified at least one cause of rape which they attributed to the actions of the victim rather than the perpetrator. 42.4% of respondents felt that a woman/ girl is more likely to be raped if she has a boyfriend, is sexually active before marriage or has many sexual partners, 33.85% said that 'dressing provocatively' or drinking alcohol or taking drugs puts women/ girls at risk of rape and 25.3% said that rape is sometimes caused by a women/ girl rejecting a man's advances in a 'rude' manner.

⁴⁵ IDI, female community member, Yamaya, 9th August 2015

⁴⁶ Victim blaming occurs when the victim of a crime or any wrongful act is held entirely or partially responsible for the harm that was caused to them.

Response

Respondents in the survey were also asked about how the community deals with cases of rape. The most common response provided was that the family of the victim seeks compensation from the perpetrator, in the form of animals or cash, by way of reparations or apology. Only 4% of respondents stated that a survivor of rape would be taken to a health centre.

There were some differences in responses to this question based on research location. Respondents in Umba were significantly more likely to respond that the most recent case of rape had been reported to the police; 47.2% of participants in Umba said that this was the typical response, compared 34.5% of respondents in Yamaya, and only 22.3% of respondents in Siaka (2-sided chi-square, $p < .0001$); furthermore, respondents in Umba were significantly less likely to say that the most recent case of rape had resulted in retaliation fighting or beating, as compared to the other two research sites (2-sided chi-square, $p < .0001$).

The greater tendency to formally report cases of rape in Umba compared to the other two sites may be explained in part by the relative remoteness of the sites. As discussed in Section 2 above, Umba is the site with the most road access, and Siaka is the most remote site, with most villages located at least 8 hours' walk from the nearest road.

Case study, Yamaya

One woman said that a married man in the village had raped her daughter, in order to take her as his second wife. In retaliation the mother destroyed his house and his coffee bags. He went and reported this to the local Peace Officer who arrested and charged the girl's mother for vandalising property.

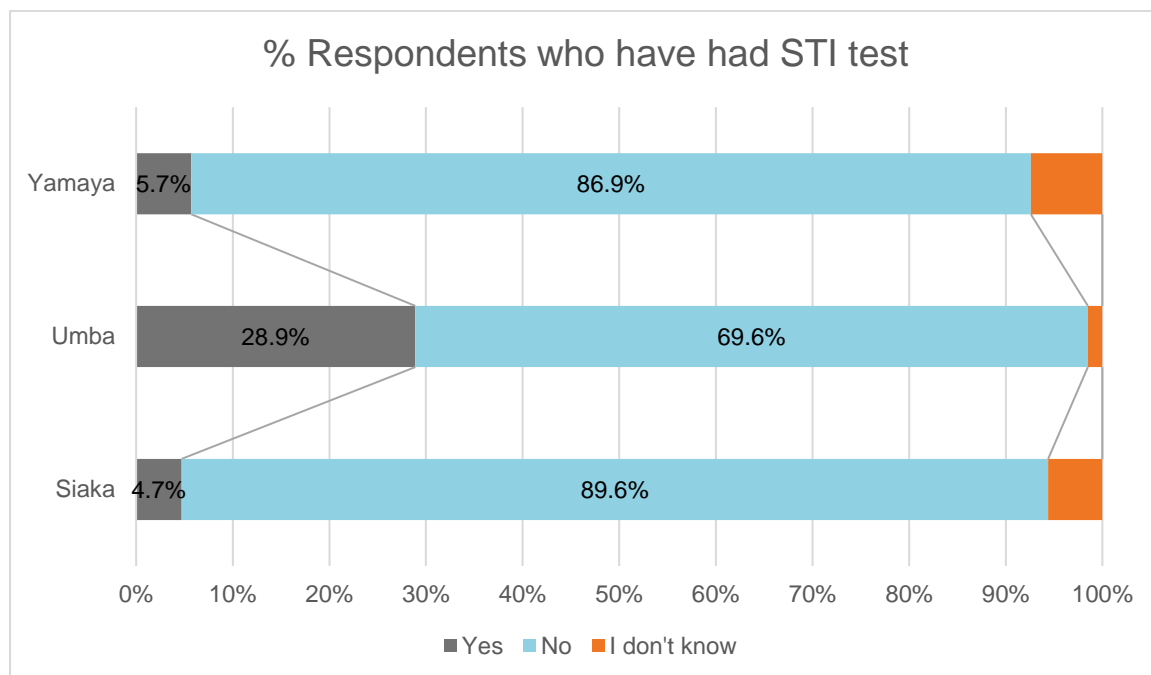
The mother explained that she was lucky to have a father who was able to support her in taking further legal action and challenge the decision made by the village court. In the end the man was forced to pay her daughter 400 Kina in compensation for raping her.⁴⁷

STIs

Only 14.9% of respondents across the whole sample reported having had an STI test. Responses to this question were found to vary significantly according to research site. Whilst almost a third, 28.9%, of respondents in Umba reported to have previously had an STI test, this was the case for only 5.7% of respondents in Yamaya and 4.7% of respondents in Siaka (2-sided chi-square, $p < .0001$).

⁴⁷ IDI, female community member, Yamaya, DATE.

Chart 32: Rates of STI testing by location



Despite low rates of STI testing, as many as 60.8% of sexually active females and 25.5% of sexually active males reported experiencing at least one STI symptom in the last year, including painful urination, unusual discharge, lumps or sores on the genitals, lower abdominal pain, vaginal itching, pain during ejaculation and bleeding between periods. 43% of females had two or more of these symptoms, 28.6% had three or more symptoms, and 16.7% had four or more symptoms. 13% of males had two or more symptoms, and 5.8% had three or more symptoms. As would be expected, there were significant associations found between respondents likelihood of experiencing STI symptoms and the number of sexual partners that they reported to have had (t-test, $p < .05$); with respondents who said they had more sexual partners more likely to have experienced these symptoms than those who had fewer sexual partners.

Symptoms of STIs were also associated with experiences of forced sex, and of exchanging sex for goods or money. Women who reported having been forced into sex were significantly more likely to say that they had STI symptoms (2-sided chi-square, $p < .01$), as were those who reported exchanging sex for goods or money (2-sided chi-square, $p < .01$); 86.2% of women who reported exchanging sex for money had symptoms of STIs, as did 77.8% of women who had been forced into sex. Men who reported being forced into sex were also significantly more likely to have STI symptoms than those who had not (2-sided chi-square, $p < .05$).

Participants who said that they had experienced symptoms of STIs were asked whether it affected their sexual behaviour. The majority, 57.8%, said that it had not. 18.4% said that they abstained from sex for a short time, and 18.9% said that they had abstained from sex until the symptoms disappeared. Furthermore, less than a third of participants, 28.1%, said that they went to a health facility to seek treatment for their symptoms. The majority, 62.2%, of participants said that they 'did nothing' about their symptoms, and the remainder said that they took some other action, including praying or using traditional medicines. Interestingly,

male respondents were less likely to say that they went to a health facility for treatment than female respondents (2-sided chi-square, $p < .1$), and respondents in Yamaya were less likely to say that they went to a health facility than respondents in the other research locations, although these differences were too marginal to have statistical significance.

Of those participants who said that they had experienced symptoms but had done nothing about it, the main reason given was that the health facility was too far away. The second most common response was that they 'thought the problem would go away on its own', and the third most common reason given was that they felt too embarrassed or ashamed to seek help. Female respondents were significantly more likely than male respondents to say that they did not go to the health facility because they were too embarrassed or ashamed (2-sided chi-square, $p < 0.05$), and male respondents were more likely to say that they thought the problem would go away on its own (2-sided chi-square, $p < 0.05$). These findings were supported by evidence from the qualitative research; as one participant explained: *"people rarely come for STI tests – there are customary barriers. Women don't like to express how they feel to a male staff. They feel too ashamed to come for treatment."*⁴⁸

⁴⁸ KII, community health worker, Uмба, 10th August 2015

7. Findings: Women's Empowerment

As well as collecting data on SRMH experiences, the survey was designed to collect data in relation to gender roles and power dynamics, in families and in communities, to gather baseline evidence on the 'Women's Empowerment' aspect of the SRMH project.

7.1. Decision making

Respondents were asked about who makes decisions in their household in relation to their healthcare, as well as in relation to how money is spent. There were significant and pronounced gender disparities in answers to these questions across all research sites. Male respondents were significantly more likely to say that they were the person to make these decisions, or to answer that "me and my partner decide together". Female respondents, on the other hand, were significantly more likely than male respondents to answer that their partner is the one to make these decisions (2-sided chi-square, $p < 0.001$).

Chart 33: Who makes decisions about how money is spent?

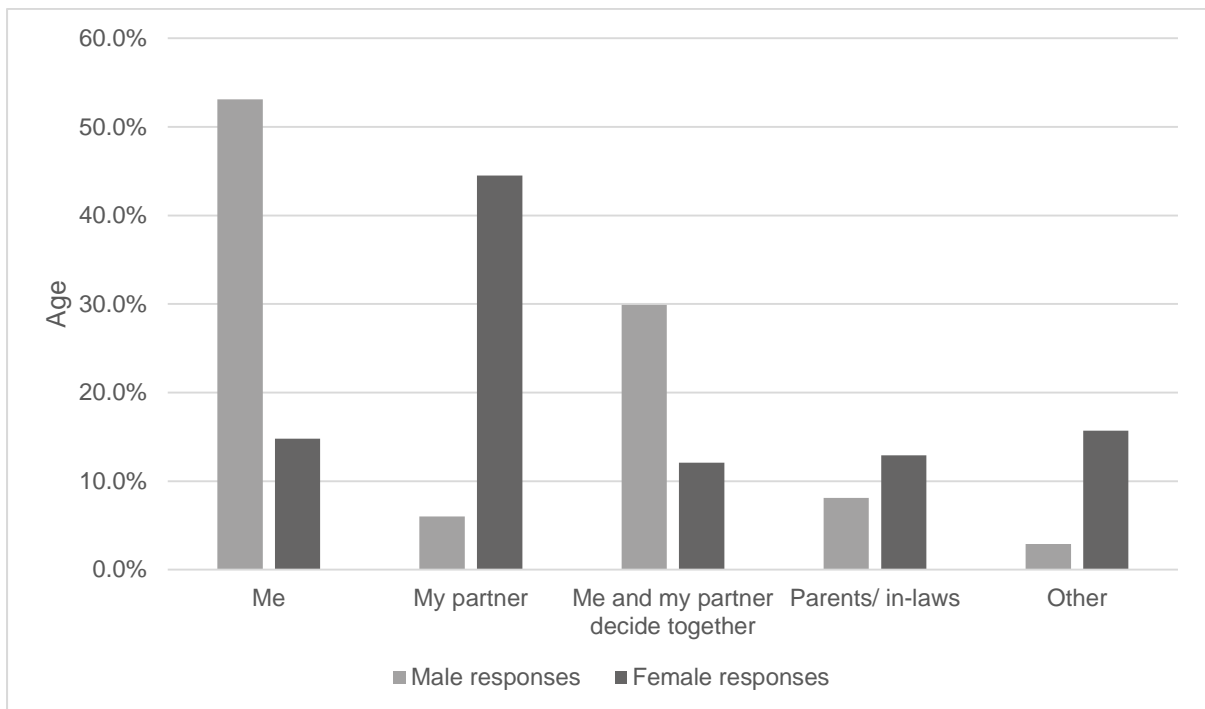
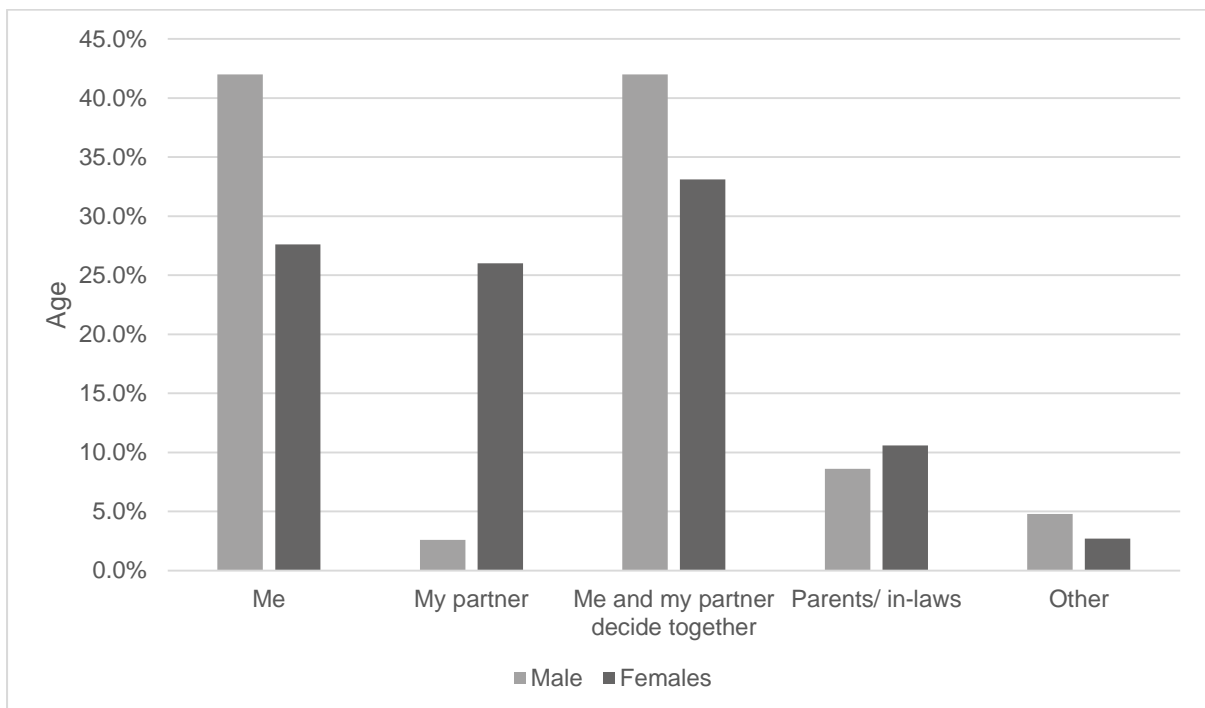


Chart 34: Who makes decisions about healthcare?



Evidence from the research indicates that a person’s ability to make decisions about their own healthcare is related to their ability to make decisions about money. One woman who participated in an IDI explained that she believed she had contracted gonorrhoea from her husband - who was sleeping with a number of women in the community – yet she was unable

to go to the health facility because she had no money to get to the hospital. She explained that her husband makes all decisions about how money is spent in the household and wouldn't allow her to go.⁴⁹

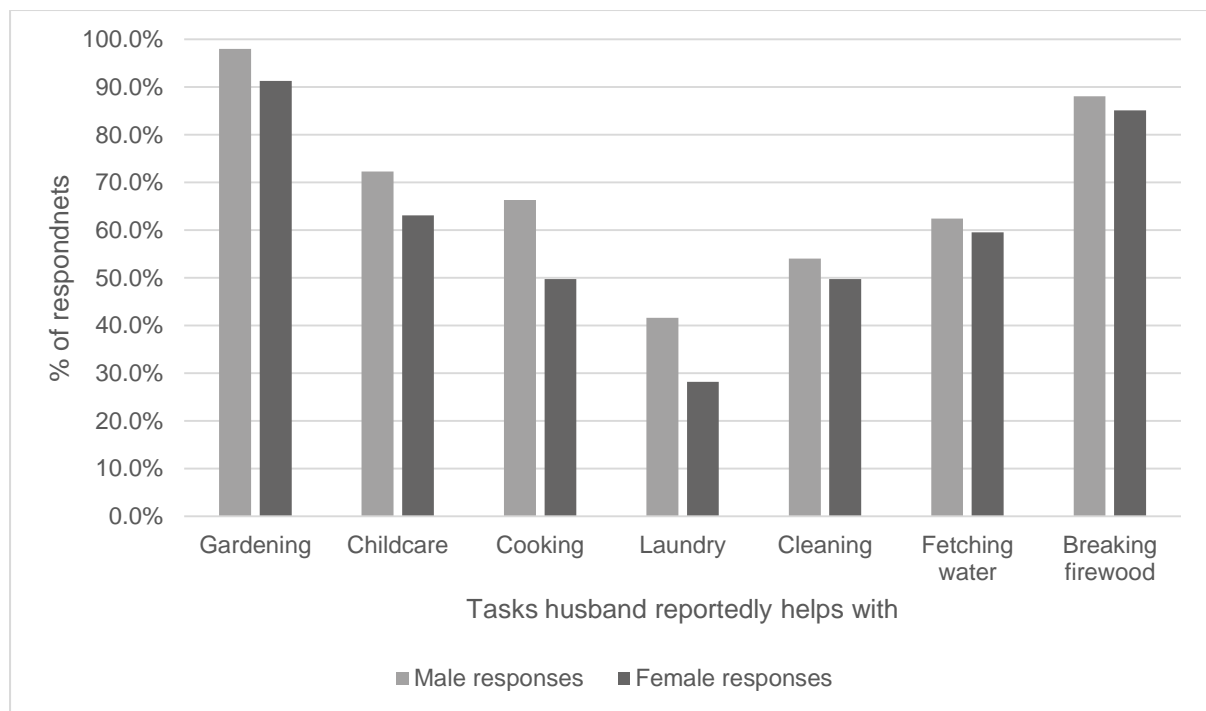
In the survey data, there was a significant correlation between participants' responses to money- and health-related decision making questions (bivariate correlation, $r=.16$, $p<.0001$), suggesting that respondents tended to answer in the same way for both.

7.2. Labour and work

Respondents were asked about men's tendency to assist women with different tasks, including gardening, childcare, cooking, laundry, cleaning, fetching water and breaking firewood. Nearly all married participants reported that their husband helped them with at least some of these tasks. Male respondents were slightly more likely than female respondents to report that they helped their wife with all of these tasks.

The most common tasks that men reportedly assist with are gardening and breaking firewood, tasks which are seen as more acceptable for males to carry out. Laundry, cooking and cleaning were the tasks that men appear least likely to help with. Male respondents were slightly more likely than female respondents to report that they helped their wife with all of these tasks.

Chart 35: % of respondents that reported the husband in the household helps his wife with various household tasks



Female respondents in polygamous marriages were significantly less likely to say that their husbands helped them with a range of different tasks than women in monogamous marriages (2-sided chi-square, $p<.05$). One respondent in the qualitative research described how the level of support she received from her husband changed after he got a second wife:

⁴⁹ IDI, female community member, Yamaya, 11th August 2015

“I have been married to my husband and we have had some good times through our marriage and I have 6 children from him. In 2003 my husband got his second wife. Since then my life has changed for the worse. Since then until now I am living with sadness and worries, and I even cry sometimes. When my husband starting seeing that lady he stopped talking, eating – even sleeping in the same bed – with me. He no longer makes a garden for me and I have started to live like a man and a woman at the same time: cleaning the bush, cutting down the trees, planting the food and even uprooting the weeds, and I also feed my children. I do all of this by myself.”⁵⁰

⁵⁰ IDI, female community member, Yamaya, 11th August 2015



Woman and her daughter carry construction supplies home after a day's work

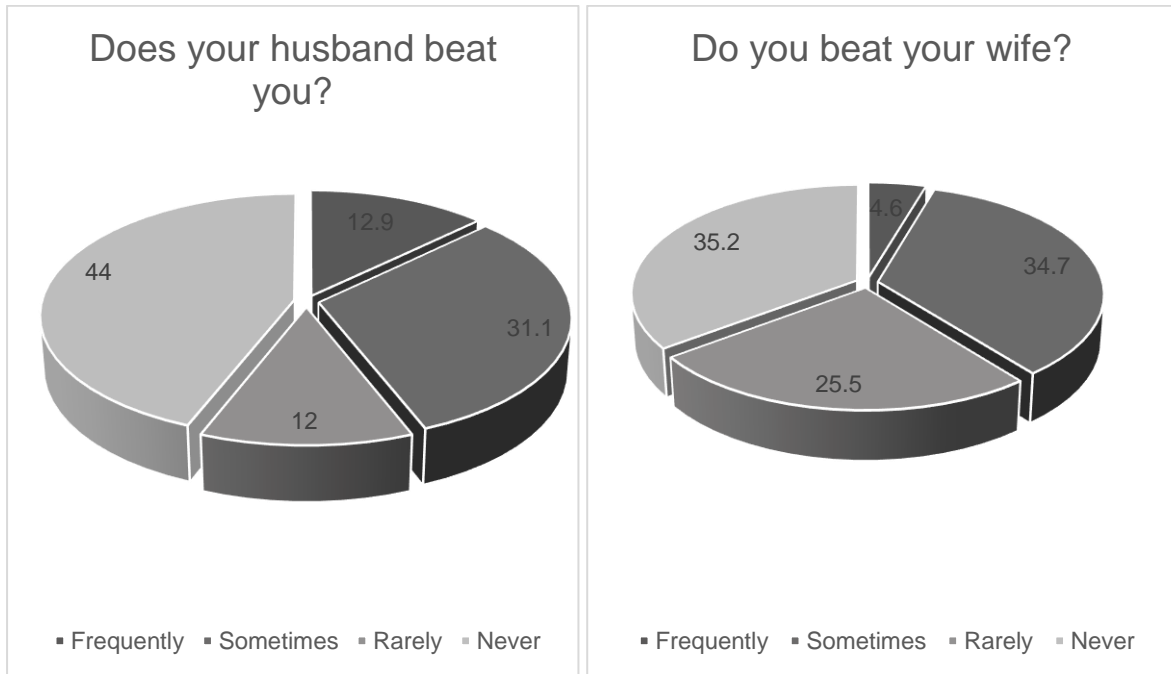
7.3. Domestic violence

Experiences of partner violence

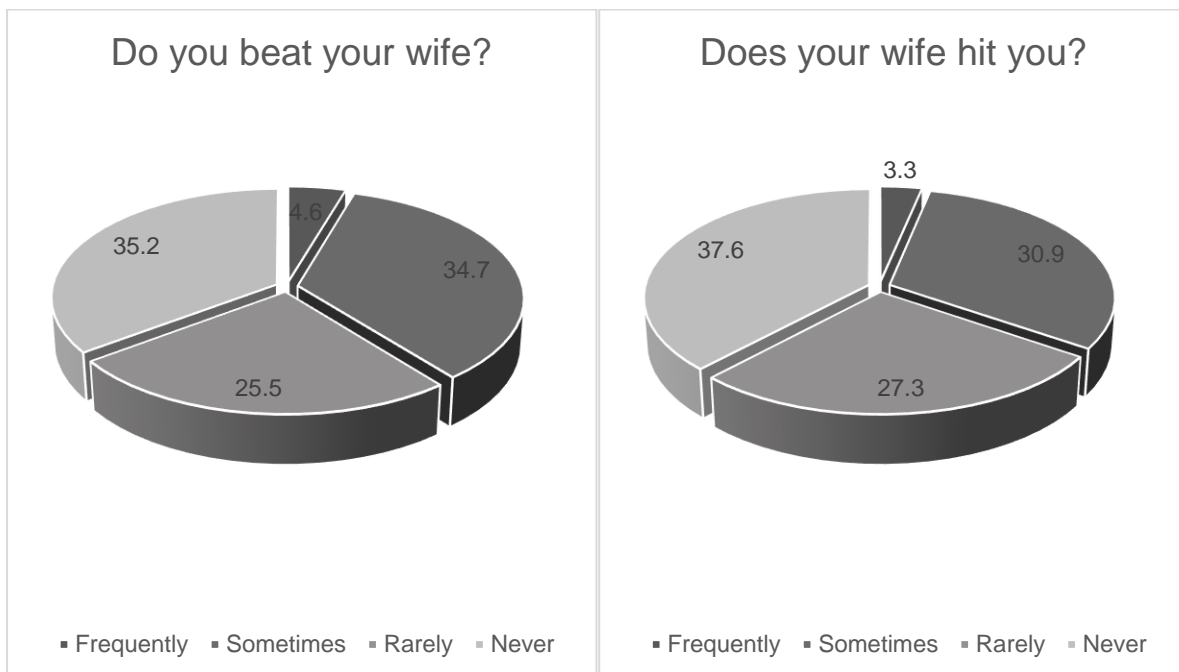
The majority of married women in the survey, 56%, reported being beaten by their husbands, and an even greater proportion of men, 64.8%, reported that they beat their wives. The difference between male and female responses may be explained by the prevalence of polygamous marriages: men who have more than one wife may beat some of their wives, and not others.

Whilst more men than women said that they beat their wives, women were significantly more likely than men to say that they were beaten 'frequently' by their husbands; 12.9% of women said that their husband 'frequently' beats them, whilst only 4.6% of men claimed to 'frequently' beat their wife.

Charts 36-39: Reported rates of partner violence



Men who said that they beat their wives, also tended to report that their wives hit them.



The majority of men who reported that they hit their wife, also reported that their wife hits them. 16.4% of men who said that they hit their wife said that their wife 'never' hits them; compared to 11.6% of men who said that their wife hits them, but that they 'never' hit their

wife. This indicates that bi-directional violence is common in relationships, but that men are more likely than women to perpetrate and initiate retaliatory or reciprocal aggression within violent relationships.

There was a significant relationship observed between the number of wives in the household and experiences of domestic violence (t-test, $p < .05$); within households with two or more wives, female respondents were more likely to report being beaten, and male respondents were more likely to report beating their wives, than in households with only one wife.

These findings were supported by evidence from the qualitative data where participants consistently cited 'bigamy' as a significant driver of domestic violence:

"Violence related to bigamous relationships is the most common [type of violence] here in this community;"⁵¹

"There was an elementary teacher who had 3 wives. The guy decided to spend the night he was supposed to be with his 3rd wife with his 2nd wife instead. She was so angry she took all the bedding off their bed. The husband got so angry that he beat his wife. She was bleeding for two hours from her vagina. The children reported the violence to me. I sent for the husband – but he ran away. He came back after one month and after that he went unnoticed. These problems happen in polygamous double marriage, they don't happen in monogamous marriages."⁵²

A relationship was also observed between the age of marriage of women/girls, and their likelihood to report that their husband beat them 'frequently'; those women who reported being beaten frequently tended to have been married significantly younger than other women (t-test, $p < .1$), implying an association between early marriage and domestic violence.

Drivers, attitudes and norms

Participants in the qualitative research explained that jealousy, adultery, being denied sex, and frustrations over an inability to conceive are the typical circumstances in which men are likely to beat their wives.

"My husband beats me frequently - at least once every fortnight. Sometimes it's over women, other times it's over sex, sometimes it's over food, and sometimes it's over nothing."⁵³

"When a mother cannot give birth to a child or get pregnant, the husband has to beat her."⁵⁴

The practice of bride price also appears to exacerbate men's feelings of entitlement over their wives, their bodies, their labour and their reproduction:

⁵¹ KII, Village health volunteer, Siaka, 21st August 2015

⁵² KII, Community health worker, Uмба, 10th August 2015

⁵³ IDI, female community member, Uмба, 11th August 2015

⁵⁴ Village health volunteer, Uмба, 12th August 2015

“From where I see it some men become mad very quickly. When the husband gives instruction to his wife to do something and she disobeys him, that’s when they fight. Also, when the woman refuses to have sex with her husband these often leads to a fight in the family. Also sometimes [it happens] because of the suspicious thoughts that one might have that his wife or her husband is having an affair outside of their marriage – that leads to fights in the family and this is one of the biggest problems in village life here. In the community we also have a few couples where the husbands continuously beat their wives because they are unable to give birth - which we believe is because some traditional practices have been done – and because of the bride price – the cost the husband had to go through to get married to his wife – this is frustrating to him, and results in him beating her every time that he is mad.”⁵⁵

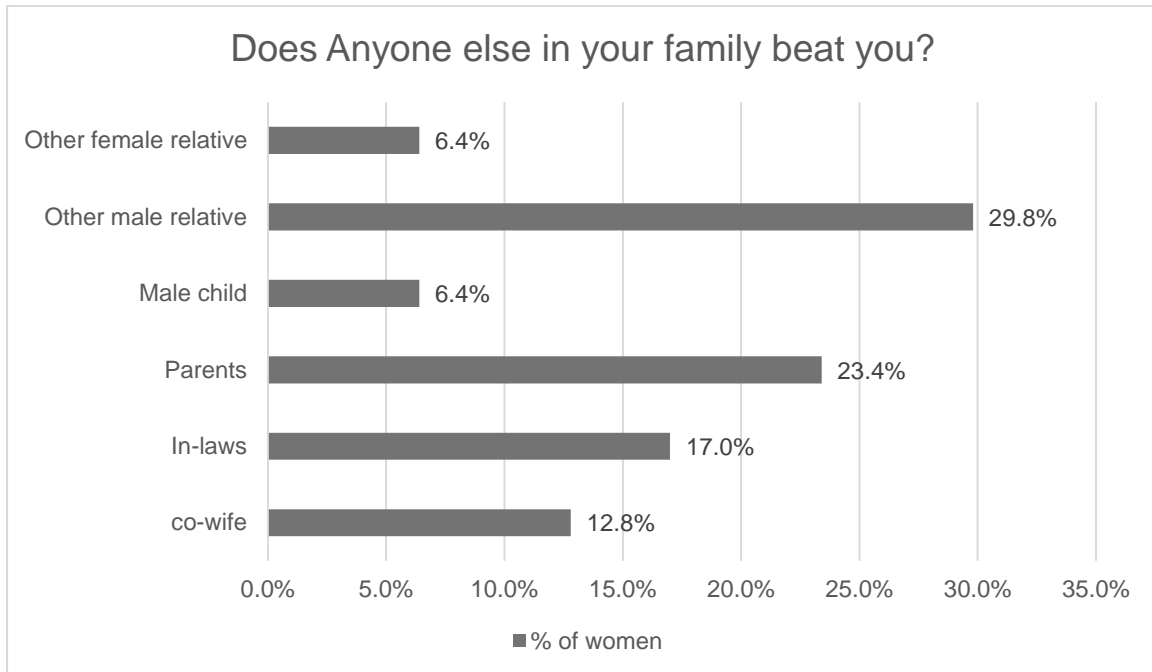
Respondents expressed ideas and attitudes supportive of male dominance, control and violence against women and girls in the context of family life; and this was particularly found to be the case for male respondents. Over half, 53.1%, of male respondents agreed that “a woman should not question a man”, and as many as 74.4% agreed that “a man can control his wife’s movements”. 84.2% of men and boys also agreed that “if a woman has an affair it is ok for her husband to hit her” (this was the case for a significantly reduced, but also high, 58.6% of female respondents), and 54.8% agreed that “a man is the one who decides when to have sex with his wife.” Furthermore, less than half of male respondents, 44.5%, agreed that a woman could refuse sex with her husband simply because she ‘isn’t in the mood’. 43.2% of respondents also felt that a husband is justified in beating his wife if she ‘refuses sex with him’, 41.9% if she argues with him, and 40.9% if she ‘goes out’ without telling him, 28.9% if she neglects the children and 23.3% if she cooks badly. Only 3.5% of male respondents felt that it was not acceptable for a man to beat his wife in any of these circumstances, as did a significantly greater, but still small proportion, 7.4%, of female respondents (2-sided chi-square, $p < .001$).

Other experience of domestic violence

A minority of women, 15.6%, reported being beaten by someone else in their families (other than their partner). Of those women who did report being beaten by someone else, the majority reported being beaten by ‘another male relative’ or by their parents.

⁵⁵ KII, Peace Officer, Siaka, 21st August 2015

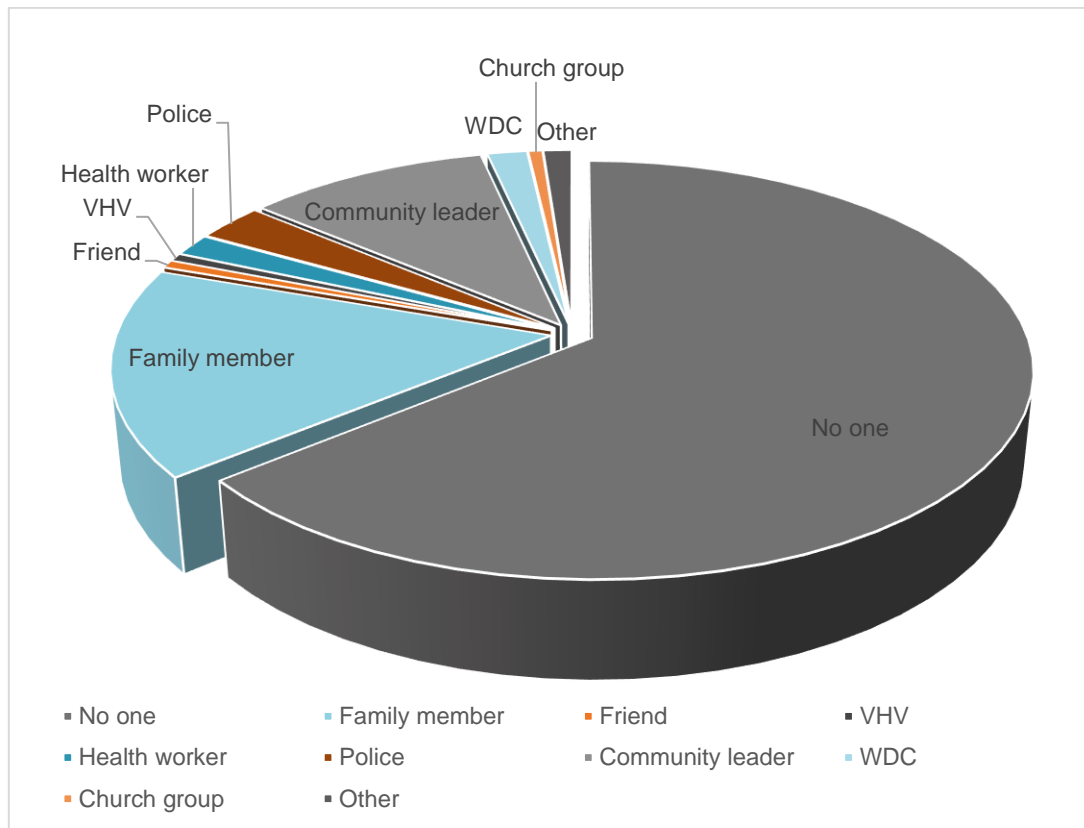
Charts 40: Reported rates of domestic violence perpetrated by someone other than an intimate partner



Seeking help for domestic violence

The majority of respondents who reported having experienced domestic violence said that they had not reported the incident to anyone: 64.2% of respondents said this. 16.2% said that they had reported the incident to another member of their family, and 10.4% said that they had reported it to a community or religious leader. Only 2.9% said that they had reported it to the police.

Chart 41: Who do women report domestic violence to?



Participants in the qualitative research explained that in practice there are few options available to women who are subject to domestic violence:

“My family, in-laws and community do not support me and help me when he [my husband] beats me up. I do not report this to the community leaders. My husband ridicules me when I do that.”⁵⁶

“The only safe place for a woman when she is beaten by her husband is her family. A lot of women in my community have committed suicide over this [being beaten]. Last year a woman whose husband frequently beats her got so fed up she got a rope and hung herself on a tree and died – leaving behind 6 children.”⁵⁷

“When my parents were alive they were supportive of me. Now that they are dead I have no one close to me to assist me. My only brother too has passed away. When I go to the police officer court they tell me that this is a marriage problem and I should go back home – so I take my problems to god.”⁵⁸

Domestic violence and other aspects of SRMH

Noteably, women who reported that their husband beats them were significantly less likely to report using modern contraception (1-sided chi-square, $p=.07$), and were much less likely

⁵⁶ IDI, female community member, Yamaya, 11th August 2015

⁵⁷ KII, VHV, Siaka, 21st August 2015

⁵⁸ IDI, female community member, Uмба, 11th August 2015

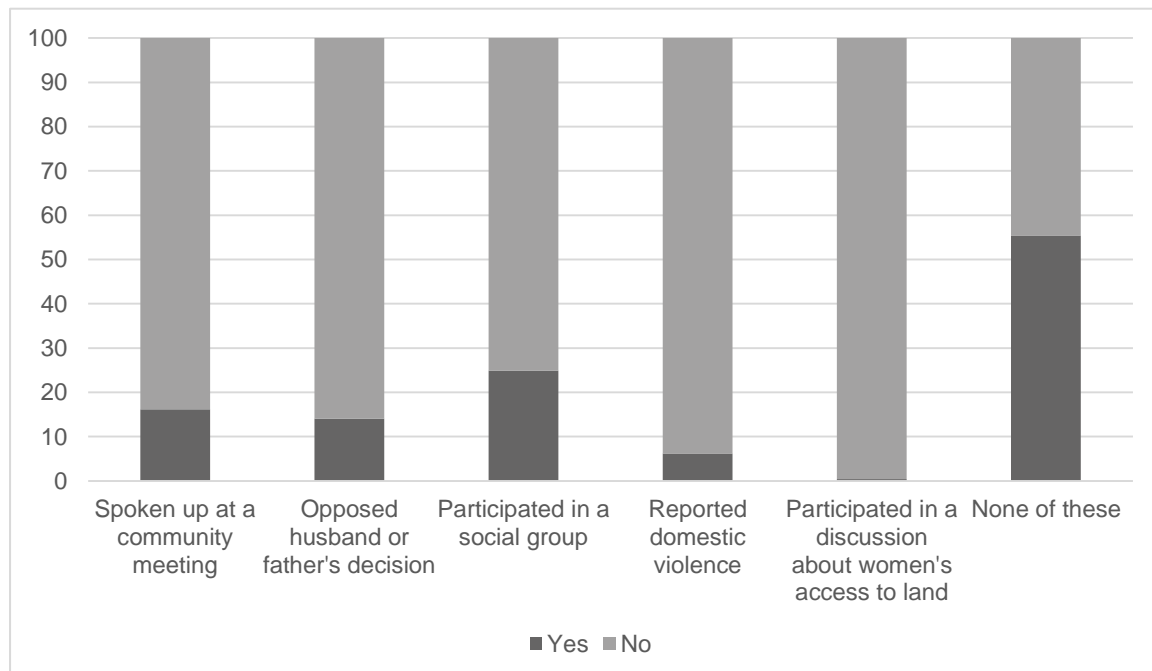
to say that they felt confident that they could ask to use family planning (2-sided chi-square, $p < .005$), or that their husband would agree to use it (2-sided chi-square, $p < .05$), than women who said that their husband does not beat them. Furthermore the more frequently women were beaten, the less confidence they reported to feel in relation to these issues (bivariate correlation, $r = -.13$, $p = 0.6$, for 'confidence to ask to use family planning', and $r = -.18$, $p = .01$ for 'confidence that their husband would agree to use family planning if asked').

Women who reported that they were beaten by their husbands were also more likely to report having been subject to forced sex (2-sided chi-square, $p < .005$), and to say that their last pregnancy had resulted in miscarriage, stillbirth or death of the baby (2-sided chi-square, $p < .001$). These results imply strong associations between rates of domestic violence and other important aspects of SRMH.

7.4. Empowerment through action

Finally, in order to gather more data in relation to WE, female respondents were asked whether or not they had taken a series of empowering actions in the last year, namely: opposing their husband's or father's decision, participating in a community meeting or social group, speaking up at a community meeting, or participating in a discussion about women's access to land. Less than half of all female respondents had taken any of these actions. The action that women were most likely to have reported taking was participating in a social group (24.9% of women reported taking this action), and they were least likely to report taken part of a discussion about women's access to land (only 0.4% of the sample reported taking this action).

Chart 42: % of women who have taken empowering actions



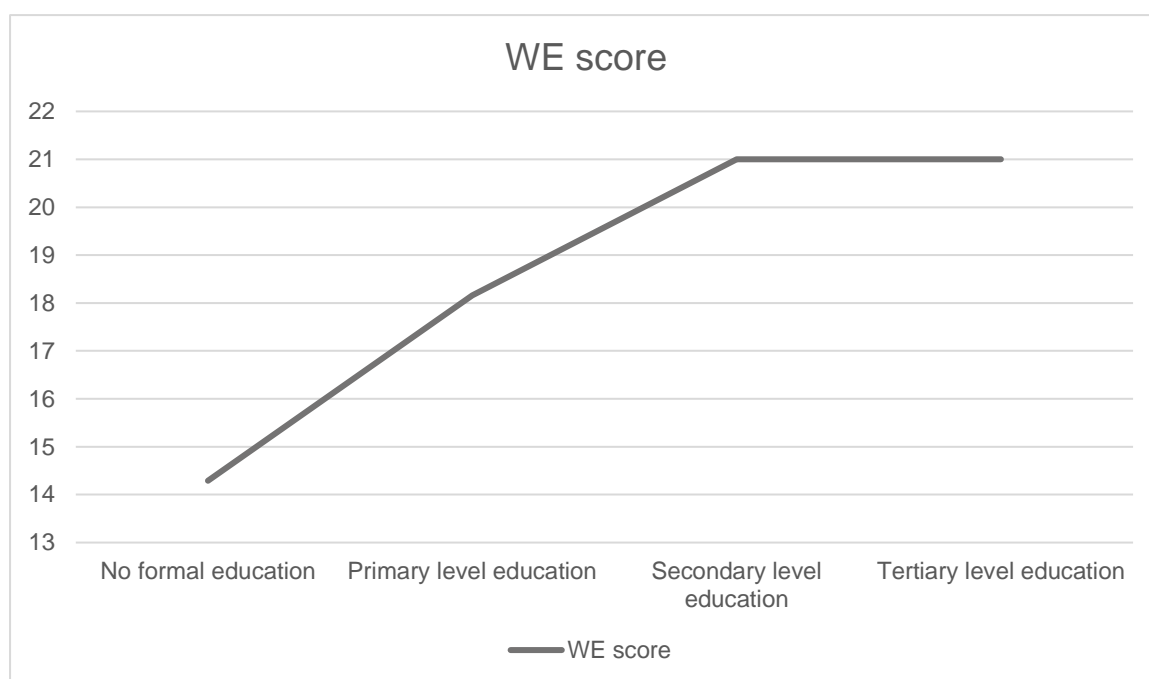
7.5.7.5 Women's Empowerment (WE) Score

Female respondents were assigned a total WE score based on their responses to a number of questions in the survey which were designed to gather evidence on empowerment.⁵⁹

There were small differences observed in female respondents' WE scores according to research site: females in Yamaya tended to have lower mean WE scores than in Umba and Siaka, however, differences were too marginal to have statistical significance.⁶⁰

There were, however, significant differences in female respondents WE scores depending on their level of education: women with higher levels of education had significantly higher WE scores (anova, $p < .05$).

Chart 43: WE score by level of education



Furthermore, women with some cash income tended to have significantly higher WE scores than those without ($p < .05$).

Women with higher WE score were significantly more likely to say that they talk to their partner about family planning (t-test, $p < .001$) and were significantly more likely to be using a

⁵⁹ See the survey tool for women annexed below. Questions included in the WE score were: question 3.7 “who made the decision to use this method [of family planning]”, question 6.1 “who makes decisions about your health care”, question 6.2 “who makes decisions about money”, question 6.4 “how confident are you that you could tell your husband/ partner that you want to use family planning”, question 6.5 “how confident are you that your husband would agree to family planning if you wanted to use it”, question 6.6 “how confident are you that you could use family planning even if your husband did not want to”, question 6.7 “how confident are you that you could refuse to have sex with your husband when you don't want to have sex but he does”, “how confident are you that you could go to the health facility if your husband did not want you to go”, question 6.12 “how often in the past year have you taken the following actions”.

⁶⁰ Siaka's mean score = 16.53; Umba = 16.16; Yamaya = 14.45, anova, $p = 0.516$.

modern form of family planning ($p < .05$). They were also significantly more likely to say that they had taken an STI test ($p < .05$) than women with lower WE scores.

Women with lower WE scores were also significantly more likely to say that their last pregnancy had resulted in miscarriage, still birth, or infant death (t-test, $p < .1$).

These findings provide evidence of the link between women's empowerment broadly and more specific aspects of SRMH.

8. Findings: Health Facilities Assessment

Health facility infrastructure is very limited in all three sites.

8.1. Overall status of the facilities/ infrastructure

The health facilities surveyed through the needs assessment are all categorized as “aid posts.” In the PNG health system, aid posts are intended to provide a limited number of services, including contraceptive services, but are not intended to be a place for childbirth except in emergency situations. However, as illustrated by the above findings and by the discussion below, individuals residing in project sites are separated from higher-level facilities by geographical, financial, and social challenges. In addition, not all of the facilities surveyed were able to provide even the limited services that should be available at aid posts. Umba and Yamaya in Menyamya District were selected by the Rural Primary Health Services Delivery Project in 2012 to be converted to “Community Health Posts,” which would be equipped to provide the full range of antenatal and sexual health care. Unfortunately, at the time of the survey and assessments, little to no evidence of construction or upgrade was found in these locations, and time frames for building the Community Health Posts were not clear.

Umba:

The aid post in Umba has been shut since 1996 due to large retrenchment of health facility staff across Menyamya District. According to community informants, the health worker left the aid post, and there was no one to work the facility for the next 17 years. In January 2014, a health worker returned to Umba, having been asked to resume his post by the Provincial Administrator. He decided not to re-open the aid post, however, due to the derelict condition of the health facility by that time – the result of neglect and vandalism; as he explained:

“During this time [when the aid post was closed], many children and adults died, so a frustrated man destroyed the existing aid post [structure].”

Consequently the health worker based in Umba made the decision to operate out of his own family home. He is currently running a makeshift aid post out of two rooms in his house – where he stores medications and consults with patients - in a traditional residential style building structure made out of bush materials. There is no furniture or shelving; boxes of medications are piled up on the floor, and there is a scale for weighing patients. There is no electricity or lighting at the facility; no running water, wash facilities, sink or toilet. Water is collected from a nearby river. The family latrine is used to dispose of clinical waste.



During data collection for this baseline evaluation, researchers slept on the floor of the (original) aid post. The overall structure of the building appeared to be in reasonable condition, albeit in need of minor maintenance and repairs. A major clean-up, as well as new furniture and equipment, however, would be required before the post could be operational.

Yamaya:

Yamaya has an aid post that has been open since 1982. It reportedly serves wards 7, 8, 9 and 11, in Kapao LLG, Menyama District. There is 1 member of staff, a male community health worker, working at the aid post.

There is no electricity, lighting, wash facilities, sink or toilet at the aid post. Water for the facility is collected from a small mountain stream about 50 meters away, which also serves the surrounding community. There is a small staff house made out of bush material, which has solar lighting and a pit latrine. There is no incinerator for disposing of waste; waste is



burned or buried and allegedly causes a 'bad odour' which disturbs residents of nearby villages.

Siaka:

In Siaka, the Evangelical Brotherhood Church Health Services has operated an aid post since 1984, and recently opened a day clinic with a dedicated maternity ward in 2015. There are two buildings at the health facility: the old building has 5 rooms, and there are 4 rooms in the new building. The structure is new, made out of timber, and generally in good condition. There is a running water supply connected to the building which draws water from an underground source. There is a patient toilet and shower at the facility, although these are still 'under construction', and a sink where health workers can wash their hands. There is a solar power generator at the facility, although it is reportedly not working very effectively.

There are 3 members of staff working at the facility: an Aid Post Orderly and a community health worker, 1 of whom is female (Siaka is the only project site with a female health staff member).

Siaka, therefore, is the project location with the most developed health facilities. This supports the finding that Siaka is the research location where the community are faring best in terms of the PNG Healthy Island Criteria: achieving the highest mean Healthy Island Score (as discussed in Section 4).



8.2. Maternal and child health services

Obstetric Care, Maternal and Neonatal Mortality

Services in relation to obstetric care, maternal mortality and neonatal mortality are limited in all three sites, but are most operational and developed in Siaka. The health centres in Siaka and Yamaya do appear to be carrying out ante-natal checks on a semi-regular basis, although usage of these services in practice appears to be relatively low. Staff at the Health Centre in

Siaka claimed to have served 12 women in the last 6 months, and in Yamaya, 17 women had been seen in the previous 20 months. The CHW in Umba does not appear to be conducting ante-natal checks for women on any regular basis. Post-natal care is even rarer: 5 women were reportedly provided a post-natal check in the last 6 months in Siaka, and 1 in Yamaya. No post-natal checks were carried out in the last 6 months in Umba.

The only facility with a delivery room currently available is Yamaya; the delivery room in Siaka is under construction and there are no facilities for delivery in Umba. Yamaya is also the only facility with delivery instruments available. Siaka and Yamaya have some basic obstetric care drugs such as oxytocins, Ergometrin, Vitamin K, and eye ointment for obstetric care.

It is unclear whether any of the health centres are being used by women for emergency deliveries or complications. In Yamaya there are no records of any deliveries that have taken place at the centre. In Umba the health worker noted that women do not come to the health facility to deliver *“due to customary beliefs”*. However, he reported they sometimes come to see him in the case that they experienced complications post-delivery. According to staff at the health facility in Siaka, there have been no deliveries carried out at the centre to date, but health staff and volunteers reportedly attend deliveries at women’s homes when they are experiencing complications. In the past 6 months, staff have reportedly assisted with 4 home births, during one of which the mother died after giving birth to a still born child.

Family Planning

The health centres at all three sites typically provide some family planning services; including oral birth control pills, condoms and injections. Record keeping appears to be poor; Yamaya is the only location where registry cards are kept regarding family planning and these do not appear to be well updated.

All centres reported to have a readily available supply of condoms. However, they do not appear to be widely distributed. The health worker in Siaka noted that condoms will only be supplied to young couples, and not to unmarried individuals, and in Umba the health worker reported that he has a supply of free condoms but that *“only the men come for them”*. He also added that *“people think condoms are only for sex workers, so only a few people actually ask for them.”*⁶¹

The oral contraceptive pill and injections are not free; all three centres charge for these. In Umba, family planning services allegedly cost 2 Kina for 3 months; payment is used to pay porters, carriers, to transport supplies from the nearest hospital (which is 1-2 days walk from the aid post). In Siaka and Umba the health workers said that they would accept payment in kind for treatment (instead of cash) including food, firewood and vegetables. This is important given that communities are cash poor and that women and girls are particularly unlikely to have access to a cash income (as discussed in Section 4).

⁶¹ KII, Community health worker, Umba, 10th August 2015

Immunisation

None of the aid posts have a fridge to keep vaccinations. In Umba and Yamaya the health workers reported that there have been no vaccinations done in the last 6-12 months as the fridge at Menyamyia hospital is currently broken, and has been for more than a year.

As discussed in Section 4, rates of vaccination appear to be higher in Siaka. This finding from the survey is supported by evidence from the health systems assessment: health workers reported that three patrol teams had to Siaka in the last 6 months, vaccinating 150 infants and children, and 7 pregnant women.

8.3. STIs

Health workers in all three research sites felt that the prevalence of STIs and HIV is a 'big problem' in their catchment areas, although in Siaka the health worker felt that the problem is mainly located around a particular village that is closer to road access. Health workers cited sex work, polygamy and drug use as the main causes of the spread of STIs.

Yamaya is the only site in which records of STI and HIV infection appear to be kept. There have reportedly been 16 recorded cases of STI infection in the last 2 months. The health workers in Umba and in Siaka reported to be 'promoting STI and HIV prevention strategies', although Siaka was the only site at which the health worker felt that the community have regular access to HIV prevention awareness programs: health staff are allegedly conducting health education at facility and church gatherings. According to health workers, no sex education is provided in catchment schools in any of the research sites, and none of the health centres are offering HIV testing and counselling.

8.4. Services for survivors of FSV

Services for survivors of family and sexual violence appear to be very limited at all three sites: the help provided appears to be limited to attending to survivor's physical injuries in exchange for a fee. Cases are rarely referred to law enforcement, and records of cases of rape, sexual violence or child abuse do not appear to be kept.

8.5. Clinical Drug Supplies & Equipment

Supplies of basic drugs and clinical equipment are also severely limited at health centres in all research sites, as observable in the table below. The main reason for this, according to health workers, is a lack of transportation. None of the facilities have any type of vehicle available for transporting supplies; drugs and equipment are mainly carried to research sites by porters, on foot, and therefore they are limited by what they can physically carry. The health facility in Siaka is a 16 hour walk from To'okena (the nearest town with a clinic with drug supplies) across heavily forested mountain tracks. The aid post at Umba is a day's walk from the District Hospital in Menyamyia town, and in Yamaya it is 2-3 days walk to the nearest higher-level facility.



Path to access higher-level healthcare, roughly a 16 hour walk from Siaka catchment

None of the health workers based in research sites have been supplied with a mobile phone in relation to their work. They all reported to have a personal phone which they are sometimes using, however, network coverage at the sites is in any case very limited.

The below table summarises the basic drugs and clinic equipment available at the centres. A red box designates that item is not available, a green box that it is available, and a yellow box that it is 'partially' available.

	Yamaya	Umba	Siaka
<i>Basic Drugs</i>			
Family planning	None (nil stock at time of assessment)	Pills, injections	Pills, injections, condoms
Maternal Health	Ergometrine, Oxytocin, Lignocaine, Iron/ folic acid	None	Ergometrine, oxytocin, lignocaine, Iron/ folic acid
Vaccines	None	None	None
STIs/ HIV	None	None	None
CDD	Normal Saline	None	HS Darrow, ORS
TB	None	None	None
Antibiotics	Amoxicillin tabs and caps, Chloramphenicol injection, Crystalline penicillin, Co-trimoxazole	None	Amoxicillin tabs and caps, Chloramphenicol injection, Co-trimoxazole
Malaria	Chloroquine, Quinine injections	None	Quinine injection, Primaquine, Fansidar, RD test kit
<i>Clinical Consumables</i>			
IV giving sets	No	No	No
Suction tubes	No	No	Yes
Catheters	No	No	Yes
Disposable syringes	No	No	Yes
Blades	No	No	Yes

<i>Clinical Equipment</i>			
Thermometer	Yes	Yes	Yes
Stethoscope	No	Yes	Yes
Sphygmomanometer for BP	Yes	Yes	No
Scales	Yes	Yes	Yes
Torch light	No	Yes	No
Height scale	No	No	No
Dressing trolley	No	No	
Kidney tray	Yes	Yes	
Dressing set	No	A few	
Scissors	No	Yes	
Bandages	No	Yes	Yes
Tongue depressor	No	Yes	Yes
Cleaning agent/ Bleach	No	No	Yes
Sterilizer/ boiler	No	No	No
Auroscope	No	No	No
Microscope	No	No	No
Ambulance bag	No	No	No

9. Conclusions

This report presents the results of a baseline study that was conducted prior to beginning implementation of CARE's Highlands Sexual, Reproductive and Maternal Health Project. Overall, the findings from the study highlight the urgent need for improved SRMH services in the 3 highland sites in Morobe Province - Yamaya, Umba and Siaka - selected for participation in the Project.

9.1. Objective 1: Community support for SRMH

Data from the baseline indicates that women and girls do not receive a great deal of community support in relation to SRMH, nor do they necessarily receive support from their husbands/ partners.

Intimate partner support for SRMH

Whilst husbands expect their wives to bear many children, they do not always support their wives through pregnancy and birthing, or with childcare after delivery. Less than half, 47%, of ever-pregnant women said that they had received more support from their husbands than usual during their pregnancy, and over a third, 34.3%, of women said that they had in fact received *less* support during their pregnancy. The remaining 17.7% said that the amount of support that they had received remained the same.

Only 44.8% of (married) female respondents said that their husband/ partner had gone with them to their ante-natal care visits. And only just over a third, 38.5% of (married and ever-pregnant) female respondents said that their husband had attended the birth of their most recent baby. 63.1% of women said that their husbands help them with childcare.

When (married) men were asked the same questions, the results were wildly different, with 85.5% reporting that they had accompanied their wife to their last ante-natal care visit, and 58.2% saying that they had attended the birth of their last baby.

The data suggests that the amount of support that a woman receives during pregnancy and childbirth is reduced if she is in a polygamous, compared to a monogamous marriage. Women in polygamous marriages were significantly less likely to say that their husband had gone with them to their antenatal care visit than those in monogamous marriages (1-sided chi-square, $p < .1$); only a third, 33.3%, of women in polygamous marriages said that their husband had accompanied them to their antenatal visits. Furthermore, women in polygamous marriages were considerably less likely to say that they had experienced more support from their husband during pregnancy, and more likely to say that they had received less support than usual during pregnancy, compared to women in monogamous marriages (2-sided chi-square, $p < .05$). Finally, female respondents in polygamous marriages were significantly less likely to say that their husbands helped them with a range of different tasks than women in monogamous marriages (2-sided chi-square, $p < .05$).

Wider community support for SRMH

Only 12.7% of ever pregnant female respondents said that they had received more support than usual from the community during their pregnancy, a much higher proportion, 41.6%, felt

that they had received *less* support from the community during this time. A third of all ever-pregnant women in the sample (33.7%) reported experiencing some bleeding during their last pregnancy.⁶² Of those women who experienced bleeding and did not access a health service, only 31.7% sought support from a family member, friend, or other community member. 41.8% of all women who had experienced bleeding in pregnancy said that they had sought support from no one at all. Furthermore, almost a quarter, 24.2%, of ever pregnant women and girls reported that they had given birth alone with no one assisting them.

Furthermore, most women, 53.4%, said that they were required to do more work than usual during pregnancy. Less than a third, 27.5%, said that they had done less work, and the remainder, 17.6%, said that the amount of work they did remained the same. One woman interviewed during the qualitative research explained how she had a heavy workload throughout her pregnancies and was actually working in the garden when one of her children was born.⁶³

Although the majority of respondents recognised that a pregnant woman needs more nutrition – food – including more greens and protein, only about half of respondents felt that a pregnant woman should go to the health facility (52%), and should do less work (46.9%).

In terms of support for victims of SGBV, levels of community support were found to be particularly low. Respondents' attitudes towards sexual violence were found to be indicative of widespread victim-blaming⁶⁴. Two thirds, 67%, of respondents identified at least one cause of rape which they attributed to the actions of the victim rather than the perpetrator. 42.4% of respondents felt that a woman/ girl is more likely to be raped if she has a boyfriend, is sexually active before marriage or has many sexual partners, 33.85% said that 'dressing provocatively' or drinking alcohol or taking drugs puts women/ girls at risk of rape and 25.3% said that rape is sometimes caused by a women/ girl rejecting a man's advances in a 'rude' manner. Only a third, 34.5%, of respondents said that the last rape case in their community had been reported to a peace officer, and as few as 4% of respondents said that the victim had been taken to a health centre.

The majority of respondents who reported having been beaten by their husbands said that they had not reported the incident to anyone: 64.2% of respondents said this. 16.2% said that they had reported the incident to another member of their family, and 10.4% said that they had reported it to a community or religious leader. Only 2.9% said that they had reported it to the police. Female survivors interviewed in the qualitative research explained that in practice there are few options available to women who are subject to domestic violence. One woman spoke of her experiences trying to report her husband for continuously beating her: she explained that first she went to the police, and was told it was a 'community problem' as she should take her complaint to the community chief. When she went to the community chief, however, he told her it was a 'family matter' and sent her home to her husband.

Finally, community support for SRMH education and advice is currently very limited in all research sites. Only 36.6% of all respondents had ever received any information, education

⁶² As expected women who experienced bleeding during their last pregnancy were less likely to have a successful pregnancy than those who did not. (Chi-square, linear-by-linear association, p=.094.)

⁶³ IDI, female community member, Yamaya, 11th August 2015

⁶⁴ Victim blaming occurs when the victim of a crime or any wrongful act is held entirely or partially responsible for the harm that was caused to them.

or advice in relation to any aspect of SRMH from a family member or friend, suggesting that such issues are not openly discussed in communities. Even fewer, 19.2% had received any education about SRMH from a community leader or church group. Finally, as few as 3.8% of respondents reported that they had received any education or information about SRMH from a WDC, or women's group.

One of the goals of the HSRMH project is to involve women's groups and WDCs in community based health education. In general, women's groups in the research sites appear to have very limited capacity and are in need of considerable support.

9.2. Objective 2: Underlying Determinants of Health

Healthy Island Criteria

The survey included a limited number of questions in related to the PNG Department of Health's Healthy Island Criteria in order to establish a baseline against which the progress of the HSRMH project can be measured.⁶⁵ Healthy Island Criteria including in the baseline were: level of cash income, purifying drinking water, disposal of rubbish, healthy eating, use of cooking utensils, possession of a mosquito net, and vaccinations.

The majority of respondents in the sample were cash-poor: 83.6% less than 1,000 Kina per year. Participants in the qualitative research explained that lack of infrastructure and the poor conditions of roads leave communities with only very limited access to markets.⁶⁶

83.9%, of participants in the sample claimed that they 'never' boil dirty water before drinking it. Less than a third, 32.6%, of participants reported that they had eaten a fully balanced meal the day before, including starch, greens, and a source of protein (either meat protein or plant protein). 25.1%, of respondents reported that their household uses a dish rack for drying cooking utensils, and only 19.1% of respondents reported to dispose of household rubbish in a hole. Female respondents reported lower levels of cash income, and were less likely to have eaten a balanced meal on the day before the survey than male respondents.

About half, 47.4% of participants across the sample reported that they sleep under a mosquito net. There were wide variations in responses to this question according to research site. Whilst a little over a third of respondents in Umba (39.6%) and Yamaya (36.6%) reported to sleep under a net, as many as 82.2% of respondents in Siaka said that they sleep under a mosquito net. An Australian NGO, Rotarians Against Malaria, had started mosquito net distributions in Siaka two weeks prior to the survey, which likely explains this surprisingly high proportion of respondents who reported sleeping under a net in Siaka.

Based on the data collected in relation to each of the above indicators, households were assigned a total 'Healthy Island Score' on a scale from 0-91.⁶⁷ The Healthy Island Score was created by aggregating participants' responses in relation to each of the indicators (set out above) and assigning an equal weight to each. Siaka was found to be the site with the highest mean Healthy Island Score – achieving a mean score of 42; meaning that Siaka appears to be

⁶⁵ Due to lack of time to conduct the survey only a limited number of indicators were included

⁶⁶ KII 1, English teacher, Umba, 8th August 2015

⁶⁷ This score is based on the data collected during this survey, which did not include data in relation to the full range of 'healthy Island' indicators.

faring best in relation to PNG's Healthy Island Criteria. Umba's mean Healthy Island Score was very slightly lower than Siaka's at 41. Yamaya was found to have a significantly lower mean Healthy Island Score than the other two research sites: the mean Healthy Island Score for households in Yamaya was found to be 37. Households' Healthy Island Scores were found to be related to reported rates of both child and infant mortality; with households with higher rates of maternal and infant death having generally lower scores than those with lower rates of maternal and infant mortality.

SGBV and FSV

The research revealed a widespread norm that men have control over women's health and reproduction, and demonstrated the links that this has with negative SRMH outcomes.

Very few respondents, including only 21.5% of female respondents, and 14.3% of male respondents agreed that a woman should be able to access healthcare without her husband's permission, and as many as 74.4% of men, and 55.9% of women agreed that "a man can control his wife's movements." An even smaller proportion of respondents, 10.4% of females, and 2.2% of males, agreed that a woman can use family planning without her husband's permission. Meanwhile, less than half, 48.5%, of female respondents felt 'completely sure' that they would be able to ask their husbands to use family planning if they wanted to. An even lower proportion, 43.8%, felt completely sure that their husband would agree to the use of family planning if asked. 30.7% of female respondents who were not using family planning explained that the main reason that they were not using it was that their 'partner did not want them to'.

Participants emphasised that the subordinate position of women in society, and the practice of bride price, prevent women from being able to make an active choice to limit the number of children that they have. Women in IDIs explained how they would be beaten for failing to bear enough children, or being unable to conceive.

Rates of intimate partner violence are high. The majority of married women in the survey, 56%, reported being beaten by their husbands, and an even greater proportion of men, 64.8%, reported that they beat their wives. 84.2% of men and boys agreed that "*if a woman has an affair it is ok for her husband to hit her*". 43.2% of respondents also felt that a husband is justified in beating his wife if she 'refuses sex with him', 41.9% if she argues with him, and 40.9% if she 'goes out' without telling him, 28.9% if she neglects the children and 23.3% if she cooks badly. Only 3.5% of male respondents felt that it was not acceptable for a man to beat his wife in any of these circumstances, as did a significantly greater, but still small proportion, 7.4%, of female respondents. Only 16.5% of married female respondents felt completely sure they could refuse their husband sex when they didn't want it, and 19.7% of ever married men reported having previously forced their wife into having sex.

Noteably, women who reported that their husband beats them were significantly less likely to report using modern contraception, and were much less likely to say that they felt confident that they could ask to use family planning, or that their husband would agree to use it, than women who said that their husband does not beat them. Furthermore the more frequently women were beaten, the less confidence they reported to feel in relation to these issues. Women who reported that they were beaten by their husbands were also more likely to say that their last pregnancy had resulted in miscarriage, stillbirth or death of the baby.

The data revealed that rates of sexual violence are also high: 1 in 5 women, 20.2%, of women reported having been subject to 'forced sex', as did 8% of males. Meanwhile (and consistently) 21.6% of males reported having 'forced' someone into sex. Furthermore, 54.3% of women said that they had sex when 'they didn't want to'. 13.7% of females and 3.6% of males also reported to have had sex in exchange for goods or money.

Experiences of sexual violence were associated with reported symptoms of STIs. Women who reported having been forced into sex were significantly more likely to say that they had STI symptoms, as were those who reported exchanging sex for goods or money: 86.2% of women who reported exchanging sex for money had symptoms of STIs, as did 77.8% of women who had been forced into sex. Men who reported being forced into sex were also significantly more likely to have STI symptoms than those who had not.

Women's Empowerment

As well as collecting data on SRMH experiences, the survey was designed to gather baseline evidence on the 'Women's Empowerment' aspect of the SRMH project.

Respondents were asked about who makes decisions in their household in relation to their healthcare (broadly), as well as in relation to how money is spent. There were significant and pronounced gender disparities in answers to these questions across all research sites. Only 14.8% of female respondents said that they were the person who made decisions about money in the household, compared to 53.1% of male respondents, and 32.1% of married female respondents said that their partner was the one who made decisions about their healthcare compared to only 2.7% of male respondents.

Female respondents were asked whether or not they had taken a series of empowering actions in the last year, namely: opposing their husband's or father's decision, participating in a community meeting or social group, speaking up at a community meeting, or participating in a discussion about women's access to land. Less than half of all female respondents had taken any of these actions. The action that women were most likely to have reported taking was participating in a social group, and they were least likely to report taken part of a discussion about women's access to land (only 0.4% of the sample reported taking this action).

Female respondents were assigned a total WE score based on their responses to a number of questions in the survey which were designed to gather evidence on empowerment.⁶⁸ There were significant differences in female respondents WE scores depending on their level of education: women with higher levels of education had significantly higher WE scores (anova,

⁶⁸ See the survey tool for women annexed below. Questions included in the WE score were: question 3.7 "who made the decision to use this method [of family planning]", question 6.1 "who makes decisions about your health care", question 6.2 "who makes decisions about money", question 6.4 "how confident are you that you could tell your husband/ partner that you want to use family planning", question 6.5 "how confident are you that your husband would agree to family planning if you wanted to use it", question 6.6 "how confident are you that you could use family planning even if your husband did not want to", question 6.7 "how confident are you that you could refuse to have sex with your husband when you don't want to have sex but he does", "how confident are you that you could go to the health facility if your husband did not want you to go", question 6.12 "how often in the past year have you taken the following actions".

p<.05). Furthermore, women with some cash income tended to have significantly higher WE scores than those without (p<.05).

Furthermore, women with higher WE scores were significantly more likely to say that they talk to their partner about family planning and were significantly more likely to be using a modern form of family planning. They were also significantly more likely to say that they had taken an STI test than women with lower WE scores. Women with lower WE scores were also significantly more likely to say that their last pregnancy had resulted in miscarriage, still birth, or infant death. These findings provide strong evidence of the link between women's empowerment and other important aspects of SRMH.

These findings provide evidence of the link between women's empowerment broadly and more specific aspects of SRMH.

9.3. Objectives 3&4: Governance and Health Systems Strengthening

Health facility infrastructure is very limited in all three sites. All three sites have an aid post – the lowest and most basic level of health provision in PNG - although in Umba the aid post is operating out of the health worker's family home due to the derelict condition of official aid post's building structure. To access a higher level of health service, communities in Siaka walk at least 16 hours across heavily forested mountain tracks; in Umba, the least remote villages are at least a day's walk from the nearest higher level facility, and in Yamaya it is at least 2-3 days walk.

Siaka is the project location with the most developed health facilities, the health facility in Siaka has 3 members of staff, compared to Umba and Siaka which only have 1, and Siaka is the only site with a day clinic with dedicated maternity ward. Siaka is also the only site in which has running water and wash facilities. This supports the finding that Siaka is the research location where the community are faring best in terms of the PNG Healthy Island Criteria.

The aid posts at all three sites are providing some basic family planning services, and other basic medications and drugs, but they are unable to respond to all but the most minor of health needs; and services for (emergency) obstetric care, and to address maternal and neonatal morbidity and mortality are severely lacking. Overall evidence from the baseline highlights the urgent need for interventions to strengthen the capacity and function of the aid posts in the three project sites.

9.4. Recommendations

The findings highlight the urgent need to start implementation of the Highlands SRMH Project in the 3 project sites.

Objective 1: Increased community support for SRMH

SRMH education

The research demonstrated that knowledge and education about SRMH-related issues is very limited, and these issues are not openly discussed in families and communities, especially prior to marriage.

- Scale up education campaigns on SRMH in project sites, through workshops, production of educational materials etc.
- Consider promoting SRMH education through a peer education, mentor scheme, or role model approach to promoting information in relation to SRMH.
- SRMH education should avoid focusing only on the medical aspects of SRMH (e.g. STIs, maternal and infant morbidity, fertility etc.) and should seek to address harmful social norms and attitudes towards, gender, sexuality and reproduction more broadly.
- Consider building links and partnerships with local schools, to promote improved SRMH education through formal education channels.

Women's groups

The research highlighted the limited capacity of women's groups, and their need for support. Findings from the research also clearly evidenced the link between women's empowerment (WE) broadly and a range of negative SRMH outcomes.

- Support the development of women's groups, through capacity building, guidance and resourcing. Women's groups provide a platform through which women can mobilise and support each other in relation to a range of SRMH and WE issues, including family planning, pregnancy care, protection from family and sexual violence, women's participation, access to land and so forth.

Male focused educational interventions

- Work with men specifically to promote education and information on SRMH, supporting women through pregnancy (diet, workload, medical needs etc.), child birth, etc., and how men can positively contribute to ensuring a healthy birth, mother and child.
- Work with men to challenge harmful 'masculinities', such as the idea that being near a woman during child birth causes a man to become 'weak', or that a man should have many children to demonstrate virility and so forth.
- Work with men on initiatives to challenge perpetration of FSV and SGBV, especially in the context of marriage.

Objective 2: Underlying determinants of health

Capacity building of VHV and MHV

- Scale up training and intense capacity building with Village Health Volunteers and Maternal Health Volunteers under the CARE protocol and curriculum to share their knowledge, skills and support with the community in relation to a range of SRMH issues including antenatal care screening for high risk pregnancies, child birth and so on.

Addressing FSV

Evidence from the research indicates high levels of FSV and SGBV, and the associations between experiences of violence and poor SRMH outcomes.

- Engage women support groups to empower individuals to speak out, seek justice and acknowledge issues.
- Consider implementing a referral and response system that employs clear lines of communication and critically provides clear expectations and requirements of responsibilities for each stakeholder in the community (eg. Police, community chief, victim etc).

Education of women and girls

The research highlighted the links between WE and the education level of women and girl, and in turn the links between WE and SRMH.

- Support initiatives to improve access to education for women and girls; this could include arranging groups to walk to school together to address family concerns about girls' safety on the way to school.

Access to cash income

The research also highlighted the links between women's lack of access to cash income and their ability to make decisions, and exercise agency over their SRH. The research also highlight the inaccessibility of local markets.

- Consider integrated SRMH initiatives with other gender-focused programming in relation to economic empowerment, e.g. social cash transfer schemes etc.

Objectives 3&4: Governance and health systems strengthening

Outside access to communities is so limited that improving the capacity of aid posts is recommended in project sites. This would be the most direct and beneficial approach to improving health service delivery.

- Continue to build partnerships to strengthen advocacy for resources to be directed to aid posts for improving building structures, communication devices, transport and medical supplies.
- Consider particularly focusing on supporting the re-opening of the official aid post facility in Uмба, which only appears to be in need of minor repairs.
- Consider schemes to promote easier transfer of drugs and equipment from the nearest hospitals to the aid posts.
- Continued training and capacity building of health post staff to improve motivation and strengthen capacity.

- Consider advocating for/ training female individuals to provide support/ staffing at the aid posts, to encourage more women to feel comfortable accessing SRMH services at the facilities.

ANNEX 1. Evaluation Matrix

Objective	Research questions	Indicators	Data sources and collection methods
Goal: The health and wellbeing of women, their families and communities in rural, disadvantaged areas of Papua New Guinea will be meaningfully and sustainably improved			
Purpose: <i>Improved sexual, reproductive, and maternal health related behaviours in target areas</i>			
Objective 1: Healthy Women: increased community support for SRMH	<p>-How much support are women currently receiving in relation to SRMH-related behaviours in practice? From their partners and from the community?</p> <p>-To what extent are harmful attitudes and norms that have been demonstrated to have a negative impact on SRMH present in the research sites?</p> <p>-To what extent are attitudes and norms supportive of SRMH present in the research sites?</p>	<p>-Scores in relation to support for traditional gender roles (male dominance) (WE-MEASR) (GEM)</p> <p>-Belief in women's health rights (WE-MEASR)</p> <p>-Scores for sharing of workloads between males and females in the household (attitudes and practices) (WE-MEASR)</p> <p>-Scores for inter-spousal communication (WE-MEASR)</p> <p>-Scores for female mobility (WE-MEASR)</p> <p>-% of women who report discussing family planning with their husbands. (WE-MEASR)</p> <p>-Person in household who makes decisions about health care (generally) and family planning (specifically)</p> <p>-% of women using contraception without the knowledge of their husband</p> <p>-% of women who report access to support and information for questions or problems relating to SRMH, and the sources of this support</p> <p>-% of women who have received SRE, and the source of this information</p> <p>-Scores for community support in times of crises: when pregnant and bleeding (WE-MEASR)</p>	<p>-Structured survey (men and women's responses)</p> <p>-KIIs with community leaders</p> <p>-KIIs with VHV's</p> <p>-KIIs with staff a local health facilities providing services in relation to SRMH</p> <p>-IDIs with women who have been subject to SGBV</p>

		<ul style="list-style-type: none"> -Scores for questions concerning norms about gender, fertility, contraceptive use and childcare (e.g. ‘having many children is important for a man to prove his virility; it’s a woman’s responsibility to avoid getting pregnant etc.) (GEM) -% of (ever pregnant) women who attended ANC visits whose partners accompanied them, and the frequency that partners accompany them -% of women who give birth with support of a present person, the person present, and the location of birth -% of polygamous households and attitudes towards polygamy -Scores related to treatment of pregnant women (e.g. # of women who report reduced workload when pregnant) -Scores in relation to rejection of family sexual violence (WE-MEASR) (GEM) -Belief in women’s right to refuse sex (WE-MEASR) -Scores for community support in times of Crisis: If beaten by husband (WE-MEASR) -Level of community knowledge and awareness of STIs, prevention, transmission and treatment, including knowledge about HIV -Score for community attitudes towards people with STIs and living with HIV and AIDS -% of people who think that couples should abstain from sex, or use a condom, when experiencing symptoms indicative of having an STI, or that a woman can refuse to have sex with their partner if they have an STI (GEM) 	
	<p>-To what extent are WDCs and women’s groups in research sites actively participating in SRMH-related activities?</p>	<ul style="list-style-type: none"> -% of women’s groups and WDCs in research sites working on SRMH related activities (including issues related to FD/MD, pregnancy loss, stillbirth and neonatal, and infant mortality, and SGBV) -% of women that reported being supported by a women’s groups or WDC on an issue related to pregnancy, childbirth, childcare or SGBV 	<ul style="list-style-type: none"> -Structured survey (men and women’s responses) -KIIs with representatives

			from WDCs and women's groups
<p>Objective 2: Underlying Determinants of Health: Women, girls, and their communities have the knowledge and tools they need to create healthy living environments that are free from violence</p>	<p>-What is the status of women and girls' current access to SRMH?</p> <p>-To what extent are wards currently fulfilling the Healthy Island Criteria</p>	<p>-% of women attending antenatal visits, and the frequency of these visits</p> <p>-% of women giving birth in a health centre</p> <p>-% of women giving birth with assistance from a trained health worker</p> <p>-% of women accessing postnatal care and vaccinations</p> <p>-% of participants practicing family planning, and the method used (men and women)</p> <p>-% of families living in a house that is clean inside and out</p> <p>-% of families that have access to clean drinking water</p> <p>-% of households that boil dirty water before drinking it</p> <p>-Most common methods of rubbish disposal</p> <p>-%of households disposing rubbish in a hole</p> <p>-% of households eating a daily balanced meal</p> <p>-% of women and children fully immunised</p> <p>-% of families using a dish rack to dry eating & cooking utensils</p> <p>-% of families having enough clothing and bedding to keep them warm, including mosquito net and pillow and person in household who uses net</p> <p>-% of families having a source of cash income, such as sale of vegetables, coffee or chicken</p> <p>-% of families with peace and harmony in the family</p> <p>-% of households that have mosquito nets and the members in the household who use the net</p>	<p>-Structured survey (men and women's responses)</p> <p>-KIIs with VHV's</p> <p>-KIIs with staff a local health facilities providing services in relation to SRMH</p> <p>-IDIs with women who have been subject to SGBV</p>

	-To what extent do communities in the research sites have SRMH knowledge and competence?	<ul style="list-style-type: none"> -% of participants who are able to name one or more modern types of family planning -% of participants who are able to identify at least one or more types of modern contraception available to them/ that they have access to -Participants reported reasons for use/ lack of use of family planning methods, and their frequencies -Level of community knowledge, understanding and awareness of STIs, prevention, transmission, symptoms and treatment, including knowledge about HIV -% of participants able to correctly identify a range of important factors in maternal health, including nutrition, rest, reduction in physical activity, etc. 	
	<ul style="list-style-type: none"> -To what extent are women and girls able to exercise autonomy over issues related to their sexual and reproductive health? -To what extent do women and girls live in an environment free from sexual, physical and emotional violence, and the threat of such violence? 	<ul style="list-style-type: none"> -Scores for belief in women’s health rights subscale (WE-MEASR) -Self-efficacy to go to the health facility (WE-MEASR) -Self-efficacy to discuss and use family planning (WE-MEASR) -Belief in women’s right to refuse sex (WE-MEASR) -Self-efficacy to refuse sex (WE-MEASR) -Self-efficacy to ask husband to help with work load (WE-MEASR) -Collective-efficacy of women and girls (WE-MEASR) -Scores in relation to female mobility (WE-MEASR selected questions) -% of women who have been victims of SGBV -% of men who have been perpetrators of SGBV -Scores in relation to rejection of family sexual violence (WE-MEASR) (GEM) 	
Purpose 2: Target systems and structures are increasingly supporting the availability of appropriate, acceptable, quality health services.			
Objective 3: Governance & Enabling Environments: Increased community-level and structural	-To what extent do community governance structures understand and act upon their health-related roles and responsibilities	-# and % of District/ LLG leaders and Village Court stakeholders who are aware of and understand the content of topics contained within CARE’s Community Engagement Manual (CEM), which covers issues concerning family and sexual violence and the use of family planning	<ul style="list-style-type: none"> -KIIs with District/ LLG leaders -KIIs with Village Court stakeholders

support for women's sexual, reproductive, and maternal health		-# and % of District/ LLG leaders and Village Court stakeholders who have community development plans which include inputs from health stakeholders with regard to SRMH issues.	-KIIs with health stakeholders -IDIs with women who have been subject to SGBV
	-To what extent are Village Court stakeholders aware of national family and sexual violence policies and their obligations under these policies	-The extent to which Village Court stakeholders in targeted communities have knowledge and understanding of the national FSV policy -The extent to which Village Court stakeholders have taken concrete actions in accordance with these policies, and the nature of the action taken	
Objective 4: Health Systems Strengthening: Health systems are supported to provide high-quality services – particularly sexual, reproductive, and maternal health services – that are available, accessible, and acceptable to local communities *To be completed by HSS team	What is the status of the health facility relative to the NDoH minimum standards?	As per the HFNA: - Size of health facility catchment population (approximate) - Health facility staff information (section 2) - MCH services available at the facility including services provided in the last 6 months (section 3) - STIs & HIV/AIDS (section 4) - VHV Support (section 5) - FSV Services (section 6) - Clinical supplies & equipment (section 7) - Infrastructure (section 8)	Health Facility Needs Assessment *To be completed by HSS team
	What are community perceptions of the quality of service provided by the health facility?	-% of women reporting antenatal visits at the clinic -% of women reporting supervised deliveries at the clinic -% of women reporting post-natal visits at the clinic -% of men and women who would seek STI treatment at the clinic -% of men and women who did not seek STI testing because: they believe services are not available, getting tested is shameful, or the facility is too far away -% of men and women who report that the health worker does not treat STIs -% of men and women who report going to the health facility for STI treatment	-Structured survey (men and women's responses) -KIIs with representatives from WDCs and women's groups -Health Facility Needs Assessment

Baseline Survey: Highlands Sexual, Reproductive and Maternal Health Project

		<p>-% of men and women who did not go to the health facility for STI treatment because: the facility is too far away, they did not know where to go, they were too embarrassed, the facility was too expensive, or there was no treatment available at the facility</p> <p>-% of women who would or have gone to the health facility for FSV treatment</p> <p>-% of women who report respectful treatment from the health worker</p>	
	<p>What type and quantity of SRMH-related services are provided at the health facility?</p>	<p>As per the HFNA: sections 2, 3, 4, and 6</p>	<p>Health Facility Needs Assessment</p>