Barriers affecting women’s decision to seek care during pregnancy, childbirth and postnatal period in rural Kenya

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ABSTRACT

**Background:** Antenatal care (ANC), facility delivery and postnatal care (PNC), are proven to reduce maternal and child mortality and morbidity in high burden settings. However, few rural pregnant women use these services sufficiently and it is essential to identify the barriers.

**Aim:** The aim of this study was to examine barriers, with a focus on water, sanitation and hygiene (WASH), affecting women’s decision to seek care during pregnancy, childbirth and postnatal period in rural Kenya, and to examine if the Afya intervention helped overcome barriers.

**Methods:** A qualitative study was conducted in the Siaya County, Kenya. 25 mothers were selected by using purposive sampling for in-depth interviews and focus group discussions. Assessment of WASH facilities was conducted at 5 healthcare facilities. Data were analysed by content analysis method. The “three delay model” informed the analytic process and discussion.

**Results:** Women delayed seeking or did not attend ANC and PNC or gave birth at home, due to lack of knowledge of benefits of maternal health services and on complications; traditional and religious beliefs; embarrassed over pregnancy; busy with other life activities or of fear of HIV status and hospitals. Gender norms, distance and transport costs were the contributing factor for delaying in reaching the hospital. Unprofessional and inadequate number of staff, lack of equipment and supplies, and the water, sanitation and hygiene quality were factors delaying receiving quality care. The assessment showed on inadequate WASH facilities.

**Conclusion:** Use of antenatal care, delivery and postnatal care in rural western Kenya is influenced by several barriers. The findings suggest a need to increase the knowledge about ANC and PNC, and to lower barriers preventing women from reaching the healthcare facility. There is also a need to improve the WASH facilities and the healthcare personnel’s treatment.

**Keywords:** Barriers, Water, sanitation & hygiene (WASH), Health seeking behaviour, Antenatal care, Postnatal care.
SAMMANFATTNING

Bakgrund: Anentalvård, förlossning på sjukvårdsinrättningar och postnatalvård har visat sig minska mödra- och barnadödlighet samt sjukdomsfallen i områden med hög belastning. Dock använder få gravida kvinnor dessa tjänster i hög utsträckning och det är viktigt att identifiera barriärerna.

Syfte: Syftet med studien var att undersöka barriärer, med ett fokus på vatten, sanitet och hygien (WASH), som påverkar kvinnors beslut att söka vård under graviditet, förlossning och efter födseln i Kenyas landsbygd, och att undersöka om Afya interventionen hjälpte med att överkomma barriärer.

Metod: En kvalitativ studie genomfördes i Siaya County, Kenya. 25 mödrar valdes genom att använda ändamålsenligt urval för djupintervjuer och fokusgruppdiskussioner. Bedömning av WASH faciliteter genomfördes vid 5 hälsovårdsnäringar. Data analyserades med metoden innehållsanalys. ”Three delay model” användes vid analyseringsprocessen och diskussionen.

Resultat: Kvinnor sköt upp att söka eller deltog inte i anentalvården och postnatalvården eller födde hemma på grund av bristande kunskap om fördelarna med moderhälsovård och tecken för komplikationer; traditionell tro och religion; skämde sig över graviditet; upptagen med andra livsaktiviteter eller av rädsla för hiv-status och sjukhus. Könnsnormer samt distans och transportkostnader var den bidragande faktorn för fördröjning att nå sjukhuset. Oprofessionellt och otillräckligt antal anställda, brist på utrustning och material samt vatten, sanitet och hygienkvaliteten var faktorer som försenade mottagandet av kvalitetsvård. Bedömningen visade på undermålliga WASH faciliteter.


Nyckelord: Barriärer, Vatten, sanitet & hygien (WASH), Hälsosökande beteende, Anentalvård, Postnatalvård.
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ACRONYMS AND ABBREVIATIONS

ANC  Antenatal care
FGDs  Focus Group Discussions
HDI  Human Development Index
HIV  Human Immunodeficiency Viruses
IDI  In-depth Interviews
LMCI  Low- and middle-income countries
MNCH  Maternal, new-born and child health
PNC  Postnatal care
RMNCH  Reproductive, maternal, new-born and child health
SDGs  Sustainable Development Goals
SEI  Stockholm Environmental Institute
SWAP  Safe Water and AIDS Project
UNICEF  United Nations International Children's Emergency Fund
WASH  Water, sanitation and hygiene
WHO  World Health Organisation
**BACKGROUND**

Maternal and child mortality remains relatively high in many low- and middle income countries. Globally, roughly 303,000 women died from pregnancy or childbirth related complications in 2015. Approximately 99% of all maternal deaths occurred in low-resource settings (World Health Organization [WHO], 2015). In 2017, 5.4 million children under the age of five died, mostly from preventable causes (UNICEF, 2018).

**Continuum of care**

In 2005, the World Health Organization published a World Health Report that emphasizes the importance of a health system that provides continuity of care starting from before pregnancy and continuing through birth and into the postnatal period (WHO, 2005). The “Continuum of Care” for reproductive, maternal, new-born and child health (RMNCH) includes integrated service delivery for mothers and children from pre-pregnancy to delivery, the immediate postnatal period and childhood and is crucial for improved maternal and child health (WHO, 2011).

The World Health Report from 2005 and more recent reports recommend continued antenatal care (ANC) to improve the care of pregnant women (Jacobs, Michelo & Moshabela, 2018; WHO, 2005; WHO, 2016). ANC is defined by the WHO (2016) as the care provided by skilled health care professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy. ANC visits can reduce maternal mortality through detection and treatment of pregnancy-related complications such as haemorrhage and hypertensions, and through detection and treatment of pre-existing conditions such as malnutrition, malaria, anaemia and HIV/AIDS that become more severe during pregnancy. During ANC visits health care professionals can promote childbirth at a clinic with skilled attendance (Lincetto, Mothebesoane-Anoh, Gomez & Munjanja, 2006; WHO, 2005; WHO, 2016). However, only 44% of women in sub-Saharan Africa attended the minimum of four recommended ANC visits (Lincetto et al., 2006). In 2016 WHO developed a new up-to-date ANC Model. The new recommendations for pregnant women are a minimum of eight ANC appointments (WHO, 2016).

Kenya abolished delivery fees in all public health facilities in 2013, with an aim of promoting facility delivery and reducing maternal mortality. However, in 2014 only 61.2% of all deliveries in Kenya were conducted in healthcare facilities (Gitobu, Gichangi & Mwanda,
The highest risk of death for both mothers and new-borns occurs during labour and the first few hours after birth. Delivering at health facilities with skilled care attendance would save the lives of many mothers and their new-borns (Pearson, Larsson, Fauveau & Standely, 2006; UNICEF, 2018, WHO, 2005).

Postnatal care is equally essential as antenatal and delivery care. WHO defines the postnatal period as the first six weeks after birth. Postnatal care includes follow-up treatment, routine check and support for all mothers and children such as family planning, hygiene, nutrition, breastfeeding and child immunization. In many countries in sub-Saharan Africa the postnatal care programmes are weak and only offer a first check-up visit after six weeks after giving birth. Half of all postnatal maternal deaths occur during the first week after the baby is born (Warren, Daly, Toure & Mongi, 2006). In 2017, neonatal death accounted for 47 % of all under-five deaths. Sub-Saharan Africa has the highest rate of deaths among children under-five, with half of the deaths occurring in the region (UNICEF, 2018).

Even if there is proof that continuity of care starting from before pregnancy and continuing through birth and into the postnatal period is essential for a safe pregnancy and a healthy start in life, few women rural areas in low- and middle-income countries use these services sufficiently (Gitobu et al., 2018; Lincetto et al., 2006). Several barriers to seeking healthcare have been cited in studies from resource-poor settings (Anastasi et al., 2015; Jacobs et al., 2018; Qureshi et al., 2016; Vidler et al, 2016).

**Barriers to health seeking**

*Water, sanitation & hygiene (WASH)*

Safe water, sanitation and hygiene (WASH) are a prerequisite to health. Poor WASH conditions impact people’s health through illnesses such as diarrhoea, trachoma, and schistosomiasis, and put a major health burden on society. Inadequate WASH conditions account for approximately 842,000 diarrhoeal deaths worldwide every year. Healthcare facilities in low- and middle-income countries with inadequate WASH are high-risk settings for spread of diseases and infections, and a danger for patients and staff. Pregnant women and children under five years are vulnerable populations with higher health risks. In 2015, 46 % of all healthcare facilities in Kenya had access to water (Bouzid, Cumming & Hunter, 2018; WHO/UNICEF, 2015).
A study in 2014 found that the lack of access to WASH in healthcare facilities may delay women from seeking care and/or discourage women from giving birth in these facilities (Velleman et al., 2014). A systematic review of the impact of water, sanitation and hygiene in healthcare facilities on care seeking behaviour and patient satisfaction in low-income and middle-income countries showed that no research focused on WASH as a barrier to health care seeking. In maternal health services poor WASH facilities were one of the reasons for women to decide giving birth at home. The review suggested that more evidence-based research needs to be conducted to increase the knowledge on how poor WASH affects patients’ care seeking behaviour (Bouzid et al., 2018).

**Distance and transport**

Long distance and lack of transport to the healthcare facility have been cited as one of the most common barriers for not seeking healthcare for women living in rural areas in developing countries (Anastasi et al., 2015; Jacobs et al., 2018; Kea, Tulloch, Datiko, Theobald & Kok, 2018; Munguambe et al., 2016; Vidler et al., 2016). In some communities health facilities serve a large geographical area, meaning that some women need to travel far on difficult terrain to reach the health facility. In the absence of transport and availability of ambulances, pregnant women have to walk for hours or days to reach the health facility, and the risk of giving birth on the road increases greatly (Kea et al., 2018; Munguambe et al., 2016).

**Financial costs**

Many African countries have eliminated or reduced the fees for antenatal care, delivery and postnatal care in public health facilities as a way to prevent maternal and neonatal deaths (Gitobu, Gichangi & Mwanda, 2018). However, in those contexts where it’s not free, cost of care inhibits women to access healthcare facilities (Qureshi et al., 2016; Vidler et al., 2016). A study in Ethiopia, where maternal health services are free, some heath facilities required payment for drugs, bed and operation during delivery (Kea et al., 2018). Transport to the health facility is an indirect financial cost and a strong barrier for not seeking care. In areas where the options of public transport are not available and the family does not have their own transport, or the women cannot walk the distance, women need to pay for private transport. Due to lack of financial mean, treatment is often delayed (Munguambe et al., 2016; Qureshi et al., 2016; Vidler et al., 2016). Another barrier related to the indirect cost of care seeking includes the need to purchase food at the facility, medication and supplies such as soap, baby cloths and blankets (Anastasi et al., 2015; Munguambe et al., 2016). In a study in
Mozambique most women did not have their own source of income and were therefore financially dependent on their partners. Treatment was postponed or not sought if their partners could not provide financing (Munguambe et al., 2016).

*Cultural and gender factors*

Cultural and gender aspects have been reported as a barrier for health seeking for women. A study done in Ethiopia demonstrated that cultural practices, such as concealing the pregnancy in the early stages in case of a miscarriage prevented some women from attending ANC visits (Kea et al., 2018). Studies carried out in Ethiopia (Kea et al., 2018), Uganda (Anastasi et al., 2015), Pakistan (Nisar, Aurangezeb, Dibley & Alam, 2016) and Zambia (Sialubanje, Massar, Davidson & Ruiter, 2015) show that it is customary to delivery at home and hospital delivery is considered suitable for the weak, sick or those with complications. However, other studies have identified that due to increased knowledge women deliver at the hospital with skilled birth attendance (Munguambe et al., 2016; Vidler et al., 2016).

Gender norms for decision-making power are also a barrier for women seeking maternal health care. In many cases the husband or the mother-in-law holds the decision-making power. If the husband or the mother-in-law resist facility based care, these preferences influence women´s care seeking even if it is against their own preferences (Anastasi et al., 2015; Kea et al., 2018; Munguambe et al., 2016; Qureshi et al., 2016; Vidler et al., 2016; ). In a study in Pakistan a barrier that hinders women from accessing the healthcare services was found to be the need of a male chaperone. This delayed care seeking if the husband was not at home to take the woman to the health facility (Qureshi et al., 2016).

*Concerns about quality of care*

Low quality of care has been reported as a hinder to seek care from studies conducted in several developing countries. Women delay or withdraw their appointments due to low quality of the maternal service provided, which is often provided by inadequately trained personnel (Anastasi et al., 2015; Jacobs et al., 2018; Kea et al., 2018; Siabujane et al., 2015). In studies from India (Vidler et al., 2016) and Ethiopia (Kea et al., 2018), poor maintenance of facilities was brought up as a barrier. This included short of necessary medical materials, poor power supply, inadequate infrastructure and low level of cleanliness and it affected women´s willingness to seek care at these facilities.

Several studies have identified mistreatment of women at the hands of health staff as a barrier for seeking continued care. Women described experiences of being left alone during delivery
and being ignored by personnel due too few health care professionals working and lack of respect towards their patients (Anastasi et al., 2015; Kea et al., 2018).

**Lack of knowledge**

Lack of knowledge of the benefits of maternal health services is cited as a reason for women not seeking regular maternal care. Studies carried out in Ethiopia (Kea et al., 2018) and Pakistan (Qureshi et al., 2016) found that many women are neither aware of the benefits of regular maternal services nor the signs of pregnancy and childbirth complications. The perception is that women do not use the health services if they feel well during the pregnancy and only in the event of complications. In a study in Zambia older women believed that their risk for pregnancy and labour complications was low, because of their earlier experience with childbirth (Siabujane et al., 2015). A study conducted in Pakistan concluded that some women do not attend a healthcare facility because they are afraid that they will be diagnosed to have complications (Nisar et al., 2016). Low knowledge of pregnancy complications and symptoms by husbands and/or other decision-makers also delay care seeking due to the need for approval from them before the women seek care (Munguambe et al., 2016).

**United Nation’s Sustainable Development Goals**

Several goals in the United Nation’s Sustainable Development Goals (SDG, 2018) have relevance for this study which is mainly linked to Goal 3: Good health and well-being and Goal 6: Clean water and sanitation. Goal 3 targets for instance maternal and child mortality, which has been shown to be highly interlinked to inadequate WASH. Goal 6 targets achievement of universal and equitable access to safe drinking of water, sanitation and hygiene for all (this includes health care facilities). This research could also be linked to Goal 5: Gender equality. Gender inequality is a root cause for poor maternal and child health. Research has shown that inadequate WASH affects women and girls more than men. For instance women and girls collect the majority of water for the household. It could also be linked to Goal 1: End poverty. Poverty is highly interlinked with maternal and child mortality and target 1.4.1: Proportion of the population living in households with access to basic service. Basic service here meaning water, sanitation and hygiene (SDG, 2018; WHO/UNICEF, 2017).

**Collaboration**

The study is conducted in collaboration with Stockholm Environmental Institute (SEI) and Safe Water and AIDS Project (SWAP). SEI and SWAP conduct an ongoing intervention,
called Afya, in Kenya and one output is barriers for women seeking healthcare. The aim of the Afya intervention is to investigate whether conditional cash transfers (CCTs) are effective in retaining women in the Continuum of Care for maternal, new-born and child health (MNCH). The secondary objectives of the study are to establish whether regular care seeking within the MNCH continuum, incentivized by the CCTs, leads to improved maternal and child health outcomes; and can be cost-effective. By studying which barriers, with a focus on WASH, affect women’s decisions to seek care during pregnancy, childbirth and postnatal period in rural Kenya, can this study contribute to the ongoing research by SEI and SWAP.

**Rationale of research**

Health reports have identified the importance of a health system that provides continuity of care starting from before pregnancy and continuing through birth and into the postnatal period to improve maternal and child health (Jacobs, et al., 2018; WHO, 2005; WHO, 2016). However, in 2006 only 44 % of women in sub-Saharan Africa attended the minimum of four recommended ANC (Lincetto et al., 2006). In Kenya are only 61.2 % of all deliveries conducted in healthcare facilities (Gitobu et al., 2018). A study conducted by Vellman et al. (2014) discussed that lack of WASH in healthcare facilities may delay and/or discourage women from seeking care and deliver at the health facilities. However there is a need for more evidence-based research to increase the knowledge on how inadequate WASH affects people’s care seeking behaviour (Bouzid et al., 2018). Studies have demonstrated that patient satisfaction and care seeking behaviour have been extensively used to monitor and improve the quality of care (Bouzid et al., 2018; WHO/UNICEF, 2015). By examining barriers affecting women’s decision to seek care during pregnancy, childbirth and postnatal period with focus on the water, sanitation and hygiene situation, will the knowledge in this area increase. The results could be used to improve the quality of care, and reduce maternal and child mortality.

**Study aim**

The aim of this study was to examine barriers affecting women’s decision to seek care during pregnancy, childbirth and postnatal period in rural Kenya. The first objective was to examine barriers that have affected women in their decision to seek care during pregnancy, childbirth and postnatal period with focus on water, sanitation and hygiene (WASH). The second objective was to determine which barriers the Afya intervention helped to overcome.
METHODS

Context

Kenya

Kenya is a lower middle-income country in Africa which has had strong economic growth, political advances and social development the last decade. However, 1 out of 3 persons still live below the international poverty line (World Bank Group, 2018). Kenya is ranked as number 142 out of 189 countries in the Human Development Index (HDI), with a life expectancy on 67.3 years (HDI, 2018). Kenya’s maternal mortality rate was 510 per 100 000 live births in 2015 (World Bank Group, 2015). Mortality among children under five years have declined rapidly from 114.6 deaths per 1000 live births in 2003 to 49.2 in 2016 (HDI, 2018; World Bank Group, 2018). The access to improved sanitation in Kenya is relatively high. However, only 71.8 percent of the households have access to improved water sources (World Bank Group, 2018).

Healthcare facilities in Kenya are structured in a hierarchical manner and consist of six levels. Level 1 facilities are found at the community level, run by community health voluntaries. They do not offer any medical treatment, instead they refer cases to upper facility levels and encourage healthy behaviours. Level 2 and 3 are primary care services. Level 2 facilities, called Dispensaries, are the interface between the community and the healthcare system. They offer basic services in antenatal care, case management, promotion and curative care. Level 3 facilities, Health Centres, offer inpatient care, curative and case management service for chronic and infectious illnesses. Level 4 and 5 are County Referral Hospitals. Level 4 facilities, Primary referral facilities, offer primary healthcare services and inpatient diagnostic, medical and surgical care. Level 5 facilities are Secondary Referral Hospitals where they offer a broad spectrum of specialized services. The highest level, level 6, is a National Referral Hospital located in in Nairobi. It provides specialized health care services, research and training (Kenya Ministry of Health, 2014).

Siaya County

The study was conducted in Siaya County, western Kenya, located next to Lake Victoria. In 2015, 984.069 people lived in the County and 171.228 was under the age of five (Kenya Ministry of Health, 2015). The County is made up of six sub-counties, which are mostly rural (County Government of Siaya, 2014). The county had a lower HDI than the national average and had the highest rate of malaria, tuberculosis and HIV infections in Kenya (UNDP, 2010;
Kenya National Bureau of Statistics, 2013). Maternal and infant mortality was also higher than the national average in 2013, with an infant mortality rate at 111 per 1000 live births compared with 49 per 1000 live births in Kenya, and maternal mortality at 695 per 100 000 live births against 488 per 100 000 in the country (Mwangi & Kipruto, 2013). However, on a few indicators Siaya County performed better compared with the country. 69.6 % of mothers in the County delivered at a health facility against 61.2 % in Kenya. Immunizations rates for children less than one year old was 72.5 % in Siaya County compared with 67.5 % in the country (Kenya Ministry of Health, 2015).

In 2015, Siaya County had 174 health facilities where 123 were categorized as public, 7 as non-governmental, 16 as faith-based and 28 as private. There is low coverage of healthcare, with two physicians per 100 000 people, and with 33 nurses per 100 000 people (Kenya Ministry of Health, 2015). Each sub-county in Siaya County has one level 5 Hospital and one level 4 Facility. The rest of the health facilities in each Sub-County are Level 1, 2 and 3 (Kenya Ministry of Health, 2019).

**Study design**

The study design was qualitative method. Qualitative method is often used to describe people’s experience of a situation or a phenomenon. It fits well when the researcher seeks increased understanding, interpretation or wants to describe people's experiences or perception of a phenomenon (Bowling, 2014; Henricson & Billhult, 2017).

**Sample selection**

Purposeful sampling was used for the selection of participants. Purposeful sampling enables the identification and selection of information-rich cases (Palinkas, Horwitz, Green, Wisdom, Duan, & Hoagwood, 2015).

The ongoing Afya intervention conducted by SEI and SWAP consists of 48 healthcare facilities in Siaya County, 24 in the intervention group and 24 in the control arm. The healthcare facilities are level 2 or 3. Criteria for the enrolment of participants in the ongoing Afya intervention were:

i. Women attending their first ANC visit

ii. Long-term resident of the catchment area served by the health facility, with long-term residence defined as living in the area for at least 6 months
iii. Women with access to a mobile phone that belongs either to themselves or to a member of their household or person whom they trust

Criteria for participants included in this study were:

i. Women who are enrolled in the ongoing Afya intervention and part of the intervention group

ii. Women who has delivered less than 24 months ago

iii. Women who previously has children

Twenty-five participants were recruited for the study: 1) ten for in-depth interviews (IDIs), 2) three focus group discussions (FGDs) with five participants in each group. From the sample of eligible women, the participants were purposefully selected to represent five randomly selected healthcare facilities in the Afya intervention project. The assessment checklist to examine the quality of the water, sanitation and hygiene facilities was conducted at the same five healthcare facilities as the IDIs and FGDs were taken place in.

**Theory of change**

The Theory of Change, (Appendix 1) used in the ongoing Afya intervention conducted by Stockholm Environmental Institute and Safe Water and AIDS Project, was used to develop the interview guide. SEI and SWAP developed this Theory of Change through workshops and earlier result from health intervention and research on barriers affecting attendance during pregnancy, delivery and postnatal period. Theory of Change is used to describe how interventions in the study link to the long-term outcomes (Breuer, Lee, Silva & Lund, 2016).

The Afya intervention was based on the theory that cash transfers overcome direct and indirect financial and behavioural barriers to healthcare attendance during pregnancy, delivery and postnatal period. The expectation was that the CCTs would lead to more regular use of services compared to current practice. The theory of change detected six overreaching barriers for women seeking healthcare: Direct financial costs e.g. taxi fare; indirect financial and opportunity costs; lack of awareness of benefits of the visits; risk of disclosure of the pregnancy; cultural beliefs; and concerns about quality of care. The barriers from the theory of change were used to frame the interview guide that was used to collect qualitative data on barriers affecting women to seek healthcare. Result from previous research from developing countries, presented under the background chapter, on barriers affecting women’s decision to
seek care during pregnancy, childbirth and postnatal period was also used when developing the interview guide.

**Conceptual framework**

The conceptual framework (Figure 1) used in this study was the three delays model. The conceptual framework was used to evaluate the circumstance surrounding barriers for women seeking care during pregnancy, delivery and postnatal period. A framework can be used to frame the research and make the findings meaningful and generalizable (Green, 2014). The three delay model will be used in the data analysis to code the data collection and in the result discussion.

![The Three Delay Model](image)

**Figure 1. The Three Delay Model**
The three delays model developed by Thaddeus and Maine in 1994 is used to categorize the main three factors contributing to delay in accessing maternal health services. The three phases are 1) delay in deciding to seek care, 2) delay in reaching a healthcare facility and 3) delay in receiving adequate care at the facility. Phase I delays includes factors that shape the decision seeking healthcare such as the actors involved in decision-making, illness characteristics, sociocultural norms, costs and previous experience with the healthcare system. Phase II delays includes physical accessibility factors, such as the distance to nearest facility, travel time, availability and costs of transport, and road conditions. Phase III delays include factors affecting the quality and effectiveness of the care provided at the healthcare facility such as; shortages of supplies, equipment, and trained staff and the availability of competence personnel (Thaddeus & Maine, 1994).

Studies worldwide have used the framework to evaluate the circumstance surrounding maternal death, to assess factors affecting women’s health seeking behaviour during pregnancy and delivery, to investigate reasons for high perinatal deaths and to research delays in emergency obstetric care (Awoke & Seleshi, 2013; Ellis, Schummer & Rostoker, 2011; Pacagnella et al., 2014; Tarekegn, Lieberman & Gledraitis, 2014; Win, Vapattanawong & Vong-ek, 2015).

Data collection methods
Data collection consisted of 1) ten in-depth interviews, 2) three focus group discussions with five participants in each session, and 3) five assessments of WASH standards at healthcare facilities. Methodological triangulation uses more than one kind of method to study a phenomenon. In the study three different methods, IDIs, FGDs and assessment checklist, were used to research barriers affecting women to seek care during pregnancy, delivery and postnatal period. Triangulation is a way to put credibility and increase validity to the phenomenon by gathering data from a wide range of different independent data sources (Bekhet & Zauszniewski, 2012).

In-depth interviews and focus group discussions
IDIs are often used when the aim of the study is to gain understanding of peoples experience and more in-depth insight and increased knowledge of a specific situation (Bowling, 2014; Bryman, 2018). The aim of FGDs is also to explore a specific situation to gain more understanding. It is a useful method for analysing beliefs about health, diseases and cultural values (Bowling, 2014; Kruger & Casey, 2015). The decision to combine IDIs and FGDs was
based on the possibility that the two methods might reveal different information and enhance richer data (Lambert & Loiselle, 2008). The group dynamics is one of the distinct features of focus group discussions. The group interaction and process in FGDs encourage participants to disclose views that might not be highlighted in IDIs, rather through discussion with other women in the same situation. The group discussion can provide a safe place to discuss subjects that could be perceived as embarrassing, such as sexual relationships. It can also let the participants to think in silence for a longer time compared to in-depth interviews where silence could be seen as awkward (Bowling, 2014; Kruger & Casey, 2015). In-depth interviews on the other hand may reveal information that is too personal to discuss in a group, such information could be family related problems or lack of financial means (Bryman, 2018).

The number of IDIs and FGDs was based on guidelines from existing research, time and financial means. No direct guidelines on the number of focus group discussions and in-depth interviews exist. An accepted rule of thumb in both in-depth interviews and focus group discussion is to conduct them until no new data appear (Bowling, 2014; Kruger & Casey, 2015). Kruger and Casey (2015) explain that it is good to aim for three to four FGDs and thereafter determined if any new information and insights emerge. Due to constrains of financial means and time, three focus group discussion were planned. IDIs and FGDs require a large amount of time during the interviews and also for transcribing and coding the data (Bowling, 2014). By combining two qualitative methods enough information to explore the phenomenon of interest were collected.

A semi-structured interview guide with open ended questions was developed based on the aim of this study (Appendix 2). The theory of change and previous research on barriers for women to seek healthcare, presented under the background chapter, was used to frame the questions in the guide. The interview guide was used in the in-depth interviews and in the focus group discussions. The aim of a semi-structured interview guide was to steer the session if needed and to have open-ended questions so the informant could speak about the specific situation freely in her own words (Bowling, 2014; Bryman, 2018). Semi-structured interview guide allows for the interviewer to be flexible and jump between the orders of the questions (Bryman, 2018). The interview guide was divided into four sections; socio-demographic background, experience of care, barriers to seek health care, and Afya intervention. The total number of main questions was 35; three questions in the first section regarding socio-demographic background, eight questions with probes regarding experience of care, nine questions regarding barriers to seek healthcare, and last six questions regarding the Afya
The questions regarding the Afya intervention was mainly for SEI evaluation of the intervention, however was still included due to the possibility of possessing important information. The sections included questions regarding the mothers’ personal life, experiences during pregnancy, distance between home and the health facility, cost, culture and the water, sanitation and hygiene quality at the facilities, how the Afya intervention has affected barriers and what the women think the purpose with the intervention was.

**WASH assessment checklist**

An assessment to examine the quality of the water, sanitation and hygiene facilities at five health care facilities was conducted. Usually checklists are an instrument to collect quantitative data, however in this study the findings will be used to compliment and clarify the qualitative data collected through the IDIs and FGDs.

An assessment checklist was developed (Appendix 3) based on two assessment tools for WASH at healthcare facilities (Eawag, 2019; WHO/UNICEF, 2018). The main document was “Core questions and indicators for monitoring WASH in health care facilities in the Sustainable Development Goals” by WHO/UNICEF Joint Monitoring Programme (JPM) for Water Supply, Sanitation and Hygiene. The core questions in that document were used to monitor countries progress towards the SDGs (WHO/UNICEF, 2018). The WASH assessment checklist consisted of 21 questions divided into five themes; water, sanitation, hand hygiene, waste management and environmental cleaning. The checklist assesses the healthcare facilities environment based on the five parameters, including: accessibility and source of water point, existence of handwashing stations, functionality of toilet facility, and separation of waste.

**Procedure**

The data was collected through semi-structured in-depth interviews, focus group discussions and WASH assessments checklist in Siaya County, in Western Kenya during the month of March 2019. Staffs from Safe Water and AIDS Project, the collaborating partner on site, helped with contacting healthcare facilities, requisite suitable informants and set interview dates. SWAP informed and asked for the health facilities managers consent to conduct in-depth interviews, focus group discussions and WASH assessment within their facilities grounds. The consent from the health facilities representatives was verbally.
In-depth interviews and focus group discussions

By using the women’s attendance record from the healthcare facilities, SWAP personnel could see which women who were eligible for participating. If a woman was eligible for the study, staff from SWAP called the woman to explain they wanted to meet her. The woman was then asked to appear at the facility for the IDI or FGD at appointed time. On the day of the interviews the objective of the study was explained and participant information sheets in English (Appendix 4) were handed out. Prior to enrolment into the study, participants needed to sign a consent letter (Appendix 5). The women signed two consent letters with signature or fingerprint, one copy in Dholuo were for theirs keeping, and the other in English for the study. The information on the participant information sheet and consent letter was shared verbally in the participant’s local language, Dholuo or Swahili.

Ten in-depth interviews and three focus group discussions with five mothers in each group were conducted. The interview guide developed was used in both the IDIs and FGDs to lead the focus of the interviews. The first day of sessions worked as a pilot test of the interview guide to assess the functionality of the questions. According to Kruger and Casey (2015) is this favourably so the interview guide could be modified if needed. The content of the first day interviews was included in the result. Minor modifications on the formulations of the questions and number of questions were taken.

All IDIs and FGDs were conducted in the participants’ mother-tongue, Dholuo or Swahili, by experienced local personnel from SWAP. The personnel from SWAP had been briefed beforehand, by the person conducting this study, on the background research, objectives and conceptual framework for the study. During the first in-depth interview the researcher of this study was present. The interviewer only translated the most essential information to the researcher in English and not verbatim, to save time and not interrupt the session. After the interview was done, the researcher of this study and the interviewer discussed how the interview went and reframed some of the questions. The reason to use local, trained personnel instead of using an interpreter was based on the theory that using an interpreter would interrupt the interviews and the women would be less inclined to answer questions to an outsider. The three focus group discussions were led by two personnel from SWAP, a skilled moderator and an observer who took notes during the sessions. All IDIs and FGDs were audio recorded. Each participant was given a number instead of taken their names due to anonymity. IDIs were conducted during the same time by two different interviewers and was therefore given a number and then the letter a or b, example 1a, to separate which interviewer who had
conducted the interview. The interviews and focus group discussion were conducted at the healthcare facilities in a place with privacy and were performed during daytime on weekdays. The IDIs lasted from 32 minutes to 71 minutes. The FGDs lasted from 102 minutes to 162 minutes.

The in-depth interviews and focus group discussions were totally conducted at five different healthcare facilities of Level 2 and 3. Two IDIs were conducted per one facility, with a total of ten interviews at five different healthcare facilities. The three FGDs were held at the same healthcare facilities as the first three healthcare facilities for IDI. The focus group discussions were held in the morning and the in-depth interviews were conducted in the afternoon.

WASH assessment checklist
Five water, sanitation and hygiene assessments were conducted at the same five health facilities as the IDI and FGDs. The assessments were carried out by walking around the health care facilities while observing and taking pictures, and by asking a few questions to a staff member. The observation and question answers were filled out in the WASH assessment checklist. The assessments were conducted by the researcher for the study during the same time as the interviews and focus group discussions were taken place. Due to time and financial means only five WASH assessments were able to be conducted.

Ethical considerations

Ethical considerations have been applied through the entire working process. Prior to enrolment, participants were given information about the aim of the study (Appendix 4). The information was shared verbally in the participant’s local language, Dholuo or Swahili. All potential participants were informed that their participation in the study is voluntary and that they could withdraw from the study at any time of their choosing. Participants were also informed that they will be treated with anonymity in the research and that their participation will not affect their access to healthcare. Information regarding audio recording and transcription were shared. The IDIs and FGDs were conducted in a place with privacy. Those
who agreed to be a part of the study signed the consent letter (Appendix 5), either by signature or fingerprint (Vetenskapsrådet, 2017).

The collected data was used to meet the aim of this thesis and to evaluate the ongoing trial by SEI and SWAP. The study will be submitted to SEI and SWAP, and uploaded on the DiVA portal after being approved by Uppsala University.

**Data analysis**

*Qualitative deductive content analysis*

The data from the in-depth interviews and focus group discussions was analysed together by using a qualitative deductive content analysis to answer the purpose of the study. Qualitative content analysis is often used in health research (Elo & Kyngäs, 2008; Graneheim & Lundman, 2004). According to Elo and Kyngäs (2008) deductive content analysis is recommended when the study is based on previous knowledge of the phenomenon and the purpose is to test a theory. A deductive approach is based on an established theory or model. In this case was the three delays model used to frame the coding and analytical process. The audio recorded IDIs and FGDs were transcribed verbatim into English by the same persons who led the sessions. The transcription procedure started the first working day after the first IDI and FGD.

Graneheim & Lundman (2004) pointed out that the most appropriate unit of analysis consist of whole interviews. The unit of analysis in this study was the transcribed manifest content of the in-depth interviews and focus group discussions. Manifest content refers to analysis of the tangible and concrete text collected from the data method.

The analysis followed the following six steps: (1) As suggested the deductive content analysis started by reading through the transcribed material several times to capture a broad picture of the collected data and obtain a sense of whole (Elo & Kyngäs, 2008; Kruger & Casey, 2015). (2) Further an unconstrained categorization matrix was developed based on the three delays model to enable demarcation of experiences and challenges at the three different levels (Elo & Kyngäs, 2008). The unconstrained matrix consisted of the same three categories as in the three delays model 1) delay in deciding to seek care, 2) delay in reaching a healthcare facility and 3) delay in receiving adequate care at the facility (Thaddeus & Maine, 1994). The overall theme of the matrix was barriers affecting women’s decision to seek care during pregnancy, childbirth and postnatal period. (3) The process of dividing the essential from the text into
codes then started. The text that was seen as relevant was divided into meaning units. The study had a deductive approach so the relevant text was identified from the aim of the study. Meaning units were sentences capturing the most relevant information from the unit of analysis. The meaning units were condensed. The condensed meaning units were then assigned codes. The codes consisted of a sentence, or a word or two related to the whole context. (4) After the codes were assigned, the process of formulating categories started. The different codes were compared with each other and divided into sub-categories. Twelve sub-categories emerged from the data analysis. Finally, the sub-categories were sorted into four categories. Three categories were predefined by the three delays model. The sub-categories connected to the Afya intervention were sorted into their own category to answer objective two of the study. (5) In the fifth step the sub-categories were reviewed to ensure that they formed a consistent pattern. (6) In the last step of the analysis the result was formulated based on the categories that were identified during the analysis (Elo & Kyngäs, 2008; Graneheim & Lundman, 2004). See Appendix 6 for example of the data analysis process.

**WASH assessment checklist**

The result of the assessment checklist was used to give background on the quality of the water, sanitation and hygiene (WASH) facilities at the healthcare centres. No coding or statistical analysis was done on the data due to the small sample size. The result was analysed by hand, the result from the five assessments was compared with each other, to be able to describe the differences at the facilities in text.
RESULT

The results from the in-depth interviews and focus group discussions were presented together. The findings of this qualitative analysis include a detailed account of barriers affecting health care seeking behaviours under pregnancy, delivery and postnatal period. Following this, participants described how the Afya intervention had helped them overcome some of the identified barriers. The findings will be illustrated using verbatim quotations, translated into English. The assessment of the water, sanitation and hygiene facilities at the health care centres will be presented in text.

In-depth interviews and focus group discussions

Four categories emerged from the data analysis. The three first categories concerning barriers affecting women’s decision to seek care during pregnancy, childbirth and postnatal period were: Delay in deciding to seek care; Delay in reaching a healthcare facility; and Delay in receiving adequate care at the facility. The last category concerning how the Afya intervention had helped women overcome some of the barriers was: Afya Intervention. See table 1.

Table 1. Sub-categories and categories from the data analysis

<table>
<thead>
<tr>
<th>Sub-categories</th>
<th>Categories</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of HIV and hospitals</td>
<td>Delay I: Delay in deciding to seek care</td>
<td>Barriers affecting women’s decision to seek care during pregnancy, childbirth and in the postnatal period</td>
</tr>
<tr>
<td>Traditional and religious beliefs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embarrassment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender relations</td>
<td>Delay II: Delay in reaching a healthcare facility</td>
<td></td>
</tr>
<tr>
<td>Distance and transport costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unprofessional and inadequate number of staff</td>
<td>Delay III: Delay in receiving adequate care at the facility</td>
<td></td>
</tr>
<tr>
<td>WASH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of equipment and supplies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afya helped</td>
<td>Afya intervention</td>
<td>Afya intervention helped overcome barriers</td>
</tr>
<tr>
<td>Go with or without Afya</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Socio-demographic characteristics of the participants are presented in Table 2. The age range of the participating mothers varied from 19 to 40 years. All women were married. Majority of the women had attended school up until upper primary level. However, for two of the informants the interviewer forgot to ask their education level. Most the mothers had between three to four children.

**Table 2.** Socio-demographic characteristics of IDI and FGDs participants (n = 25)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n (%)</th>
<th>Characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td></td>
<td>Number of children*</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>25 (100)</td>
<td>1-2</td>
<td>7 (28)</td>
</tr>
<tr>
<td>Single</td>
<td>0 (0)</td>
<td>3-4</td>
<td>13 (52)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 and above</td>
<td>3 (12)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>Level of education</td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>9 (36)</td>
<td>No information</td>
<td>2 (8)</td>
</tr>
<tr>
<td>26-30</td>
<td>6 (24)</td>
<td>Lower primary (1-4)</td>
<td>2 (8)</td>
</tr>
<tr>
<td>30-35</td>
<td>7 (28)</td>
<td>Upper Primary (5-8)</td>
<td>14 (56)</td>
</tr>
<tr>
<td>36-40</td>
<td>3 (12)</td>
<td>Secondary level</td>
<td>7 (28)</td>
</tr>
</tbody>
</table>

*Children given birth to and alive

*Delay I: Delay in deciding to seek care*

Lack of knowledge

Most participants mentioned lack of knowledge of the benefits obtaining maternal health services as one of the main reasons for not using the services. The participants explained that some women think it will be a waste of time or that they are just too lazy to go. One woman also explained that she did not know that she could start ANC visits earlier than the fourth pregnancy month. A few participants simply said they started ANC visits later because they were not aware they were with child. A few participants had not attended postnatal visits because they were not aware those services existed, instead they visited the healthcare facility for immunization for the children.

"Some say that there is nothing that they are going to do at the clinic because after all they know that they are pregnant." (IDI 5a).

Low perceptions of risks in pregnancies and of labour complications were one of the reasons for women delaying to seek care or delivering at home. Some said that women feel that there
is no need to attend the clinic if they are well and that the clinic is for sick or handicapped people.

“... some of them think that someone who is handicapped is the one who should be going to the clinic or sick people.” (IDI 1a).

Women who had safe home deliveries described that they have no need of delivering at the hospital because they knew how to do everything themselves. However, other participants visited ANC and delivered at the hospital because they had complications during previous pregnancies or herd from a neighbour who had complications during delivery.

**Embarrassment**

Around half of the informants reported that embarrassment could make women delay their health visits until they could not hide the pregnancy any longer. Reasons for being embarrassed were lack of space between pregnancies, or the women were at an older age or they already had a lot of children from before. The women were afraid what other people would say about them. Two participants said that they hid their pregnancies and therefore did not attend ANC visits because they got pregnant when they were still in school. They were afraid of what their parents would say.

“Some women just feel ashamed when they are pregnant. Maybe she was not ready to get pregnant at that particular time...So when she gets pregnant she feels ashamed because she doesn’t know how she is going to face people. Sometimes you have gotten pregnant when the other child is still very young maybe like five months old. So you will feel ashamed to go to clinic because you think that people will talk about you.” (FGD 3).

**Fear of HIV status and hospital**

A few women mentioned that the notice of a positive HIV status makes them not seek care. All pregnant women are tested and if they are positive they will need to go to the clinic for drugs and that would increase the possibility for their status to be known. Some women feared people would talk about them. One woman explained that she usually did not attend the clinic but after she found out her HIV status she came to ANC visits and gave birth at the hospital to prevent the child from getting infected.

“... they fear that they may be tested and it is going to be found that they are HIV positive...Some of them have a very negative attitude towards HIV/AIDS so
they fear that they are going to be found with the disease and people may start talking about them.” (IDI 3a).

Some women mentioned that fear of undergoing surgery or expose their bodies to unknown health professional hinder them from delivering at the health facility. A few participants said that some women fear that they will be forced to take drugs at the facility that would make them feel sick or terminate their pregnancy. Therefore they delayed their ANC visits.

**Traditional and religious beliefs**

Traditional beliefs in the local Lou community influence uptake of maternal health services. According to the tradition the first child should be delivered in the home in order to give luck to daughters and daughters in law. However, some participants mentioned that this Lou tradition was less common in the present time.

“Yes those things happen like when you have built your homestead yet you haven’t given birth. When you get pregnant and labour finds you at home you will be told that you should give birth at home to pave way for the daughters in law in future. So you can be made to give birth at home.” (IDI 2b).

A few women also said that there are some religions that do not allow their followers to visit hospitals. This keeps women from attending health services.

**Life activity**

Women also relived that a busy schedule with house chores and work kept them from attending health visits. Women could not afford to lose a day’s income.

Yes because sometimes when you come here and delay yet you were supposed to be at work or to do something else, you will decide that next time you will not come because you will either lose that day’s pay or lose your job.” (IDI 2a).

Some women said that sickness had made them fail to attend a visit. They were too sick to walk the distance to the health facility. Lack of childcare for their younger children also affected whether some women attended all ANC and PNC visits.
Delay II: Delay in reaching a healthcare facility

**Distance and transport costs**

Long distance and lack of transport to the health facilities influenced when many women started ANC visits and if women attended all maternal visits. Some informants reported that they started to use ANC services later to reduce the number of times they needed to walk to and from the healthcare facility before they gave birth.

“The distance from the hospital can make a pregnant mother who is tired skip some months without going for clinic. Depending on where you come from if you go by walking to the hospital. Because where you are coming from is far from the hospital.” (FGD 1).

Not being able to get a motorbike and being forced to walk affected if the women reach the facility in time for their appointment. Lack of transport during deliver was cited to be one of the main reasons for giving birth at home. Absence of public transport and motorbikes during the night forced women to give birth at home.

“Some people will also deliver at home because maybe the labour came at night and she cannot get a motorbike to the hospital. So sometimes it is late and there is no means to reach the hospital, so that will make someone to deliver at home.” (IDI 1a).

When transport was available the cost of transport had an impact whether women came to their maternal appointments or not. If the distance was too far to walk for heavily pregnant women and they lacked money for fare it forced them to miss a visit.

“Yes that can affect because sometimes you have a problem and the facility is far, you will just go to the shop and buy some paracetamol and take because you don’t have money to go to the facility and you are sick.” (IDI 4a).

**Gender norms**

Most women decided themselves whether and when to attend the first ANC visit as well as the remaining visits. However, they underlined the importance of informing their husband. Some women were expected to obtain permission from their husband before going and if the husband told them to wait a few months before starting attending the clinic it could hinder them from starting earlier, as the women in the quote below explain.
“I started when I was four months pregnant. I did not start attending the clinics early because my husband told me to wait until I was four months” (IDI 3a).

The main reason for informing their husband was to obtain money for fare. The women were depended on their husband for financial support. If the husband did not have enough money to provide for them they would either skip an appointment at the healthcare facility or walk there if possible.

“...he was the owner of the money and I could only go if he gave me money for transport to go to the clinic since I could not walk that long distance. That is why I had to start that late because I was waiting for my husband to give me money to come to the facility to start the clinic.” (FGD 3).

Delay III: Delay in receiving adequate care at the facility

Water, sanitation and hygiene (WASH)
The water, sanitation and hygiene quality influenced most of the women’s willingness to seek care from healthcare centres with inadequate WASH. One woman explained the added importance for people with reduced mobility:

“Like for example myself, I am lame. When I go to the toilet I must bend and touch the floor with my hands because I cannot squat. When I find that the facility has very dirty latrine, I will not choose to go to that latrine because I will touch faeces...I will always choose the hospital with clean latrines and a place where there is water for handwashing.” (IDI 1a).

Some women mentioned they could go to healthcare centres that lacked clean toilets and water for handwashing for their ANC and PNC visits because it takes shorter time for those services and therefore they do not need to use the toilet at the healthcare centres. However, for delivery they would choose a healthcare centre with clean latrines and enough water for bathing.

Unprofessional and inadequate number of staff
Some women reported they have had negative experiences during antenatal and postnatal care visits and delivery, as the health professional either did not provide quality healthcare or were
rude to them. The women felt they wasted their time because the nurses and doctors would be rude or not treat them and this affected whether women sought care again.

“Sometimes they fear that the doctors will throw nasty words to them. Some facilities have very rude staff and they talk to women so badly, so some people fear. That will make some of the women not to go to clinic.” (IDI 5a).

Another reason for not using maternal health services appeared to be poor skill levels of the healthcare personnel at health facilities. A few women explained that they sometimes were given drugs without first being tested to find the cause, and then sent home. Some women mentioned that they had been left alone during delivery while the nurses were at the other side of the healthcare centre. Others had been sent back home because they had been told by the nurses it was not time to deliver yet and then they delivered by themselves at home. Few personnel working affected the waiting time of the women before receiving care. In some cases women were told to come back the other day due to long ques. Inadequate number of staff also affected the opening hours with some healthcare centres closed at night, which forced women to give birth at home due to lack of transport to a hospital far away.

“There was a time that we came here for the postnatal clinic visits very early and there was only one nurse around…So we waited for long until very late and there were even some mothers who gave up and went away.” (IDI 2a).

Lack of equipment and supplies

Some participants felt that the healthcare centres did not have the necessary medical equipment or lacked drugs. Lack of supplies of drugs made some women skip going to the healthcare facility, instead they went and bought the drugs themselves.

“It can affect, because when you come for treatment and you are told that there are no drugs, of course that will make you not to want to come to that facility again. So sometimes someone will decide to buy drugs instead of coming to the facility where there are no drugs that she needs.” (IDI 4a).

Not the right medical equipment affected the women’s willingness to seek care and forced them to go to hospitals further away for testing or if the deliver was believed to be complicated. One woman explained she was told to go for ultrasound at a hospital further away, however due to lack of money for transport could she not reach the hospital.
Afya intervention

Afya helped
Twenty-three out of twenty-five participants reported that the money from the Afya intervention had helped them. Most of them used the money to pay for transport to and from the healthcare facility. The money was also enough to pay for baby stuff such as clothes, soap and food. Some of them used the money to buy basin and cotton wool, and other things they need to bring to delivery.

“It changed because I maintained coming for my clinics. Because the other one I never maintained to come for the clinics, after the child would finish injections then I would stop.” (IDI 4b).

The money boosted some women to attend all ANC and PNC visits. During their previous pregnancy they usually did not attend maternal healthcare visits continuously.

Go with or without Afya
Some women explained that even if the money from the Afya intervention had helped them, they would have gone to all ANC and PNC visits and delivered at the healthcare facility, with or without receiving the money. The women said they understand the importance of attending maternal health services both for their own health and for their child’s health.

“I don’t miss my clinics, there is no day that I have been late even one day...Because I was taking care of my health I was not after the money.” (IDI 3b).

WASH assessment checklist
All five healthcare centres had their main water supply on the premises, and all except one had water available at the time of the survey. The health care centre without working main water supply had rainwater as their main water supply and due to drought it did not work. Four out of five health centres had rainwater as their main supply.

Pit latrine without slap/open pit was the type of toilet at all healthcare centres. Four out of five facilities toilets were usable and they were opened all day, the pit was not blocked, and had no leaks or cracks. The toilets at the healthcare centres had a lockable door. Two healthcare facilities had a toilet designated for staff. None of the health centres had a toilet designated for
managing women and girls menstrual hygiene need. There was not a bin available for disposal of used menstrual hygiene products. None of the healthcare facilities had a toilet designated for people with reduced mobility. A toilet can be considered as accessible for people with limited mobility if it can be accessed without stairs or steps and have a handrail and have a door which was at least 80 cm wide with a door handle and seat within reach of people in wheelchairs or crutches. The distance between the toilets and the nearest water source varied between less than 10 m and further than 60 m.

All healthcare centres had handwashing facilities at the point of care. However, two healthcare centres lacked soap and water or alcohol-based hand rub at the handwashing station next the point of care. Two of the healthcare centres had no hand hygiene facility close to the toilet at all. The rest had handwashing facilities next to the toilets, however were they in lack of soap. Three out of five healthcare centres had hand hygiene promotion posters visible in the patient waiting area.

All healthcare centres seperated the waste into three colour labelled bins; One for infectious waste, one for pathological waste, and one for general waste and a special box for sharp waste. All waste except the sharp waste was burned in a protected pit on the premises for all centres. In four out of five healthcare centres the sharped waste was collected for medical waste disposal off-site. One facility had their own incinerator to treat sharp waste.

The treatment rooms were clean at all health care centres. They were cleaned once per day. At four out of the five healthcare centres the responsible staff for cleaning had received hygiene management training.
DISCUSSION

Women delayed seeking or did not attend antenatal and postnatal care or gave birth at home due to lack of knowledge of benefits of maternal health services and on danger signs; traditional and religious beliefs; embarrassed over pregnancy; busy with other life activities or out of fear of HIV status and hospitals. Gender norms, distance and transport costs were contributing factor for delaying in reaching the hospital. Unprofessional and inadequate number of staff, lack of equipment and supplies and the water, sanitation and hygiene quality were factors delaying receiving quality care. The assessment showed on inadequate WASH facilities.

Result discussion
This study sought to examine barriers, with a particular focus on WASH, affecting women’s decision to seek care during pregnancy, childbirth and postnatal period in rural Kenya and to determine which barriers the Afya intervention helped to overcome. This is the first qualitative study to assess barriers that affect the use of healthcare services within Siaya County in Kenya. It is also the first research that focuses on WASH as a barrier to health care seeking. The result is discussed according to four categories that emerged from the data analysis of the present study, in the light of previously scientific research and the conceptual framework.

Delay 1: Delay in deciding to seek care
Several factors have been identified to play important roles in maternal health care seeking. In this study, lack of knowledge was the main contributing factor for deciding to delay seeking care. Lack of the knowledge of the benefits of maternal health services and danger signs of pregnancy and childbirth complication as a reason for not seeking care is consistent with studies carried out in Ethiopia (Kea et al., 2018) and Pakistan (Qureshi et al., 2016). The perception is that women do not use health services unless they feel unwell and attending when feeling well would be a waste of time. Most women said they understand the importance of attending antenatal and postnatal care visits. However, they sometime skipped an appointment due to being tired, sick, lacked childcare or attending other duties such as work. The need to work, household chores and lack of childcare has been cited as barrier in previous studies (Jacobs et al., 2018; Munguambe et al., 2016; Qureshi et al., 2016).
Most women had not attended PNC to check their own well-being after delivery, only for immunization and care for the child. They were not aware these services existed due to lack of information regarding the postnatal services from healthcare staff, which was also found to be a reason for women not attending ANC in Pakistan (Nisar et al., 2016).

Studies in Zimbabwe (Mathole, Lindmark, Majoko & Ahlberg, 2003), India (Kaur, Gupta, Purayil, Rana & Chakrapani, 2018) and Kenya (Riang’a, Nangulu & Broerse, 2018) found women delaying their first ANC visit due to being ashamed of their pregnancies, either because of the number of pregnancies, or being older and pregnant, or short space between pregnancies, or young and still in school when getting pregnant. These findings are consisted with the ones from this study, which found young women hiding their pregnancies due to being afraid of their parents’ reaction.

A few women in this study explained that being HIV positive made them go to all ANC visits and deliver at the healthcare facility in order to protect the child. However, many women informed that the fear of being diagnosed with HIV when pregnant made women not seek antenatal care, due to the fear of stigma of having their HIV status revealed. Interestingly, studies differ regarding how HIV affect women’s care seeking behaviour. This finding is in contrast with earlier studies in Kenya (Riang’a et al., 2018) and Zambia (Jacobs et al., 2018) which suggest that women attended ANC to know their HIV status and their child status. However, other studies in Zimbabwe (Mathole et al., 2003) and Kenya (Izugbara, Kabiru & Zulu, 2009) confirm this study’s findings.

These findings suggest that the Kenyan government and communities should keep informing women of the importance of attending maternal healthcare services in order to encourage the continually use of these services. The findings also indicate the need to address the stigma surrounding HIV and the fact that a healthy child can be born if treatment is followed.

**Delay II: Delay in reaching a healthcare facility**

Lack and cost of transport, long distance and gender norms were factors affecting women delaying in reaching a healthcare facility, raised both in this study and elsewhere (Anastasi et al., 2015; Kea et al., 2018). Consistent with earlier studies, lack of money for travel cost force women to walk long distance to the healthcare facilities and influenced whether women returned continuously for ANC and PNC appointments. Being heavily pregnant or carrying a young child affected the women’s capability to walk in the sun for a long distance (Jacobs et al., 2018; Sialubanje et al., 2015; Vidler et al., 2016).
Aside from cost of transport, availability of transport was a factor contributing to women giving birth at home. With the absence of ambulances women depend on private transport, such as motorbikes, or walking to reach the hospital during labour. This is consistent with other studies and increased the risk of giving birth on the road or deciding to give birth at home (Kea et al., 2018; Munguamble et al., 2016). However, compared with other studies the absence of transport was only reported to be a problem during the night in this study.

The findings from this study show that gender norms promoting women to depend on their husbands for financial support contribute to women delaying starting ANC and failing to attend all ANC and PNC visits. As raised in earlier findings from developing countries the husband often hold the decision-making powers, which influence women to postpone seeking care until they have their husband’s permission. However, compared with other research most of the women could seek treatment without their husband’s permission (Kea et al., 2018; Qureshi et al., 2016; Vidler et al., 2016). Similar with a study conducted in Mozambique (Munguamble et al., 2016) gender norms was mostly connected to financial dependency of the women’s husband in this study. Most women did not have their own source of income and needed to ask their husband for money to be able to pay for transport to the healthcare facility. The husband, not being able to support financially, contributed to delay in treatment.

This study illustrated that despite free healthcare during pregnancy, delivery and postnatal period in Kenya indirect costs, such as transportation cost, hindered women from seeking care. To lower the barrier of distance and transport cost the availability of transport to the healthcare facility and women’s financially independency should be addressed.

Delay III: Delay in receiving adequate care at the facility

Women’s fear or experience of mistreatment by healthcare personnel was a barrier contributing to the third delay. This finding echoes others from Uganda (Anastasi et al., 2015), Ethiopia (Kea et al., 2018) and Zambia (Siabujane et al., 2015) were pregnant women have been treated with lack of respect and rudeness. This study, with support from other studies, also revealed that inadequate number of staff and poorly trained personnel made women delay or withdraw their appointments due to low quality of services (Anastasi et al., 2015; Jacobs et al., 2018; Kea et al., 2018; Siabujane et al., 2015). A study conducted in Pakistan (Nisar et al., 2016) found that some women were afraid of the side-effects of medicines prescribed by healthcare personnel provided during ANC visits and therefore did not attend ANC services. A few women in this study also mentioned fear bad reaction of drugs as
a reason for not attending or delaying ANC visits. The harsh attitude and poor quality of services from nurses and physicians affected the use of ANC and PNC and it also affected the willingness to deliver at a health facility with unprofessional staff. However, some women in this study underlined that the nurses’ attitude and treatment towards pregnant women had improved the last years. The improvement in the nurses’ attitude and treatment made women wanting to seek care more regularly compared with previous pregnancies, when they only went to one ANC visit for the purpose of opening the antenatal record.

Lack of medical equipment and shortages of supplies to enable quality maternal healthcare services influenced a few women’s willingness to seek services from these facilities, which was mentioned as a barrier in a study conducted in Ethiopia (Kea et al., 2018).

Studies conducted in India (Vidler et al., 2016) and Ethiopia (Kea et al., 2018) raised inadequate infrastructure, such as low level of cleanliness and poor power supply as a barrier. These findings could be partly linked to inadequate WASH facilities; however none of the studies specified inadequate infrastructure any further. Water, sanitation and hygiene has not been mention specific as a barrier to seek healthcare in any other studies. In this study, most women mentioned that the quality of the water, sanitation and hygiene facilities affected their willingness to seek care. However, most of them still sought treatment at the healthcare centers. It could be due to lack of healthcare centers with adequate WASH facilities. The inadequate WASH facilities mentioned by the women in the IDIs and FGDs were confirmed by the WASH assessment conducted at the five healthcare centers in this study. All of the healthcare centers relied on rainwater as their main water supply, which made them vulnerable during dry seasons and this was confirmed by one woman who had to delivery elsewhere due to lack of water. The five healthcare centers were clean. However, some women informed that they did not use the latrines due to uncleanliness and lack of water and soap close to the toilets. Poor toilets and lack of handwashing close to the toilets were backed up by the assessments. Going to a pit-latrine without handrail could be problematic for heavily pregnant women or short after delivery, and affected whether women use them or not. The assessment showed that the inadequate WASH facilities at the five healthcare centers affected receiving quality care at the healthcare center.

This findings suggest that it will be necessary for healthcare facilities and management to address disrespectful treatment, poor skilled staff, inadequate WASH, poor availability of
supplies and medical equipment in order to improve the continuously use of ANC, postnatal care and health facility deliveries.

Afya intervention

Almost all women found the money from the Afya intervention helpful. One of the aims with the Afya intervention was to investigate whether conditional cash transfers (CCTs) are effective in retaining women in the continuum of care for maternal, new-born and child health (MNCH). CCTs were used to overcome direct and indirect financial and behavioural barriers to healthcare attendance. Findings in this study showed that indirect cost, such as transportation, contribute to women delaying seeking care and reaching the healthcare facility. It can be argued that the Afya intervention helped with indirect costs as most women used the money to pay for transport, baby things, soap, food and basins. By giving money direct to the women the Afya intervention helped to overcome the barrier of being financial dependent on their husbands. The women could thereby pay for their own transport to and from the healthcare facility, which would facilitate them reaching the healthcare centre and therefore overcoming barriers linked to delay two. However, this may not affect the husbands influence regarding the decision on when to start ANC.

Maternal healthcare services are free in Kenya. Other indirect cost beyond transport, which included medication and material required for hospital admission during delivery such as basin, cotton wool and food was not reported by the women to influence if they sought ANC, PNC or delivered at the clinic (Gitobu, Gichangi & Mwanda, 2018). In contrast with this, previous studies have shown that financial costs for providing items that are expected at delivery such as soap, basin and baby cloths influenced whether women deliver at the healthcare facility or not (Anastasi et al., 2015; Siabujane et al., 2015). However, many of the women said they used the received money from the intervention to buy things needed during delivery and for the child, and be able to do that made them happy and more relaxed before delivery. If going to the facility means time away from farming or other income generating activities the receiving money could be seen as incentives for going to the appointment without losing income.

Some women said the money encouraged them to attend all ANC and PNC visits compared with previous pregnancies where they did not attended the appointments continuously. Nine of the women informed they would have gone to the healthcare facility without receiving the money. Most women explained they attended more antenatal and postnatal care visits during
the latest child, while enrolled at the Afya intervention, then during previous pregnancies and children since they now possess more knowledge of the importance of attending maternal healthcare services for their own and their child’s health. One reason for the increased knowledge were information shared by community health volunteers, nurses and the government on the importance of attending visits through pregnancy, delivery and postnatal period.

Method discussion

Study design
A qualitative design was chosen based on the aim of the research, which was to get a better understanding of barriers affecting women’s decision to seek healthcare during pregnancy, childbirth and postnatal period. In-depth interviews and focus group discussions is appropriate when the aim of the study is to acquire in-depth understanding of people’s perception of a situation (Bowling, 2014; Kruger & Casey, 2015). No other studies focusing on WASH as a factor affecting healthcare seeking behaviour was found. No study on barriers for seeking maternal healthcare has been conducted in Siaya County in Kenya. The design was appropriate in the sense that the objectives of the study were answered.

Sample selection
The participants were chosen using purposeful sampling. Purposive sampling is often used when the aim is to sample a group of people with particular characteristics, as in this study. A disadvantage with purposive sampling is that it can be harder to transfer the conclusions of the study to other populations (Bryman 2018; Palinkas et al., 2015). However, the purpose of the study was not to be able to transfer it to other population, such as all men or women. The focus was on women during pregnancy, childbirth and postnatal period. Twenty five women were interviewed. The number of participants was considered sufficient, as no new information was added during the last interviews. Due to logistical reasons, participants were chosen from only five healthcare facilities. The transferability of the study would have been higher if the participants represented a bigger sample of healthcare facilities (Bryman, 2018).

Data collection
The data were collected through ten IDIs and three FGDs. Interviews as a method for data collection put a lot of weight on the researcher capabilities and could be strength or a weakness for the study. Conducting interviews as an outsider to the culture could be problematic. The researcher needs to be highly aware and conscious about norms and
behaviours in the culture to interpret signals from the respondents during the interview to decrease the possibility of missing valuable information. It would be difficult for the researcher of this study to receive the level of understanding of the culture in a few weeks’ time and the researchers’ own preconceptions and prejudice could interfere with the interviews. Another possible problem with having an outsider conducting the interviews could be that the women would feel unease and not speak freely about their problems (Kruger & Casey, 2015). Therefore the interviews were held by local trained personnel from SWAP. In the beginning of the study the possibility of using an interpreter during the interviews was discussed. However, to have a translator can be difficult. Interpreting everything would highly extend the time of the interviews and interrupt the flow. The interpreter might also only translate what he or she thinks is most valuable and make the interviewer miss relevant follow-up questions (Kruger & Casey, 2015). It was decided after carefully considerations not to have an interpreter and let trained personnel conduct the interviews. To decrease the possibility for the interviewers to miss valuable information and ask the right probe questions, the purpose of the study and the interview guide was discussed closely before the fieldwork in order to increase the interviewers understanding of the aim of the research. The twenty-five respondents spoke freely and explained barriers for women seeking healthcare during pregnancy, delivery and postnatal period. In the end it was probably an advantage to have experience local interviewers who spoke the same language and came from the same culture, to reduce potential bias (Bowling, 2014; Krueger & Casey, 2015). The interviewers had good skills in listening and could successfully establish a comfortable atmosphere. However, one of the interviewers was a man and his in-depth interviews were not as rich as the interviews conducted by the female interviewer. This can depend on several reasons; he might not be as good interviewer, or the women got tense by discussing pregnancies and deliveries with a man or he randomly got less talkative women.

A risk with interviews as Bryman (2018) highlights is that the responded could give the answers that she thinks the interviewer wants to hear. Bryman (2018) also discuss the problem if the responded would take offend in any questions and therefore be uncomfortable and not be willing to answer the questions. The risk was reduced by using local interviewer and by reassuring that whatever was said during the interviews would not affect their healthcare services.

Focus group discussions as an interview form have other possible limitations as well. As underlined by Krueger and Casey (2015), anonymity and confidentiality cannot be guaranteed
among the people participating in a focus group discussion and was identified as a drawback of the FGDs in this study. The topic discussed was not seen as a sensitive subject that could put the individuals at risk after the research. However, there is a possibility that participants might leave the group and repeat comments about the quality at the healthcare centre to nurses and that could change the nurses behavioural towards the women. Another limitation is that some participants may feel uncomfortable to talk about their own experience in front of a group or the observer or moderator. However, this problem was limited by framing some of the questions about women during pregnancy, delivery and postnatal period in general terms. There was also a risk that some participants might make up answers on topics they have limited or no experience of instead of reviling the lack of knowledge, as that could be embarrassing (Krueger & Casey, 2015).

The IDIs and FGDs were semi-structured using an interview guide. The interview guide was designed specifically for this study in order to be as relevant to the study as possible. As recommended by researcher the questions were open-ended, easy to understand and evoke conversation and in-depth answers (Bryman, 2018; Krueger & Casey, 2015). The experienced interviewers could easily follow the guide, add probe questions during the sessions and be quiet to let the respondents think before answering the questions, which might not have been the case with an un-experienced interviewer. As recommended in the literature, a pilot test was carried out to test the functionality of the interview guide, which increased the study’s credibility (Bowling, 2018; Bryman, 2018; Krueger & Casey, 2015).

Due to logistical reasons, only five assessments of the water, sanitation and hygiene facilities at the healthcare centres were conducted. This number is insufficient to achieve data saturations (Bowling, 2014). However, the purpose was not to do a comprehensive quantitative analysis of the quality of the WASH facilities but to do small check of the WASH facilities to complement the qualitative data and increase the credibility of the result. The assessment checklist captured the general view of the quality of the WASH facilities retrieved from the interviews with the women.

Triangulation was used to add credibility of the study, with information collected from IDIs, FGDs and assessment checklist. The results from the different data collection methods were consistent with each other and it increased the credibility of the results (Bryman, 2018; Patton, 2015). Triangulation enhanced the study. Information collected from the IDIs and FGDs were similar, however some women might have been more relaxed talking about their
own experience during the IDIs when they knew no other women would know what they said, example had some of the women difficulties at home with their husband. The FGDs lead to the women discussing the barriers and trough discussion did new situation and hinders develop that was not on top of their mind at first.

Preconceptions
The preconception contributed to frame the aim of the study. According to Malterud (2014) preconceptions can strengthen research process and the dependability of the research. However, it can also contribute to make the researcher interpret and draw conclusions based on their knowledge rather than the collected data. The preconceptions were relatively small, however it increased during writing of the background and conceptual framework. The preconception did not affect the collection or analysis of the data, which was concluded based on the fact that new barriers not discussed in the background was found when analysing the data. HIV for example was not mention in previous research read when writing the background chapter and it was not one of the barriers mentioned in the Theory of Change developed by SEI and SWAP. However, HIV was found to be a hinder several women mentioned during the interviews. With this in mind did not the preconception of barriers affect the analysis of the data collection (Malterud, 2014).

Data analysis
The collected data from the IDIs and FGDs was analysed thoroughly and categories and subcategories that reflected the data were identified. The study’s credibility, transferability and confirmability increased by describing the analysing process in detail in text and by using appendices to demonstrate the process. Quotations were used to increase the credibility of the study and to demonstrate the link between the data and results (Elo & Kygnäs, 2008; Graneheim & Lundman, 2004) However the credibility and confirmability of the data could have been increased if the data analysis would have been independently performed by more than one researcher. To enhance credibility and confirmability to the study the data analysis was discussed with the supervisor (Graneheim & Lundman, 2004).

The use of three delay model (Thaddeus & Maine, 1994) as the basis for the conceptual framework guiding the data analysis and result discussion increased the quality of the study by linking it to previous evidence-based research. The use of a conceptual framework increased the transferability to other settings and allowed for a transparent comparison with findings from previous studies (Patton, 2015).
Ethical considerations
The project has been approved by Maseno University Ethics Review Committee. Ethical considerations have been applied and followed during the study process. One ethical limitation is that the interviews were conducted at the healthcare facilities. Therefore, even if the IDIs and FGDs were conducted in a place with privacy, the women’s anonymity could be compromised by the fact that the healthcare personnel were close by.

Implication in public health and future research
Maternal and child mortality and morbidity in low-recourse settings continue being a major public health challenge. The results of this study suggest that future research is needed to examine to which extent water, sanitation and hygiene affect healthcare seeking behaviour. Furthermore, future interventions should also be desired on how to improve women’s empowerment and decrease their dependence on their husband to reach the healthcare facility. Interventions, as the Afya intervention aimed at mitigating economic barriers, such as transport costs through providing CCTs, might persuade more women to continually seek care even if the healthcare facility is located a long distance away.

Conclusion
The study identified a number of barriers contributing to the insufficient use of services during pregnancy, delivery and postnatal period for rural women in Siaya County in western Kenya. The barriers were lack of knowledge of pregnancy issues, benefits of maternal health services, embarrassment over pregnancy, distance and transport costs, gender norms, quality of WASH facilities and unprofessional and insufficient number of staffs. These barriers have been framed within Thaddeus and Maine’s (1994) three delays model.

The result from this study suggests that increase in knowledge of the benefits of maternal and child healthcare services should improve attendance of ANC, facility delivery and PNC. Therefore, the Kenyan government and communities should continue with awareness creation to urge the importance of maternal health services to influence a continually use. There is also a need to address barriers contributing to a delay in reaching the healthcare facility. The limited transportation available, cost of transportation and long distance to healthcare facilities make women delay their ANC and PNC visits or forcing them to give birth at home. The finding highlights the women’s dependence on the husband for financial support to pay for transport. Rural women would benefit from addressing the lack of available transport, cost of transport and women’s financial situation. Furthermore, the findings point out how the
quality at the healthcare facility affects women’s willingness to seek care. Attention should be focused on improving the training and skills of health personnel, bad manners, WASH facilities, and logistics and supplies at the healthcare facilities. Finally, the study result suggests that CCTs helps women overcome the barrier of transport cost to the healthcare facility. However, final result from the Afya intervention study needs to be taken into account and there is probably a need for more research on the sustainability aspect of distributing CCTs as an aim to increase the use of maternal healthcare. It is important to have an action plan to reduce the barriers for women seeking care during pregnancy, childbirth and postnatal period in order to improve maternal and child mortality and morbidity.
References


APPENDIX 1. THEORY OF CHANGE

Improved MNCH outcomes, including maternal and newborn survival

Increased adherence to MNCH Schedule

Impact

Infected control & treatment
Nutrition interventions
Preventive health measures
Health education
Identification of pregnancy danger signs

Outcome/Period

Infant

Mother

Newborn

First and 4th Postnatal

Postnatal visit 2-6

Postnatal visit 12 months

Babychild

Essential newborn care
Infection control
Immunization
Identification of danger signs
Management of complications

Essential baby care
Baby danger signs and management of complications
Immunization

Infection control (e.g. referrals to comprehensive care clinics)
Family planning counseling and services
Reinforcing health messages
Addressing any gaps in missed services

Infection control
Nutrition interventions

Continuity of healthcare visits maintained from pregnancy through to 12 months after delivery

Outputs

Pregnant women complete all eligible ANC visits and receive focused ANC services
Deliveries occur at health facilities where there are skilled attendants and emergency care
Women are retained in care for birth for essential follow-up services that are contained in the PNC service package
There is routine monitoring of health of mother and baby up to 12 months post-delivery
Children receive all immunization on time
Women make all the referral visits from pregnancy through to post-natal period

Enablers

Cash Transfer for each health appointment that is honoured during pregnancy, birth and post-natal period up to 12 months

Barriers

Direct financial costs e.g. taxi fare
Indirect financial and opportunity costs
Lack of awareness of benefits of the visits
Risk of disclosure of the pregnancy
Cultural beliefs
Concerns about quality of care

Problem

Lack of adherence to regular health visit schedules in the MNCH continuum (ANC, facility delivery, PNC), resulting in negative health outcomes for women and children
APPENDIX 2. INTERVIWE GUIDE

Number of informant:
Date of interview:
Length of session:
Language of interview:
Name of interviewer:
Name of transcriber:

Socio-demographic background

1. How old are you?
2. Can you tell me about your family?
   - Are you married?
   - How many children do you have?
3. What is your education level?

Part 1. Experience of care

Now I would like to speak to you about your experience of care during this pregnancy and previous pregnancies.

Most recant pregnancy, while enrolled in Afya intervention

1. Can you tell me about your experience during your pregnancy? I would like to know how you were feeling, if you faced any challenges or was everything fine.

2. How many of your four ANC visits did you attended? What is your experience of the ANC visits like? What are some positive or negative experiences at the facilities?
   Probes: When did you start going?
   Did anything make you delay your first ANC visit? Not seen as important from family members?

3. How many of your 6 post-natal visits have you attended? What is your experience of the postnatal visits like? What are some positive or negative experiences at the facilities?
   Probe: Do you have any visits left?
4. Can you tell me about your delivery experience? How did it go, how was the experience at the facility, positive or negative? Did you deliver at the facility?
   
   **Probe:** Where you advised by anyone to deliver at the facility or at home?
   
   Where there any costs?
   
   What kind of things did you need to bring with you from home? Water? What do you think about needing to bring you things from home?

5. What is your overall experience of the maternal health visits like? What are other positive or negative experiences did you have at the facilities?
   
   **Probe:** How were you treated by staff? Did you receive all the services you wanted, where there enough staff there to help you?
   
   Where the staff skilled?

6. Why do you come to this health facility?
   
   - Did you decide that by yourself or together with a partner or family member?

Now I’d like you to compare these experiences to previous pregnancies (if applicable), during ANC, delivery and post-natal period

7. Can you compare your previous experience with ANC and post-natal visits and delivery with your most recent pregnancy?
   
   **Probe:** Was there any difference in the number of ANC and post-natal visits you attended? Did you start going to your ANC visits at the same time all pregnancies? Why/Why not? Where there a difference in where you delivered, at home or at a facility? Why a difference/change?

8. Has anything else linked to your experience of care changed from your previous pregnancies and now when you are enrolled in the Afya intervention?

**Part 2. Barriers to seek care**

We know a lot of women can’t come or delay to come to ANC and post-natal visits, and deliver at home, and we would like to know why that is. I would like you to talk about barriers you or your friends have encountered during your pregnancies, deliveries and period after given birth.
9. Do you think it is important for pregnant women to attend ANC? Why? When do you think the first ANC visit should be?
   **Probe:** How is it decided when the first ANC visits should be? Family advice? Traditional beliefs?

10. Why do you think some women delay or not attend ANC or post-natal visits?
   **Probes:** Not encourage by other family members?
   Lost income from work?
   Children at home?
   Feel fine, so not necessary to go to the health facility?

11. Do you think distance to the health facility affect some women’s decision to seek care?
   **Probes:** Is it often far from home to facility?
   Do you walk, go by motorbike, bus, car? How much does that cost? How long time does it take?
   Hard to find transport?

12. Do you think women can go by them self to the facilities or do they need a family member’s permission?
   **Probe:** Husband, family member, friend?
   Can you go by yourself if you want to?
   Do you think that affects some women to come to the facility?

13. Why do you think some pregnant women deliver in the health facilities and others at home?
   **Probes:** Note: Interviewer should use multiple probes as there can be many factors.
   Tradition to deliver at home?
   Traditional beliefs that can be carried out at home?
   Difficulties to get to the facility in time for delivery?
   Cost more to deliver at a facility?
   Do you think it’s safer to deliver at a health facility than at home?
   Does the government impact women to go to the facility? How? Why?
14. Are there any costs for ANC, delivery and post-natal services?
   **Probes:** What for? Tests? Drugs?
   Food? Do you think some women have a problem to pay for this and if that can affect them not to seek care?

15. How do you think that the water, sanitation and hygiene quality at the facilities affects women decision regarding seeking health care?
   **Probes:** Do you believe women would have a problem with wanting to visit a facility, if there was no water or toilets at the facility?
   Can you tell me about the facilities?
   Have you used the facilities?
   Are the toilets clean? Is water available? Can you wash your hands anywhere?
   Are the waiting and delivery room often clean or unclean, what do you think of that?
   Do you think the staff's hygiene is good, clean hands?

16. How do you think the quality of care at the facilities affect if women seek care or not?
   **Probes:** Do you think women feel safe?
   Are the staff skilled and have good knowledge?
   Are there enough staff?
   Do the facilities have enough equipment?

17. Can you describe how the Afya intervention helped you to overcome some of the barriers women are facing when they seek care?
   **Probe:** Which barriers?
   Costs? Lost income from work? Family acceptance? Traditional beliefs?
   Need of company to the facility?

**Part 3. Afya acceptability**

1. Why have women been receiving cash during their pregnancy and afterwards?
   **Probe:**
   - How do you feel about this?

2. Describe the conditions that you needed to meet/do in order to receive the cash transfer.
   **Probe:** How difficult was it to meet these conditions?
3. How do you feel about the way the cash payment was made to you? Prompt: from who, when and where did you receive the money?

Probe: Could you describe the process for receiving the cash transfer?

How convenient did you find this process?

What would you change about the provision of cash transfers? What is your ideal modality for receiving the cash payments. Prompt: electronically or receiving it at a different location/time.

Could you describe what your family and friends thought of the cash transfer that you received?

4. How did the cash transfer change your experience of visiting the health facility during and after your pregnancy?

Probe: why did it have this effect? Prompt: subsidisation of travel to facility/childcare/lost wages, increased awareness of appointment.

Please describe any particularly good or bad experiences that you had with the Afya programme (e.g. failures)

How did you feel about the care that you received at the visits?

5. How did this intervention impact you?

Probe: In positive or negative way? Prompt – time away from children, husband etc.

6. Is there anything else you would like to tell me?
# APPENDIX 3. WASH ASSESSMENT CHECKLIST

## WASH in health care facilities rapid assessment checklist

<table>
<thead>
<tr>
<th>Number</th>
<th>Questions text</th>
<th>Answer options</th>
<th>Tick box</th>
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<tbody>
<tr>
<td></td>
<td><strong>WATER</strong></td>
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</tr>
<tr>
<td>1</td>
<td>What is the main water supply for the facility? (Tick one)</td>
<td>Piped supply inside the building (If, skip to Q 3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Piped supply outside the building</td>
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<td></td>
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<td>Tube well</td>
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<td>Borehole</td>
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<td>Protected dug well</td>
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<td>Unprotected dug well</td>
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<td></td>
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<td>Protected spring</td>
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<td></td>
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<td>Unprotected spring</td>
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<td>Rain water</td>
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<td>Tanker truck</td>
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<td></td>
<td>Surface water (river/dam/lake/pond)</td>
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<td>Other (specify)...........</td>
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<td>No water source (skip to Q 6)</td>
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<tr>
<td>2</td>
<td>Where is the main water supply for the facility located?</td>
<td>On premises</td>
<td></td>
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<td></td>
<td></td>
<td>Within 500 m</td>
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<tr>
<td></td>
<td></td>
<td>Further than 500 m</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Is water available from the main water supply at the time of the</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Assessor(s):**

**Date of assessment:**

**Name and location of health care facility:**
<table>
<thead>
<tr>
<th></th>
<th>survey?</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>If water is not available from the main source, how long has the water facility been down?</td>
<td>Less than 3 months</td>
<td>Between 3-6 months</td>
<td>Between 6-12 months</td>
</tr>
<tr>
<td>5</td>
<td>How far is the nearest pollution source to the water point?</td>
<td>Less than 10 m</td>
<td>Between 10-30 m</td>
<td>Between 30-60 m</td>
</tr>
<tr>
<td><strong>SANITATION</strong></td>
<td></td>
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<tr>
<td>6</td>
<td>What types of toilets/latrines are at the facility for patients?</td>
<td>Flush / Pour-flush toilet to sewer connection</td>
<td>Flush / Pour-flush toilet to tank or pit</td>
<td>Pit latrine with slab</td>
</tr>
<tr>
<td>7</td>
<td>Is there at least one toilet usable (available, functional, and private)?</td>
<td>Yes</td>
<td>Note: Toilets are available when on premises, doors are unlocked or with a key available at all times. To be functional, the hole or pit is not blocked, water is available for flush/pour flush toilets, and there are no cracks or leaks in the toilet structure. To be considered private, the toilet stall has doors that can be locked from the inside and there are no large gaps or holes in the structure. If any of these criteria are</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
<td></td>
<td></td>
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<td>------------------------------------------------------------------------</td>
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<tr>
<td>If the facilities are not usable, how long have they been broken down?</td>
<td>Less than 3 months</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Between 3-6 months</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Between 6-12 months</td>
<td></td>
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<tr>
<td></td>
<td>Over 12 months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there at least on usable toilet designated for staff?</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there at least on usable toilet designated for women and girls which provides facilities to manage menstrual hygiene needs?</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note: has a bin with a lid on it for disposal of used menstrual hygiene. Products, and water and soap available in a private space for washing.</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there at least on usable toilet designated for people with reduced mobility?</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>Note: A toilet can be considered accessible for people with limited mobility if it meets relevant national or local standards. In the absence of such standards, it should meet the following conditions: 1) can be accessed without stairs or steps, 2) handrails for support are attached either to the floor or sidewalls, 3) the door is at least 80 cm wide, and 4) the door handle and seat are within reach of people using wheelchairs or crutches/sticks.</td>
<td>No</td>
<td></td>
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<tr>
<td>HAND HYGIENE</td>
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<tr>
<td>Is there a functional hand hygiene facility at points of care on the day of the survey?</td>
<td>Yes</td>
<td></td>
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<tr>
<td></td>
<td>No, there are hand hygiene facilities at points of care but not functional, or lacking soap and water or alcohol-based</td>
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<tr>
<td><strong>13</strong></td>
<td><strong>Is there a functional handwashing facility at one or more toilets on the day of the survey?</strong></td>
<td>Yes</td>
<td></td>
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<td></td>
<td></td>
<td>No, there are handwashing facilities near the toilets but lacking soap and/or water</td>
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<tr>
<td><strong>14</strong></td>
<td><strong>Is there a hand hygiene promotion poster visible in key places/the patient waiting area?</strong></td>
<td>Yes</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WASTE MANAGEMENT</strong></td>
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<tr>
<td><strong>15</strong></td>
<td><strong>Is waste correctly segregated into at least three labelled bins in the consultation area?</strong></td>
<td>Yes, waste is segregated into three labelled bins</td>
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<td></td>
<td>Hint: The bins should be colour-coded and/or clearly labelled, no more than three quarters (75%) full and each bin should not contain waste other than that corresponding to its label. Bins should be appropriate to the type of waste they are to contain; sharps containers should be puncture-proof and others should be leak-proof. Bins for sharps waste and infectious waste should have lids.</td>
<td></td>
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<td></td>
<td>No, bins are present but do not meet all requirements or waste is not correctly segregated</td>
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<td></td>
<td>No</td>
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<td><strong>16</strong></td>
<td><strong>How does this facility usually treat/dispose of infectious waste?</strong></td>
<td>Autoclaved</td>
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<td></td>
<td></td>
<td>Incinerated</td>
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<td></td>
<td></td>
<td>Burning in a protected pit</td>
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<td></td>
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<td>Not treated, but collected for medical</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Not treated, but buried in lined, protected pit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>waste disposal off-site</td>
<td>Open dumping without treatment</td>
<td>Open burning</td>
<td>Not treated and added to general waste</td>
</tr>
<tr>
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<td>----------------------------------</td>
</tr>
<tr>
<td>17</td>
<td><strong>How does this facility usually treat/dispose of sharps waste?</strong></td>
<td>Autoclaved</td>
<td>Incinerated</td>
<td>Burning in a protected pit</td>
</tr>
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</tbody>
</table>

**ENVIRONMENTAL CLEANING**

<table>
<thead>
<tr>
<th></th>
<th>Are cleaning protocols available?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Have all staff responsible for cleaning received training?</td>
<td>Yes</td>
<td>No, some but not all have been trained</td>
</tr>
<tr>
<td>20</td>
<td>How often is health care facility floors/surfaces cleaned?</td>
<td>More than once a day</td>
<td>Once per day</td>
</tr>
<tr>
<td>21</td>
<td>Is the treatment room visibly clean on the day of the survey?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
APPENDIX 4. PARTICIPANT INFORMATION SHEET

Participant information sheet regarding the study: Barriers affecting women’s decision to seek care during pregnancy, childbirth and in the postnatal period in rural Kenya.

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask questions if anything you read is not clear or would like more information. Take time to decide whether or not to take part.

This study is a part of a master thesis in public health at Uppsala University in Sweden. It is also a part of the ongoing trial “Conditional Cash Transfers to Retain Rural Kenyan Women in the Continuum of Care during Pregnancy, Birth and the Postnatal Period: Protocol for a Cluster Randomized Controlled Trial” implemented by Stockholm Environmental Institute (SEI) and Safe Water and AIDS Project (SWAP).

The purpose of the study is to examine different barriers, with a focus on water, sanitation and hygiene (WASH), for women seeking health care, and to see if the Afya intervention have helped with overcome some barriers. The study will also examine the quality of the water, sanitation and hygiene (WASH) facilities at the health care centres. This is done to with the goal to discover and reduce barriers for women seeking health care and to improve the quality of the health care in Siaya County.

It is up to you to decide if you want to participate or not. You are free to withdraw at any time, without giving a reason. If you decide to participate you will be interviewed in either in-depth interviews or be a part of a focus groups discussion regarding if there is any barriers for women seeking health care. You will only need to attend on interview and it will take around one hour. The interview will be recorded. No one except the interpreter and the interviewer will listen to the audio recording. Your participation will be anonymously.

We cannot promise the study will help you but the information we get from the study will help to increase the understanding of barriers for women seeking health care in rural Kenya.
APPENDIX 5. CONSENT LETTER

Consent letter to participate in interview regarding barriers affecting women’s decision to seek care during pregnancy, birth and in the postnatal period in rural Kenya

By signing this letter you are confirming that you have been giving information on the study and have been able to ask questions. By signing this letter you give your consent to participate in the study. Your signature is needed to confirm that your participation is voluntarily and that you have given all information to make this decision.

I am giving my consent to record and write down my interview word for word. I also understand that my participation is anonymously and that I can withdraw my participation at any time, without giving a reason.

………………………….  ……………………………
Signature  Date and location

…………………………
Name clarifying
## APPENDIX 6. EXAMPLE OF DATA ANALYSIS PROCESS

<table>
<thead>
<tr>
<th>Interview</th>
<th>Meaning Units</th>
<th>Condensed meaning units</th>
<th>Codes</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Like for example myself, I am lame. When I go to the toilet I must bend and touch the floor with my hands because I cannot squat. When I find that the facility has very dirty latrine, I will not choose to go to that latrine because I will touch feces. When I come from the toilet I must make sure that I have water and soap to wash my hands because if I don’t do that then I might fall sick. So that is why I will always choose the hospital with clean latrines and a place where there is water for handwashing.</td>
<td>When I find the facility has dirty latrines, I will not choose to go to latrine. I will always choose the hospital with clean latrines and a place where there is water for handwashing</td>
<td>Dirty latrines at facility</td>
<td>WASH</td>
</tr>
<tr>
<td>2a</td>
<td>I think it depends with an individual, there are some who feel that the journey is long and they cannot come to the facility for clinic until they deliver. Some also feel that they cannot start early because they will don’t want to make many trips to the hospital.</td>
<td>Journey to long and cannot come to facility until delivery. They cannot start early, they don’t want to make many trips to hospital.</td>
<td>Want to make few trips because of long journey</td>
<td>Distance and transport costs</td>
</tr>
<tr>
<td>2b</td>
<td>And again once you have had like seven eight children and you become pregnant again you will have shame on what people will say when they see that you are pregnant again because the child you will be expecting will be the ninth. So embarrassment is an issue.</td>
<td>You have had seven eight children and you become pregnant again, you will have shame, when people see that your pregnant again. Embarrassment is an issue.</td>
<td>Embarrassed because you are have pregnant again</td>
<td>Embarrassment</td>
</tr>
<tr>
<td>3a</td>
<td>I started when I was four months pregnant. I did not start attending the clinics early because my husband told me to wait until I was four months old.</td>
<td>I did not start attending clinics early because my husband told me to wait.</td>
<td>Husband told me to wait</td>
<td>Gender norms</td>
</tr>
</tbody>
</table>