Barriers to skilled attendance during childbirth
A survey among mothers in rural Gambia

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Abstract

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Background: Every year an estimated 358 000 women die as a result of pregnancy and childbirth-related complications, with more than 87% of these deaths occurring in Sub-Saharan Africa and South Asia. Barriers to accessing health care are keeping women away from lifesaving interventions. The Millennium Development Goal (MDG) 5 is an attempt to address these maternal health issues, whereby the international community has agreed to reduce maternal mortality worldwide by three quarters between the years 1990 and 2015. The maternal mortality ratio (MMR) and the percentage of births attended by skilled health workers are key indicators for measuring the progress towards this goal.

Methods: This is a cross-sectional study using convenience sampling to recruit participants. Four hundred and thirty-two Gambian women who recently gave birth outside of a health facility were interviewed and asked to state the barriers they perceived as the most important for not giving birth in a health facility. The women were also asked about the information they had received and the preparations they made prior to childbirth, as well as experiences and perceptions that could influence the use of skilled attendance. Predictive Analytic SoftWare (PASW) Version 18 was used for all analysis.

Results: The most important barriers for giving birth in a health facility were shortage of time and lack of transport. The majority of the women stated that the main benefit to being attended by a health worker was safety reasons, 83% desired a health worker to attend them. The majority of the women reported that they were satisfied with the health services. 72% of the participants gave birth attended by a traditional birth attendant (TBA). 27% stated that they intended to give birth at home, and 64% stated that one or more preparation had been made prior to childbirth. Only 21% were informed about expected time of birth during antenatal care (ANC).

Conclusion: Our findings suggest that there is a great potential to reach the target of the MDG 5 and to reduce inequity in the country: Women have the knowledge and motivation, which are important if practices are to be changed from giving birth at home to seeking skilled care for childbirth. However, the barriers need to be addressed. We propose exploring interventions aimed at reducing barriers and delays to the timely transport of women to a health facility.

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Abbreviations

ANC: Antenatal care

BP/CR: Birth preparedness and complication readiness

EmOC: Emergency obstetric care

EOC: Essential obstetric care

EUR: EURO

GMD: Gambian Dalasi

JHPIEGO: John Hopkins Program for International Education in Gynaecology and Obstetrics

MDGs: Millennium Development Goals

MMR: Maternal mortality ratio

RR: Relative risk

TBA: Traditional birth attendant

VHW: Village health worker

WHO: World Health Organization

Definitions:

Antenatal care: Includes recording of medical history, assessment of individual needs, provision of advice and guidance on pregnancy and delivery, performance of screening tests, education on self-care during pregnancy, identification of conditions detrimental to health during pregnancy, first-line management and referral if necessary.

Childbearing period: Referred to as pregnancy, labour/childbirth and postpartum period.

Emergency obstetric care: includes a set of medical interventions or functions to manage life-threatening obstetric complications.

Essential obstetric care: The minimal health care interventions needed to manage or prevent complications of pregnancy and delivery.

Key risk factors during pregnancy: Severe vaginal bleeding, swollen hands/feet, blurred vision

Key risk factors during labor and childbirth: Severe vaginal bleeding, prolonged labor (>12 hours), convulsions, retained placenta

Key risk factors in the post-partum period: Severe vaginal bleeding, foul-smelling vaginal discharge, high fever

Maternal health: Refers to the health of a woman during pregnancy, childbirth and postpartum period.

Maternal mortality: The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy, and from any case related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

Maternal mortality ratio: Number of women dying of pregnancy-related causes out of 100000 live births in a given year.

Postnatal care: Refers to care provided to women after childbirth, the woman and baby are checked for danger-signs, within 42 hours of childbirth.

Post-partum period: Period from delivery until return of the reproductive organs to their normal non-pregnant state. This generally lasts for six to eight weeks.

Skilled birth attendants: The term “skilled attendant” refers exclusively to people with midwifery skills (for example doctors, midwives and nurses) who have been trained to proficiency in the skills necessary to manage normal deliveries and diagnose and refer obstetric complications.

Traditional birth attendant: Provide basic health care, support and advice during and after pregnancy and childbirth, based primarily on experience and knowledge acquired informally through the traditions and practices of the communities where they originated.

Women of reproductive age: (or women of child-bearing age). Refers to all women aged 15 to 49 years, unless otherwise specified.

1 Background

Every year an estimated 358 000 (with uncertainty between 265 000 and 503 000) women die due to pregnancy and childbirth-related complications (1). According to the World Health Organization (WHO), the global maternal mortality ratio (MMR) is estimated at 260 (with an uncertainty between 200 to 370), with the vast majority of maternal deaths (87%) occurring in Sub-Saharan Africa and South Asia (1). Maternal mortality has been described as the tip of the iceberg, as for every woman that dies, there are many more victims of devastating disabilities due to complications during childbirth (2;3). Beyond a doubt, the distribution of maternal mortality and morbidity disproportionately strikes less privileged women, particularly those who are poor and of low education. Poor-rich disparities do not only exist between high-income countries, and low- and middle income countries, but also within many countries (4). Maternal mortality can drop dramatically within a short timeframe if access to quality primary and referral health care is provided. This is illustrated through the fact that maternal deaths are rare in high-income countries (5;6). In countries with the highest numbers of maternal mortality, poor access to maternal health services, shortage of qualified staff and financial barriers are factors hampering progress (7).

1.2 Introduction of the study

The aim of this study is to assess the most important barriers and delays for seeking skilled care for childbirth among women that has given birth outside a health centre in rural Gambia. Birth preparedness and complication readiness will be assessed, in addition to perception and experiences that can influence use of health services.

The thesis consists of six chapters. The first chapter provides a description of maternal mortality, a brief presentation of the history of reducing maternal mortality in low- and middle-income countries with emphasis on the strategy of skilled attendance for childbirth, and how the situation is today. In chapter two the objectives of the study and the study site is presented, in addition to information regarding the situation of maternal health in The Gambia. In chapter three, a literature review of the identified theory of relevance for this study is displayed. Chapter four is an overview of the methods that has been used, and chapter five shows our results. In the last chapter, a discussion of our most important findings, seen in relation to identified studies of relevance, and finally, implications for policy and further research are provided.

1.3 Maternal mortality

Maternal mortality is defined as: “The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy, and from any case related to or aggravated by the pregnancy or its management but not from accidental or incidental causes” (8).

1.3.1 Causes of maternal mortality

The leading causes of maternal mortality are classified as direct causes, and include haemorrhage, infections, eclampsia, obstructed labour and unsafe abortion; these cases account for 80% of maternal deaths globally. Indirect causes of maternal mortality are related to diseases present before pregnancy or independent conditions occurring during pregnancy that are complicated or aggravated by pregnancy. Indirect causes account for 20% of maternal mortality globally (3), examples of such diseases are HIV/AIDS and malaria (6).

Maternal deaths occur most often during labour, childbirth and the first 24 hours after childbirth (9). When complications arise, the situation is often complex, as complications seldom occur on their own. For example, haemorrhage and sepsis are often concurrent diagnoses. Nevertheless, complications related to childbirth can shortly develop into life-threatening conditions, and surgical treatment can often be the only solution (10;11).

1.4 Reducing maternal mortality

In 1930, concerns were raised by colonial powers regarding maternal mortality, and a desire to convey medical improvement from Western countries arose. However, medical care models were not transferable. This experience was the grounds for the development of Alma Ata declaration “health for all by 2000” in 1978. Countries made a commitment to health policies that went beyond just offering health services. The underlying social, economic and political causes of health problems were in focus, and the primary health care strategy was set to be universal (12).

In a conference in Nairobi in 1987, the international public health community agreed to increase the focus on a neglected problem: the high level of maternal mortality and morbidity (4). The safe motherhood initiative was launched, which consisted of four pillars: (a) antenatal care (ANC), (b) family planning, (c) clean and safe childbirth and (d) essential obstetric care (EOC). This package was developed to ensure that women had safe pregnancies, safe deliveries and live births (13).

1.4.1 Introduction of human rights to safe motherhood

Safe motherhood has been under-prioritised, and viewed as a subgroup of child- and reproductive health initiatives. However, after two conferences; in Cairo (1994) and Beijing (1995), the focus was directed towards social, cultural and gender-based determinants. A shift in the way maternal mortality was understood led to a more human-rights-focused approach to the phenomenon. With a strengthened connection between health and human rights, a new and important dimension of the safe motherhood approach was introduced. It was argued that maternal deaths are different from other deaths; as pregnancy and childbirth are natural physiological processes that the existence of humanity is dependent upon (12). Hence, the strategy to reduce maternal mortality is not about the eradication of a disease, but rather a continuous care during pregnancy and childbirth which must continue for all times. As women alone face the risk, a lack of effort to reduce the risks is discriminating. Linking the definition of maternal mortality to terms such as “social injustice” and “health disadvantage” required that governments include reasons for poor maternal health into their political, health and legal systems (12). In some regions of the world, women face a high risk of undergoing maternal mortality, which is an infringement on their rights (14). In article 12.2 of the Convention of the Elimination of All Forms of Discrimination it is stated: “States Parties shall ensure to women appropriate services in connection with pregnancy, confinement and the post-natal period, granting free services where necessary, as well as adequate nutrition during pregnancy and lactation” (15). Furthermore, all women who want a child also want to know they will be safe during the pregnancy, childbirth and the period after, and that they will be given reassurance and care (7). The increasing use of skilled attendants for childbirth by richer populations indicates that women would prefer to give birth attended by professional health workers (4).

1.4.2 Antenatal care and traditional birth attendants

Different strategies to reduce maternal mortality have been tried; however, not all have been proven effective. The effect of ANC in reducing maternal mortality has been questioned (13). The benefits of attending ANC are now justified by receiving health promotion and to better health-seeking behaviour, including birth preparedness (11;16). Training of traditional birth attendants (TBAs) is another initiative that has not proven to cause a reduction of maternal mortality. This strategy is not recommended unless a close co-operation with health system exists, whereby the TBA is able to make a referral to sufficient care within a reasonable timeframe (2;17;18) . Due to the understanding that these approaches have failed in terms of leading to reduced maternal mortality, we have seen a shift in the recommended strategies, towards promoting skilled attendance for childbirth (19).

1.4.3 Skilled birth attendance

The strategy of skilled attendance in an enabling environment refers to one where health workers with midwifery skills are present at the birth who have the ability to handle or refer in cases of emergency, and who have sufficient and appropriate equipment (20). Skilled attendants can attend deliveries at home, in health centres or in hospitals, although in most countries, one has to give birth in a health facility to be attended by a skilled provider (21). Available evidence of the effect of skilled personnel versus home birth in reducing maternal mortality is scarce. However, the effects of single interventions (e.g. expedited delivery) are well documented through sound techniques as randomised control trials (10;11). Experience and knowledge from the history of high income countries, where a reduction of maternal mortality occurred proportionately with increased access to professional health workers for childbirth, is used as a rational (22). As maternal mortality clusters around the time of birth, and given that the most common reasons for mortality are haemorrhages, infections and hypertensive disorders which require medical interventions, it has been argued that the strategy of skilled attendance is the single most effective intervention in preventing maternal death (11). Another argument supporting the strategy of skilled attendance during childbirth is that almost half of all stillbirths, 1 million of the 2.2 millions that occur each year are taking place during- and immediately after childbirth (23). Skilled attendance, EOC or emergency obstetric care (EmOC), can be effective in reducing stillbirths, however, more evidence is needed (24).

1.4.4 Millennium Development Goal 5

In 2000, the Millennium Development Goals (MDG) was endorsed by 189 countries. Eight goals was set to address extreme poverty (25). In MDG 5, there are two targets for improving maternal health. Goal 5 A is to reduce the MMR by 75% between 1990 and 2015, and goal 5 B is to achieve, by 2015, universal access to reproductive health services (26). This means that maternal mortality was, for the first time, placed among the top prioritised health topics on the international agenda (6), after having previously been regarded as a domestic affair (3).

Goal 5 A will be the focus of this thesis. To achieve this goal, the annual decrease in MMR must be 5.5% globally (1). MMR and the proportion of births attended by skilled health workers are indicator for measuring progress (26). The goal is to increase the proportion of births attended by skilled personnel to 80% by 2005, and 90% by 2015 (27).

1.4.4.1 Are the MDGs measurable?

Measuring maternal mortality is problematic. In fact, in countries where high maternal mortality exists, information to assess trends is not available from the civil registration system and, hence, the measurement of the main indicators in accordance with United Nations directions is non-existent (28). With this lack of vital register systems for births and deaths, it is evident that measuring the progress of the medical causes of those events will be highly inaccurate. Unfortunately, the ability to measure the actual MMR in such populations is impossible. Furthermore, maternal mortality is difficult to measure in surveys, due to the high number of participants that would be needed to obtain an accurate measurement. These are some reasons for why estimates must be used (29-31). The wide uncertainty margins for the estimated maternal mortality ratio, as well as the modification in the way the estimates are developed and changes in the classifications of groups (which refers to the fact that countries are arranged into different groups to show their levels of progress), makes it questionable to draw conclusions based on the trends for estimates developed in 1990 and 2000 (32).

There are also some challenges involved in measuring the percentage use of skilled providers. The very definition of a skilled attendant itself is problematic due to significant variations in the training, tasks and available equipment between facilities and countries (31). Furthermore, the use of skilled attendants is measured by population-based surveys where women who have recently given birth are asked about the attendant they used. This method does not provide information about the profession and skills of the provider or the level of enabling environments (33). In some countries, giving birth in a health facility does not guarantee being attended by a health worker; in Senegal, for instance, TBAs were found to conduct deliveries in health facilities (34). In Malawi, women gave birth in a health facility without any attendance (35). Hence, women who are attended by personnel who are not certified health workers or give birth in a health facility without attendance may be included in data that is used to measuring progress.

1.5 The progress so far…

After many years of focusing on maternal mortality, it is clear that there is no easy solution to the problem (9). Poverty, inequity and insufficient resources are important aspects of maternal mortality that make the concept complex (3;36). We possess life-saving procedures but there has been a failure to act sufficiently upon the emergencies (3). Inadequate investment and competition between donors, lack of political commitment to act, difficulties in measuring maternal mortality and attention directed towards interventions of doubtful effectiveness are some important factors that have resulted in slow progress in reducing

maternal mortality (37). Furthermore, a critical shortage of health workers are contributing to this situation (38).

There has been some success with the MDGs. However, critic has been raised towards the lack of ability to address the poorest of the poor and for a failure in combating inequality. Some governments, and some of the goals, are invisible, which is especially the case for maternal mortality, sanitation and slums (39).

1.5.1 Reduction of maternal mortality

Despite the questionable measurement of trends, the WHO operates with the following estimates for progress: globally, the reduction of maternal mortality between the year 1990 and 2008 was 2.3%. In countries where MMR was over 100 when baseline was measured in 1990, 23 countries are making little or no progress at all. The majority of these countries are located in Sub-Saharan Africa (1).

1.5.2 Coverage of skilled attendance for childbirth

There has been a slow increase in the proportion of women who are attended to by skilled personnel; however, the target is far from reached. The proportion of births attended by skilled personnel was 63% in 2008, with the coverage ranging from 35.3% in some low-income countries to 99.5% in high-income countries (40). The numbers illustrate one of the most striking poor-rich inequities globally (4). A significant difference in the use of skilled attendance also exists between rural and urban areas (18;34). Still, roughly 25% of women in low- and middle-income countries give birth without an attendant, or are attended by a relative/friend. The situation is particularly challenging in Sub-Saharan Africa due to a lack of skilled workers and as a consequence of the HIV/AIDS epidemic (18). As long as this is the situation, unacceptable inequities between poor and rich populations and between rural and urban populations will continue to exist (7).

In an effort to increase use of skilled attendance for childbirth, an innovative project is taking place in India. When giving birth in a health facility, women are given money to cover hidden costs as transport to the health facility, buying food during admission, buying medicines and the cost of the treatment (41).

1.5.3 Poverty and Inequity

In a recent publication on the trends from Demographic and Health Surveys from 15 low- and middle-income countries regarding where women gave birth, it was found that the majority of births were homebirths, as this was often the only option. A vast rich-poor and rural-urban

gap in institutional births was found, however, the rich-poor gap was the widest (42). Furthermore, it has been shown that when the availability of emergency care has been scaled up, the increase of use and, thereby, progress is made by the urban, higher-educated and wealthy population (43). The provision of EmOC services are minimal in many countries, with vast disparities occurring both within and between countries. The differences are geographical, economic and social (14).

According to Lerberghe et al (4) it is tempting to wait with solving the problem of maternal mortality until poverty is eliminated (4). When interventions are conducted to facilitate better access to maternal health services, and thereby reduce maternal mortality and morbidity, improvements to maternal health services should not be the sole focus; emphasising the women's opportunity to take control over their lives, their health and the health of their children are crucial (4). Increased access of family planning is an example of an important factor that can control parity and thereby reduce the risk of maternal mortality (11). Furthermore, an important contributor to maternal mortality is unsafe abortion. Whether or not there are legal restrictions to abortion in a country, most women who really wish to have an abortion will find a way to do so. When abortions are conducted illegally, the likeliness that it is untrained personnel carrying out the procedure in unhygienic conditions is increased (44). Nevertheless, it is important that consideration is given to cultural, legal and ideological aspects in different countries and contexts, to achieve sustainability and acceptability of interventions. Meeting the needs of the wider population should be the aim, hence accessibility is important to facilitate increased usage of health services (11).

1.5.4 Quality of care

Maternal health services in low- and middle income countries are often of poor quality and thus increasing the number of women who give birth in a health facility will not be sufficient to ensure that the clinical care is of satisfactory standards (7). It has been found that in many places, the majority of maternal deaths occur in hospitals. There are three main types of causes for these deaths: women arriving in a moribund condition who cannot be saved by emergency care, women that could have been saved by effective and timely interventions but arrived too late, and women admitted for normal childbirth but developed complications and were not saved. The last group mentioned raises concerns about the service that is provided (6).

2 Objectives and setting of current study

Problem: High maternal mortality ratio and low use of skilled attendance for childbirth in The Gambia.

2.1 The main objective:

To assess the most important barriers and delays for seeking skilled care for childbirth, among women that gave birth outside a health facility in rural Gambia.

2.1.1 Other objectives:

- To assess birth preparedness and complication readiness prior to childbirth
- To assess experiences and perceptions among women regarding key aspects of pregnancy and childbirth, that can influence the use of skilled attendants for childbirth

2.2 Study setting: The Gambia

This is a map of The Gambia:

2.2.1 Geography

The Gambia is a small country of about 10 690 square kilometres in West Africa. It borders Senegal in the north, east and south, and has a short coastline to the Atlantic Ocean in the west. The country is divided into five administration regions: Western Region, Lower River Region, Central River Region, Upper River Region and North Bank Region. The climate is tropical (45).

2.2.2 Description of the population

The population in 2011 is estimated at 1.79 million people, with roughly 60% of the inhabitants located in rural areas. The crude birth rate is 46 per 1000 of the population and fertility rate is 5.4 births per woman. Due to the high fertility rate, almost 44% of the population is below 15 years and 19% of the population is between 15 and 24 years. The life expectancy is 64 years (46). A survey that was conducted in Farafenni found that 40% of the men and 56% of women were married polygynously. Women were found to entering marriage at an age of 15 years, while the mean age for men was 25. (47). The labour force rate is 71.2% women and 85.1% men. Contraceptive prevalence is 17.5% (48).

The ethnic groups in the country are Mandinka (42%), Fula (18%), Wollof (16%), Jola (10%), Sarahula (9%) and others (5%). 90% are Muslim; 8% Christian and 2% others. There is very little friction between the ethnic groups and they pursue their own language and traditions. English is the official language (49).

The illiteracy level of The Gambian population over 15 years is 36%. In rural areas, the illiteracy is 52% and in urban areas it is 25%. The economic situation seems to influence the levels of education, as poor groups are underrepresented in the education system. Variations are also present between the different regions; the highest attendance is found in the western part of the country (50). The country has a policy of free education for girls (51).

In 1993, half of the population had access to safe water and 37% to sanitation facilities. Within these numbers, there are sound differences between the location and household wealth (50).

2.2.3 Economy

The Gambia has a gross domestic product (GDP) per capita of US$320. Approximately 80% of the population is involved in agriculture; however the service sector is the main contributor to the GDP. Other income sources are farming, fishing and tourism (50). The country is ranked 151 out of the 169 countries on the Human Development Index. The proportion of multi-dimensional poverty (given in headcount) is 60.4% (48). In the country, poverty has been found to be linked with household characteristics, income-generating activities and ownership. It has been stated that the following factors increase the chance of being poor: rural residence, low level of education, polygamous relationship, female-, widow- or old-head of family, poor access to markets, low level of productivity in agriculture, large families (+/- 7) and having sick family members (52). Due to the high proportion of poor people in the

country, disease vulnerability is high, which is a significant challenge for public health service delivery (45).

2.2.4 Health policy

The Gambia adopted the Primary Health Care strategy in the late 1970s. The Gambian health policy has been regarded as pro-poor, due to the focus on primary health care, maternal and child health and the general effort to reduce inequities in access to health care. In recent times, the government has placed an emphasis on preventive health and access to community health care (50). This emphasis can be seen in the presidential decree for free maternal and child health (under 5 years) services that was announced as a policy statement in August 2007.

2.2.5 Health Services

Access to general health facilities is high, as over 85% of the population live within one hour travel time, or 7.5 km, of a health facility (50). The following discussion highlights the different levels for health service provision (from low to high levels):

2.2.5.1 Primary level: village health services/community health post

Village health workers (VHW) and TBAs provide basic minimum health care (46). There are currently 492 health posts throughout the country (50), with providers receiving only basic training. Services covered by the VHW are treatment for non-complicated malaria, diarrhoea, minor injuries and worm infestation (53). TBAs and VHWs are a crucial link between health services and The Gambian population (50). According to Cham et al (50) the TBAs role is to conduct normal deliveries, identify women at risk and refer them to a health facility when necessary (50). TBAs are trained in recognising danger signs to enable them to know when referral to a health facility is necessary, to perform clean handling of the umbilical cord and administration of ergometrine drugs after childbirth (54).

2.2.5.2 Secondary level: the basic health care services

At the secondary level there are 29 minor and 6 major health centres, in addition to mobile health posts. The secondary health services act as the first level of referral, and are designed to handle basic EOC and minor surgery, however, most obstetric patients are referred to hospitals (50). Staff at the secondary level consists of nurses, midwives, public health officers and doctors. Reproductive and Child Health mobile teams complement the village health service by offering antenatal care, child immunisation, weight monitoring and simple clinical care for children on set days (46).

2.2.5.3 Tertiary level: hospitals

Five hospitals serve at the tertiary level of care (45). Specialised services are offered at the hospitals, and for services that cannot be handled here, patients are sent to other countries, most often to Senegal (50).

2.2.5.4 Non-governmental services

Private non-governmental health care services do exist but to a lesser extent than in the public sector (50). Besides modern health care, there is a traditional medicine network throughout the country. According to the WHO (45), the traditional healers form the first meeting between a large part of the population and the health care services (45). The traditional healing system consists of bone setters, herbalists, spirituals and TBAs. The various providers often offer a combination of these services. The traditional medicine network is said to contribute significantly to the health of the population and increased cooperation with traditional medicine is being called for. However, concerns have been raised about the quacks in the traditional system and the need to regulate these activities (52).

2.2.5.5 Human resources

The availability of manpower in The Gambia is similar to that in other countries in Sub-Saharan Africa, with one physician per 5000 people, one nurse per 1300 people and 1.21 hospital beds per 1000 people. Expatriate physicians constitute a dominant majority of the manpower (over 90% in 2007), with the number of Gambian physicians being dramatically low given that the first group of medical students graduated from a Gambian University in 2006. Many nurses move away from the country, which has a significant effect on human resources. The difference in resources, equipment and quality of services vary greatly among the regions (50).

2.2.5.6 Maternal health policy

The health policy in the country is aimed at improving access and quality of maternal, sexual and reproductive health services, HIV prevention and information, and is working towards a behaviour change in the population with regards to gender, reproductive health and rights (50;53). Reproductive and child health services are primarily the responsibility of the public health sector, with some support from the private sector and NGOs. The highest disease burden for poor people in the country, together with communicable diseases, is reproductive health conditions (50).

2.2.5.7 Current study area

The current study was conducted in the North Bank East division. The main ethnic groups in the region are Mandinka (43%), Wollof (36%) and Fula (20%) (47). Most of the participants were situated in villages and a minor group were stationed in the towns Farafenni and Kerewan. Between the Trans-Gambia highway and the villages, there are gravel roads and the main forms of transport are foot, bicycle and horse. Between the largest villages and the town there are taxis/minibuses that run occasionally (55).

2.3 The maternal health situation in The Gambia

2.3.1 Maternal mortality and morbidity

The MMR in The Gambia is high. The most recent estimate from the WHO is 400 per 100 000 live births, with uncertainty ranging from 190 to 910 (1). The main causes of maternal mortality in the country are eclampsia, sepsis, ante-partum haemorrhage and post-partum haemorrhage. Other contributing factors are malaria during pregnancy, nutrition deficiencies and a high fertility rate. There is a 73% anemia prevalence rate for pregnant women (50). A study of women of rural residence found that 70% of the women had at least one reproductive-organ disorder, and childbirth related damage to the pelvic structure was identified in 46% of the women (56).

2.3.2 The progress of reducing maternal mortality

The Gambia is classified by the WHO in the group of countries "making progress"[1] in reaching the MDG 5, with an annual estimated decline in the MMR of 3.4% and a total of 46% decrease in the MMR between 1990 and 2008 (1). However, the rural-urban differences of the MMR within the country are vast, as the MMR in rural Gambia is about twice the size of that in urban areas (50). Possible explanations to the decrease in maternal mortality are better access to EOC, improvements in access to transportation and better communication (55). The met need of EmOC services in the country is low. The coverage is ranging from 2.2% to 31%, of the UN recommendation of 100% (57).

The high level of maternal mortality is mainly caused by sub-optimal availability of maternal health services, low utilisation of EmOC services and low coverage of skilled attendant for childbirth (58).

1 Countries with MMR > 100 have been classified as the following: "on track": annual decline 5.5 % or more; "making progress": annual progress between 2-5.5 %; "insufficient": annual progress less than 2 %; "no progress": annually rise of MMR.

2.3.3 Progression in the use of skilled provider for childbirth

In The Gambia, 54.5% of the childbirths are assisted by a skilled attendant (59). However, various other estimates have been presented; in a recent draft for the reproductive and child health policy in the country it was stated that 70% give birth outside a health facility, often attended by a TBA. (58). The population that is classified as poor use health services less than the richer population. Home births, with assistance of a TBA, are the dominant method in poor households, while richer households most commonly have a professional attending the childbirth (50).

2.3.4 Use and availability of other maternal health care services

ANC coverage (at least one attendance) is 98% (48). Utilisation of ANC in The Gambia is considerably higher than the average attendance in Sub-Saharan Africa of 60%. However, there is a variation in the use of ANC between rural and urban populations, with an average of five visits in urban areas and three in rural areas (50). Women have been found to attend their first ANC visit quite late in their pregnancy with 50% of women visiting in the third trimester (60;61). According to Telfer et al (54), between four and six weeks following childbirth, women should attend a postpartum visit. In this visit, the mother and newborn should be examined and the baby should be immunised. The majority of women with neonates attended infant welfare clinics and almost all had their baby vaccinated, however, only 30% of the women themselves were examined.

3 Literature review

3.1 Theoretical framework

In the identified literature regarding the barriers and delays in the use of health services for childbirth, there are different theoretical frameworks. The most common are the following three phases of delay.

3.1.1 The three phases of delay

Thaddeus et al (62) introduced the conceptual framework of "the three phases of delay": delays in deciding to seek care, delays in reaching the health facility and, after reaching the facility, delays in getting the appropriate care. This framework focuses on obstacles (barriers and delays) in the timeframe from when obstetric complications arise and the outcome, regarding access and utilisation of quality health services. It is argued that the outcome would usually be satisfactory if timely and appropriate treatment was provided.

The three phases of delay are:

- Phase 1: delay in the decision to seek skilled care for the woman herself, the family, or both. Some factors that influence this decision are the different actors in the decision-making process, the status of women, nature of the symptoms of the complication, distance, cost, experiences and perception of the health system.
- Phase 2: delays in reaching the appropriate health facility. Factors that will influence phase 2 are related to physical accessibility, such as location of the health facility, travel time to the facility, availability and cost for transport and road condition.
- Phase 3: delay in receiving adequate care at the facility. Factors that influence the third phase of delay are the functioning of the referral system, such as availability of supplies, equipment and the availability and skills of the facility staff (62).

A complex interplay of factors such as distance, cost, quality of care and cultural constraints influence these delays (62).

Gabrysch et al (21), expanded this model to include preventive care-seeking in addition to seeking help for complications. They state that the factors involved will be similar for preventive care- seeking, but the importance of these factors may be different. For example, the reluctance to pay the transport cost may be reduced after complications have occurred

and be more important than being attended by skilled health personnel for preventive reasons.

3.1.1.1 Limitations of the model

To reduce maternal mortality, appropriate help has to be accessible within a sufficient timeframe for women experiencing complications. There has been, therefore, much focus on reducing the first two delays. However, a focus on the early detection of risk factors and timely access to referral has some underlying assumptions that are questionable, namely the assumption that risk factors would be recognised at the community level, by the woman or her family. A challenge with this assumption is that for most pregnancy-related risk factors, without using the right diagnostic tool, identification of a complication before it has developed to a critical and life-threatening situation is difficult. The same problem applies for the fetus and newborn baby. Thus, it is crucial that the strategy focuses not just on educating women and the communities, but on a combination of factors including increased access and use of maternal health services (18).

3.1.2 The birth preparedness and complication readiness strategy

Birth preparedness and complication readiness (BP/CR) is a common strategy in safe motherhood programs. Previously, the focus on delays has been on the "demand side", which refers to the individual, the family and the community, or the users of the health care system (31). Hospital-based investigators of maternal mortality have previously focused on the health care users delays in reaching the health facility, and have hence "blamed" them for any delay. Thus, the three phases of delay framework also addresses delays at the health facility level (62). The birth preparedness and complication readiness strategy developed by the Maternal and Neonatal Health Program at JHPIEGO (former John Hopkins Program for International Education in Gynaecology and Obstetrics) also includes the supply side, namely, the facilities, the providers and the policy makers. Delays in receiving care can stem from numerous sources, and thus the responsibility has to be shared (31).

The aim of the BP/CR program is to increase the timely use and effectiveness of key services for mothers and newborns, particularly during childbirth. The strategy is built on the assumption that a reduction in the delays on all three levels can be obtained by preparation for childbirth and any possible complications. For the skilled care approach, birth preparedness should include the identification of a skilled provider, saving money, identifying transport and identifying a blood donor before the labour starts. The individual's ability to recognise any danger signs should be increased through health education. These activities can contribute to being able to make use of a skilled health worker for all childbirths (31).

At the facility level, preparations should be made to increase the availability of equipment, supplies and support systems. At the provider level, preparations include sufficient training and knowledge to handle normal delivery and obstetric- and newborn-complications. At the policy level, it is important to make use of evidence-based health policies and invest sufficient resources into maternal and newborn health care services to facilitate an effective health system. However, it should be noted that these assumptions are made on a theoretical basis (31).

3.1.2.1 The effectiveness of the strategy

The strategy of birth preparedness and complication readiness is a key strategy of the safe motherhood programs. However, there is a lack of robust evidence to support the strategy's ability to reduce maternal mortality. Stanton (19) stated that few attempts have been made to assess the effectiveness of the strategy and raised concern about the variations in study design used in existing studies (19). A more recent review by Lassie et al (29) assessed the effectiveness of community-based intervention based packages, including strategies to increase level of BP/CR and training of TBAs. The authors of the review conclude that community health interventions were not shown to be effective in reducing maternal mortality, but that this may be due to a too low sample-size to show an effect. The reduction in maternal morbidity was significant, and referrals to health facilities increased by 45% for women with pregnancy-related complications. Furthermore, a statistically significant reduction in neonatal deaths by 24%, stillbirths by 16% and perinatal mortality by 20% was observed (29).

A study in Burkina Faso that was carried out to improve the quality of health services, found that the use of skilled attendance increased from 39% to 58% from the baseline to follow-up. However, it is underlined that the sample size in the study is too low to draw valid conclusion from (63). Another study that was conducted in India indicate that those who made at least one of the birth preparedness preparations were 45% more likely to give birth attended by a skilled worker (64).

The two latter studies indicate that the strategies of birth preparedness and complication readiness can be effective in increasing the use of skilled attendance for childbirth. However, more research is needed to establish this relationship (33).

3.3 Barriers to the use of skilled attendance for childbirth

Barriers are presented differently in the literature. Koblinsky et al (7) present different barriers to the use of a skilled attendant in countries with massive deprivation, and in countries where

the majority can access the services but the poor are excluded. For the first group of countries, the barriers are related to a lack of service availability, such as a lack of qualified personnel, equipment and electricity, and inappropriate buildings. Barriers for countries with marginal exclusion can be categorised into two different groups. The first relate to poor quality of care, such as user fees, low standard of technical equipment, poor staff attitude/performance, low salaries and motivation, variation in stock of drugs and equipment and poor referral opportunities. The second types of barriers include a reluctance to make use of services due to low cultural acceptability, discrimination/abusive services, perception of, or actual, high cost, delays in seeking care due inability to recognise danger signs, decision-making and access to care (7).

In the review by Gabrysch et al (21) barriers are combined into themes of socio-cultural factors, perceived benefit/need of skilled attendance, economic accessibility and physical accessibility (21). Filippi et al (65) categorise barriers into women-/community-related factors and health system factors. Barriers are also described as demand and supply side barriers, described in section 3.2.

3.3.1 Determinants for the use of services

A review from 2009 assessing the determinants for the use of skilled care for childbirth concluded that age, ethnicity and language are important factors, in addition to socioeconomic and cultural factors (66). Examples of the latter are different decision-makers in the family unit, economic situations and levels of education. The geographical and environmental barriers that were shown to be crucial are distance, cost and location. The quality of the service was also found to be an important aspect in determining the use of services. The researchers stated that there were few attempts to organise the findings in such a way as to facilitate a comparison of the importance of the barriers. Based on the studies included in the review, the authors underlined the importance of focusing on both demand- and supply-side barriers (66). Another systematic review by Gabrysch et al (21) identified the following determinants for seeking skilled care for delivery: high maternal age, household wealth, urban residence, parity and level of education. Previous use of facilities and the use of ANC are highly predictive factors for using services. However, the availability of services is one of several possible confounding factors. Living a long distance from a health facility has shown to decrease its use, but this is difficult to predict. The researchers stated that the quality of services was shown to be essential in qualitative studies, but the magnitude of this problem is difficult to assess as it require information from women and hospital records (21).

3.3.1.1 Shortcomings of determinants

When determinants of skilled attendants are assessed, the focus is on socio-cultural and economic accessibility, thus contributing to "blaming the victim" for a low use of maternal health services (21;67). Filippi et al (65) illustrates this with the following statement:

> "One striking aspect, however, relates to the way investigators position themselves, in particular with respect to levels of responsibility, and how this is embedded in their respective analysis. For example, a woman who is not able to pay the services could be described as poor in one analytical framework, with the onus being put on herself or the family when another approach may see this as a failure of the health system to provide care to those who most need it" (65 p.395).

Duong et al (68) also points out the failure to study the actual behaviour of the women (68). Furthermore, Gabrysch et al (21) state that as information regarding other influential factors, such as perceived benefit, need and availability of the facilities, are missing, the ability to draw valid conclusions is scarce (21).

According to Parkhurst et al (69), studies that identify barriers often focus only on non-users, thus, identifying a number of potential and typical barriers. Information on the existing barriers in a society and the importance of these barriers, however, cannot be obtained using this method. This is unfortunate for local policy-makers; as such information is crucial for the facilitation of better access to services. The authors therefore suggest obtaining information from the service users, and comparing the data between different communities to be able to identify contextual barriers (69). Gabrysch et al (21) suggest the use of a geographic information system to include access in the analysis, by linking specific facilities to data from household studies.

3.3.2 Focus: Perceived barriers

In contrast to the majority of the identified literature, the current project focuses on experienced and perceived barriers to the use of the health care system, rather than the determinants of health care use, which can be predictors of use.

3.3.2.1 Identified barriers

Barriers to the use of skilled care for childbirth have been identified in numerous qualitative studies. The following barriers have been identified in all the given studies as being important: (a) Cost, (b) quality of care, (c) a variety of geographical barriers, such as distance and availability of health facilities and transport (d) pregnancy experiences (e) non-complicated previous childbirth (35;70-73). Some other identified barriers are (f) the

position/gender of the decision maker (72;73) and (g) the lack of a place to rest in the health facility (70) and extensive supplies that were required to be brought for childbirth (74).

Near-miss audits provide important information regarding experienced barriers (65). A recent review of near-miss audits suggested that the most reported barriers in the two first delays are:

- First delay barriers: failure to act or recognise danger signs by women and families, lack of birth preparedness in cases of complications, women being influenced by others and/or lacking decision-making ability, waiting for approval to seek skilled care from spouse, viewing the hospital as providing inadequate or poor service.
- Second delay barriers: poverty and inability to pay, distance, difficulties in accessing sufficient transport, difficult timing of labour (for example, during the night), lack of staff or facilities, poor-functioning referral system causing delays or a non-functioning referral system (65).

3.3.2.2 Importance of barriers

In the identified literature, there is a gap in the knowledge about the importance of different barriers, a view supported by Parkhurst et al (69). When interviews are conducted in a quantitative approach with women who have given birth, the data is often not presented according to the importance of the different barriers, but rather as determinants for use versus non-use of services as is the case in the study by Duong et al (68) and Stekelenburg et al (75).

Vast differences in the coverage of EmOC have been found in several countries, with the most important geographical and financial barriers to the use of such services being availability of the services in rural areas, lack of money, lack of transport and distance. When transport is available, expenses hinder its use. Cultural barriers are also important obstacles in the use of health services for EmOC. Effective infrastructure, sufficient stock of qualified personnel and equipment all need to be in place for health centres to be successful (14).

When assessing women's perceptions of barriers to seeking skilled care, financial barriers were the most important, not insufficient knowledge. For rural and poor women, distance and lack of transport were the main reasons for not accessing pregnancy and childbirth services (14).

3.4 Identified information on the factors that can influence the use of maternal health services in The Gambia

3.4.1 Antenatal care services

One study that looked into antenatal care services in the country, reported late registration for service and that the women had a lack of knowledge about danger signs. During ANC attendance, there was poor provision of education in risk factors, and insufficient information on what to do in case of a complication (61). Furthermore, it has been found that during ANC, 98% of the women reported that their weight and blood pressure was measured and palpation and auscultation of the abdomen was conducted, they were also given iron and folate tablets. However, no more than 9% of women reported that they were given any information regarding the examination (54). Another study found that mandatory investigations, such as weight and height measurements, and blood and urine tests, were conducted to a low extent. The researchers stated that the inability to identify women in risk of developing complications means that serious situations can be overlooked, such as failing to identify a woman having twins, which contributed to several deaths in the study (60).

During ANC attendance, communication between women and the health care workers has been reported as being poor. 33% were informed about the progress of their pregnancy the day they were interviewed and 13% of the women had asked questions during ANC clinic. 70% were attended by the health worker for three minutes or less. 64% were satisfied with privacy during consultation. The researchers concluded that despite a high attendance of ANC, women gained only a limited benefit from the visits in terms of information, education and communication (61). The lack of communication is also identified by Secka (76), who stated that women engaged in limited communication with health care workers during ANC, and often approached the TBA to ask such questions.

3.4.2 Services for childbirth

The numbers of women using skilled attendants for childbirth in The Gambia varies between rural and urban areas. According to The Gambia multiple indicator cluster survey, in the study site (Kerewan), 44.6% made use of skilled attendants, while in the urban area (Banjul), 94.7% were attended by a skilled health worker (59). According to the findings of Telfer et al (54), in 1998/99, 5% gave birth without attendants, 19% were attended by health personnel, while 76% were attended by a TBA or relatives in the North Bank East Region.

Poor functioning of the obstetric referral system was found to be an important contributing factor in the majority of maternal deaths registered in a study. Other factors included

insufficient functioning of the blood transfusion service and delays in receiving operative delivery due to a shortage of staff, equipment and lack of electricity (60).

3.4.3 Post-partum care

According to Cham et al (60), post-partum services are crucial in identifying risk factors, and the provision of such services are neglected in the country.

3.4.4 Cultural practices

In some areas, particularly in rural areas, pregnancy is seen as “women’s business”, and the elderly women are looked to as the experts on pregnancy and childbirth. When complications arise, it is the elderly women who are looked to for advice, and their recommendations are seldom challenged (77). Cultural beliefs described by Secka (76) show the view that if men watches a woman give birth they may become swollen and sick before dying. Furthermore, men can become sterile if they see blood resulting from bleeding during childbirth and can lose the spiritual protection of their amulet if they enter a place where childbirth is in progress. The practice is that after giving birth, women stay inside a week and the men are not allowed to enter their room. The explanations behind why men should not be involved in childbirth are religious ones. It was also reported that women believed that prayers and holy water had a protecting effect on labour and childbirth, and would reduce the complications and fasten the process (76).

In the identified literature, there was little focus on any cultural differences between the tribes in The Gambia that may influence the use of health services.

3.4.4.1 Traditional birth attendants

According to Thaddeus et al (62) more evidence is needed, however there are reasons to believe that TBAs have a role in influencing the use or non-use of health facilities in general (62). In The Gambia, one study found that the TBAs have a small or no role in the care prior to childbirth, but has shown to have a major role after childbirth (54). Another study found that the TBAs was involved in promoting the attendance of ANC (78). A study assessing the knowledge, attitudes and practices of trained birth attendants in the country regarding the management of postpartum haemorrhage, found that the TBAs recognised the danger signs of a retained placenta and postpartum haemorrhage and knew their role in referring such cases, however, some TBAs expressed that they had tried traditional methods (as herbs) before arranging a referral, which contributed to delays (79). It is also underlined that none of the TBAs in the study had watches, thus the timing before seeking help can be questioned. Furthermore, poor infrastructure, particularly regarding transport, contributed to further

delays. The study found that the TBAs appreciated and saw the benefits of training, and that the knowledge they had obtained from training formed the basis of their practice. The researchers concluded that with the current infrastructure, homebirths and late referral would continue in The Gambia, but that the TBA could play a role in managing the situation of postpartum haemorrhage (79).

Another study found that TBAs expressed ample benefits from being trained by health workers, especially on the ability to detect those danger signs that require rapid referral, improved hygiene and sanitation practices and antenatal advice and monitoring. The relationship between the TBAs and the health workers were observed and were considered to be satisfactory, however some TBAs expressed some difficulties. The TBAs were participating in the examinations of women and their newborns during mobile ANC services performed by health workers. It was found that the TBAs have an important role in providing ANC, attending childbirth, birth rituals, naming ceremonies and conducting post-natal check-ups. Most women interviewed stated that they preferred the TBA to be in attendance during childbirth. In most cases, the husband decided when and how often the TBA was called for, and they also provided payment for the services (78).

The TBAs concerns were a lack of transport when a referral was needed, problems in cooperation and lack of acknowledgement from health care workers, limited training and heavy workloads (78).

The study concludes that training and support for the TBAs is important for better access and equity in maternal health services and should be supported to facilitate sustainability. However, their promotion of the non-use of contraceptives and adherence to nutritional taboos might contribute to an inequity in the quality of care (78).

In a recent project conducted by Cole-Ceesay et al (80), TBAs and VHWs were given mobile phones and contact information to the ambulance service, to facilitate referral of women who developed complications. The TBAs were trained in recognition of danger signs, management of basic emergency response, and given equipment for restitution. These efforts were one part of several interventions conducted to strengthen the functioning of a hospital in an urban part of the country.

3.4.4.2 The decision to seek care and men's involvement

In many countries, the decision to seek care for childbirth is made by the spouse or a senior member of the family (62). Nevertheless, in The Gambia, TBAs have been found to play an important role in the decision to seek care by advising women to go to the health clinic,

sometimes even escorting them there. Some TBAs, however, were found to discourage women from seeking care (76;78).

A study that explored men's involvement during pregnancy and childbirth found that women often needed to get permission from their husband to attend an ANC clinic. However, childbirth was seen as a woman's matter, and a man's ability to decide was restricted; in these cases the TBA was consulted by the mother in-law or an elderly relative. The TBA made the decision of where to give birth after having examined the woman, and the husband was told to arrange for transport, if needed. There also seemed to be limited of reproductive communication between couples. Many women felt ashamed of talking about issues such as pregnancy, childbirth and family planning with their husband. The lack of communication can hamper the men's ability, or lack thereof, to understand issues regarding maternal health services. However, some involvement from spouses was identified regarding the attendance of ANC and the taking of iron tablets during pregnancy. Furthermore, a general view among the men that pregnancy and childbirth can be life-threatening for a woman was found (76).

3.4.5 Quality of care

Hospitals in the country have been found to have irregular supply of electricity and power, equipment and drugs. Some of the health staff was described as not qualified to handle obstetric complications. It was also reported that training of staff occurred rarely and that the moral and motivation of the staff was poor (80). Cham et al (81) reported an inadequate availability and quality of EmOC services in the main hospital in The Gambia. The lack of staff, equipment and blood for transfusions caused delays in receiving adequate and life-saving care (81). In another study conducted in the same hospital, it was stated that the methods used when attending childbirths were questionable. Observations were made of the health staff showing poor attitudes and abusive behaviour, which suggests significant barriers to acceptability and use (82).

Cham et al (77) suggested that women were reluctant of going to a health facility due to a negative, past experience with health care workers and a fear of being treated negatively. This is supported by Secka (76), who reported that some midwives, particularly females, displayed unacceptable behaviour towards women in labour. However, the women still saw midwifery as a profession for women, due to religious beliefs and a sense of shame at being attended by a male.

3.4.6 Birth preparedness and complication readiness

We have not identified information or policy documents regarding interventions to promote birth preparedness in The Gambia. However, we have obtained a report on sensitization activities that have taken place. The activities were aimed towards the community and especially towards men. Key persons in the villages were involved (the district chiefs, alkalos, which refers to the head of the village, religious leaders, TBAs, VHWs etc.). Education was provided regarding danger signs during pregnancy and the role of men with regard to reproductive and child health issues. Furthermore, making plans for financing, transport and blood donors and decision-making was advised for (83).

The event is described by a former regional director Baba N'jie (personal communication):

> "A brief speech is usually given by the heath workers according to the theme selected, followed by songs formulated by Traditional Communicators. Quiz and answering sessions and communities contest vary, and various prizes to be won that day. The community hosting the events are also provided with some funds for visiting villages. The event is colourful and contains drumming and dancing. At the end, communities pledges to form committees to address the theme of the day".

With regard to birth preparedness, one study found that 90% of the women gave birth where they had planned to give birth. 18% of the sample gave birth in a health facility. For the 500 women that planned a home birth, 4% made arrangements for transport and 4% made financial plans prior to labour (54).

3.5 Barriers and delays

Cham et al (77) conducted a maternal death review in The Gambia to assess socio-cultural and health service factors related to maternal mortality. Families of women who tried to reach, or did reach, a health facility after having experienced complications were interviewed. In this sample, there were delays of between two hours and five days from when the complications arose to when skilled care was obtained. Reasons for these delays were an underestimation of the severity of the complication, experiences of previous childbirths without complications, advice from elderly women and cultural beliefs that the labour will happen at a special time, related to the time of Muslim prayer. Some women mentioned that they had negative experiences with health care workers. It was found that a scarcity of money and the rejection of making use of health care services were not important barriers. While two out of three women did not have available funds, the delays in reaching an adequate health facility were mostly related to problems with transportation, such as lack of

transport and poor roads. Some experienced further transport problems after reaching the facility when further referral was necessary. Some health facilities were reported to be without an ambulance or the ambulance was serving other needs and thus was not available. Nevertheless, some women had to visit up to three clinics (77).

A considerable number of women experienced delays in receiving adequate care, with issues as insufficient supplies of blood for transfusion and medical supplies. Other women, after reaching a clinic, had to wait up to 48 hours before being able to see the right health worker. A shortage, particularly of doctors, was mentioned as a contributor to poor care and caused further delays in accessing appropriate care (77). It was found that 25% of maternal deaths were contributed to by delays in getting to health facility and delays in receiving care (60).

A study was carried out in 2007 in The Gambia assessing the price people pay for maternal health care, just before the policy change of reducing maternal health service fees was introduced, and other barriers to accessing health care. The most important barriers were lack of time, no money for transport, lack of transport and no complications in labour. For user fees, the majority paid 1-50 Gambian Dalasi (GMD), (1 EUR≈40 GMD), while only 9% paid more than 101 dalasi for giving birth in a health facility. Just 3 out of 136 women were asked for “under the table” payments, but were able to negotiate and ended up not paying anything at all. For medications, the majority of the women studied stated that they did not pay anything, while 13 paid more than 50 dalasi. For 45% of the women, food was not an expense, and 23% spent more than 50 dalasi. Less than half of the participants had transport costs. It was found that transport expenses are affected by distance to the health facility. The researchers concluded that the costs for giving birth at home were clearly less than that of a health facility, without taking into account the user fee. The expenses outlaid for women giving birth at home were medication, bought by 25% of the participants, and a gift for the TBA, given by less than 50%. Giving a fee to the TBA was found to be optional; no one recorded having been charged by the TBA (84).

3.6 Justification and purpose of the study

Maternal death occurs most often during labour, delivery and the first hours after delivery. As most complications cannot be predicted or prevented, the location of the women when the complication arises and the skills of the attendant, as well as an availability of referral level care, is crucial in receiving appropriate interventions (11). Many factors act as barriers to the use of maternal health services. These factors vary significantly depending on the setting, population and the type of services offered, which makes generalising these barriers a

difficult task (4;66). In the identified literature of low- and middle-income countries, there is limited focus on assessing the importance of experienced barriers. Most of the attention is on factors (determinants) that are associated with underutilisation, or on qualitative studies identifying barriers in a local context. Some studies in The Gambia have been conducted to identify barriers (54;77;81), and two masters theses have looked at the importance of different barriers (84;85). The aim of the current study is to extend the knowledge by assessing the importance of various barriers, including factors of birth preparedness and complication readiness and experiences with, and perceptions of, health facilities and the different birth attendants. A thorough understanding of the importance of the barriers and facilitating factors on the use of maternal health services is a prerequisite for designing and implementing interventions that aim to improve access. Our aim is to contribute to the design of maternal health programs by generating important data on barriers and delays that need to be addressed to increase women's use of health care services when giving birth, with an overall goal to reduce maternal mortality, morbidity and to improve women's health in general.

4 Methodology

4.1 Introduction

This survey is part of, and sponsored by the project “Reproductive Healthcare Costs in Western Africa”, funded by the Norwegian Research Council’s Econpop Program. The study is aiming at examining how prevailing institutional and economical factors (health system structure and the financing of pregnancy care) in Burkina Faso and The Gambia impact on the relationship between reproductive health and poverty at the household level. More specifically, the aim of the project is to investigate associations between poverty and access to pregnancy care in the given countries.

4.2 Study design

This is a quantitative, cross-sectional survey. Data collection was conducted by administering questionnaires to the participating women. This study type was chosen for its ability to describe and find the magnitude of certain variables in a population at a certain point in time (86). Cross-sectional studies can be used to collect data on socio-economic factors of the study population, which means that people’s behaviours and practices, as well as their knowledge, attitudes and beliefs can be obtained in a structured way (87).

4.3 Study population

Women of reproductive age (15-49 years), living in North Bank East Region, that gave birth outside a health facility within the last six months prior to the day of the interview, were eligible for inclusion. The criterion of having given birth outside a health facility was a key, as our interest was to identify the barriers that had hindered these women from giving birth in a health facility. The time period of six months was set to facilitate a short recall period, and thus promote a more trustworthy memory from the participants.

4.4 Sample size

We used a simple sample size calculation (88): 95% confidence level and 5% confidence interval gave a sample size of 384. We expected few “drop-outs” or exclusions for other reasons, thus aimed at 400-430 participants.

4.5 The research tool

4.5.1 The questionnaire

We used the 12-part questionnaire from the toolkit “Monitoring birth preparedness and complication readiness” (31). The developers carried out a number of population-based surveys in low- and middle-income countries to design and evaluate interventions. The manual was initially developed to systematically track progress in safe motherhood programs. Use of the full tool kit requires extensive resources; hence, organisations with limited resources can adapt certain parts of the instruments (31). Due to the scope and objectives of this project, we made use of only parts of the questionnaire, focusing on questions that addressed the perspective of the woman. We made some minor adjustments and additions to the questionnaire to make it appropriate to the local setting.

4.5.2 Translation

Several languages are spoken in the study area, which made it difficult to translate the questionnaire; however we were advised by local researchers to use the English version. The interviewers translated the questionnaire from English to the local language at the time of questioning. The interviewers were both fluent in English, as this is the official language in The Gambia and the local languages are not taught in schools. Due to high levels of illiteracy in the country, self-administered questionnaires were not an option.

4.5.3 Data collected

We collected socio-demographic information, pregnancy background, knowledge of the risk factors during pregnancy/childbirth, perception of local facilities, use of ANC, personal experiences related to last pregnancy and childbirth, factors hindering the use of health personnel for childbirth, planning of childbirth and familiarity with the new health policy in The Gambia (See appendix 4 for the questionnaire).

4.6 Pilot study

The pilot study was conducted mainly in Guntur, a small town on the south coast, and one interview was conducted in Fajikunda. Fifteen women were interviewed in three days with a Gambian nurse/midwife as interpreter. Some participants seemed to have difficulties grasping the meaning of some questions and we therefore made some adjustments in an effort to make them more specific.

4.7 Interviewers

Two people conducted the interviews: one male and one female, of which one was a public health officer and one was a nurse. The interviewers were selected by the head of the Reproductive and Child Health Clinic in Farafenni and were engaged for eight weeks. They had to remain available for the clinic in case of staff shortages and for training sessions for the employees. Additionally, our training had to be conducted during the given time period which limited the time the interviewers were available for data collection. The interviewers went through three days of training conducted by one of the research team (PML) and they also attended a briefing by a Gambian colleague and PhD student within the same project. Training material from the BP/CR tool kit was distributed to the interviewers and used as basis for the training. One of the research team (PML) was present in the field for the first eight days of the data collection.

4.8 Data collection

4.8.1 Recruitment of participants

We used convenience sampling to recruit participants. The initial plan was to recruit the research participants when they attended the mobile Infant Welfare Clinic to register and immunise their child, given that the majority of women with neonates attend infant welfare clinics according to Telfer et al (54). The mobile team goes to villages in remote areas on given days, but are mainly stationed in the larger towns; Farafenni Reproductive and Child Health Clinic and Kerewan Health Centre. These clinics serve the residents of the towns and surrounding villages. The activity of the mobile Infant Welfare Clinic was lower than we expected in the period of data collection, therefore we also recruited participants at the health centres and in their home villages. At the times when the mobile clinic attendance was high, and there was little time to interview eligible women, we attempted to meet with them later in their home villages. When there was no clinic, and no arrangements had been made, we went from door-to-door to identify women that fulfilled our criteria. Often, the village health workers and traditional birth attendants assisted in identifying eligible women. We always consulted the alkali, the head of the village, to obtain approval before we began recruitment. The Child Welfare Card was used to ascertain that the last delivery was classified as a home delivery, that the day of birth was within six months and that the participants were of Gambian residence.

As described, one of the challenges of the study was with respect to the multiple languages spoken in the study area. One of the interviewers spoke fluent Fula, Mandinka and acceptable Wollof, the other assistant spoke fluent Wollof and Mandinka. The interviewers

therefore shared participants between them according to their skills in the language spoken by the respondent and they were instructed not to include participants if the interviewers were not confident in the language spoken by the respondent.

4.8.2 The data collection procedure

Data collection was carried out between 20th of September and 16th of November, 2010. Interviews took place outside a health centre, in a closed room within the health centre or in/outside the respondent's home and took approximately 20 minutes. The interviewers were instructed to aim to interview the respondent on their own. Before the interview started, an information letter and consent form was read to the participant; the majority of the women approved participation with their thumb print. Following consent, the Infant Welfare Card was studied to ensure that the women were eligible for inclusion. When the interview had taken place, incentives and information on how to contact the research team in case of questions or concerns were given. The information letter with the research team's address was handed out to the participants in addition to oral information.

4.8.3 Incentives

All participants were given two soaps as a reward for their time and effort. The total value of two soaps is approximately 35 dalasi (1 EUR≈40 GMD).

4.9 Data handling and coding

During data entry, the data was double checked in an effort to minimise typing errors. Data cleaning of the categorical variables was conducted in Predictive Analysis SoftWare (PASW) Version 18 by running frequencies for all variables with "minimum" and "maximum" values to ensure that all variables were within the range of the actual score. For continuous variables, descriptive analysis was conducted with minimum, maximum, standard deviation and mean values. Identified errors were corrected in accordance with raw data, or deleted.

4.9.1 Data handling

The participants' names were not recorded. In the few cases where the women had signed the informed consent form, the name was almost impossible to read. As the thumb print was mainly used for giving consent, we regarded it as impossible to trace our participants from the print on the questionnaire. During the field work the raw data was kept locked in a room where only one of the researchers (PML) could access it. After leaving the study site, the informed consent form was separated from the questionnaire. The raw data hard copies will be destroyed after the study has been finalised. The file with the original work of the

interviewers has been kept in case someone wishes to control how the information was coded.

4.9.2 The main outcome variable

We used open-ended questions to assess the importance of various barriers for giving birth in a health facility – the main focus of this study. When conducting interviews, the interviewers were instructed to document all of the reasons given by the participants for not giving birth in a facility, independent of whether the reasons fit into the categories in the questionnaire. They were also asked to mark any information that did fit within the categories. We used the information to understand and control how the interviewers made use of the categories, to make adjustments in the categorisation of certain criteria, and define sub-categories. After one of the researchers (PML) coded the responses according to certain criteria, another researcher (AF) went through the information to control the use of categories. Disagreement was solved through discussion and arriving at a consensus.

4.9.2.1 Recoding and adjustments

Our main guiding principle was not to change the response categories that were selected by the interviewers during the interviews. When it was decided to change the categorisation, the following criteria were used (the main categories are marked with bold text; sub-categories with bullets):

No time to go: The criteria were, in addition to the following sub-categories, a statement that the childbirth happened quickly, or there was a late arrival of transport.

- *Childbirth took place before arrival of transport:* Criterion for being coded in this category was that the transport to go to a health facility was arranged, but did not arrive in time. There are some explanations that illustrate the complexity of coding: the only driver in the village was away, so transport had to be arranged from a neighbouring village, or the transport was at the farm and did not return in time.
- *Delay in realising or passing on information:* Criterion for coding within this category was a statement of delay in realising or informing their family about being in labour.
- *Childbirth happened on the way to the health facility*

No transport: Criterion was a statement of not having access to transportation. We excluded from this category all respondents who had access to transport, also if the transport was reported as delayed or problematic in some other way. Based on this, and the information given in the categories “no time to go” and “childbirth took place before arrival of transport”,

we suggest that “no transport” is a more important barrier in seeking skilled care than our findings indicate.

Poor services: Criteria for this category were when a lack of confidentiality, privacy or fear of being treated badly was stated as important barriers. We replaced “respondent did not think necessary” with “poor services” when the woman expressed service issues at the facility as a reason for not wanting to give birth there.

Facility too far: Criterion for being coded in this category was that the facility was considered as being too far to reach, either by foot or by other available means of transport. Unfortunately, there is no explanation for why this alternative was chosen by the interviewers in some of the cases. It was observed during the field work that one of the interviewers probed for this alternative, and this category has been chosen to a much larger extent by one research assistant. In a number of cases, it is difficult to understand why this category was chosen. For this reason, the following adjustments have been made to the original choice of the interviewers. We removed this alternative for situations where attempts to arrange transport were reported, as the act of making an attempt to go to a health facility is not consistent with this category. Where no description or reason for choosing this category was given, but it seems reasonable that the factor could have influenced the situation, the choices of the interviewers have been kept.

Respondent did not think necessary: The criterion was a clearly expressed preference for home delivery due to a feeling of being in good condition or a stated preference for a TBA. Adjustments to the choice of the interviewers were carried out as per the category “poor services”.

Too expensive: The criterion was a statement that the respondent could not afford to pay for transport and/or the service at the health facility. No adjustments were conducted for this category.

No childcare: No adjustments carried out.

Husband/family did not think necessary: No changes carried out.

4.9.3 Coding of open ended questions

In #710 “Can you tell me the reasons for why you prefer the [given person] to assisting you”. The question was not in the original questionnaire and was open-ended without categories.

During data collection, the statements of the respondents were written down, and categories were constructed posthumously by two members of the research team (PML and AF), who then coded the information independently. Differences in the proposed codes were discussed and agreed upon without difficulty.

4.10 Irregularities during data collection

Throughout the data collection, one of the research team (PML) suspected that one of the interviewers had not follwed all the given instructions. Observation of the interviews was thus carried out and irregularities were discovered in some of the questions. Most of the questions were seemingly handled according to the instructions, however for the following questions, errors during data collection were observed:

#113 “In addition to your housework, do you do any other work which are paid in cash or in kind”: Work that was conducted without receiving cash or kind might have been included for some of the respondents. We believe that this bias will have a limited influence on our findings, as we suspect that the salary earned by most of our participants was low, which leads to minor economic differences between them.

#301, 303 and 305: It was observed that one of the interviewers was more active in questioning the women about their knowledge, thus we suspect that the reported knowledge levels could be slightly higher than what may have been found if a more passive interview technique had been used. We compared the frequency of the different alternatives for the two interviewers to assess how severe the bias may be. A slight difference was found, however, we judged it to be of limited importance.

#709 “Who would you have preferred to assist with the birth”: There were considerable differences in the reporting of the preferred health worker, with one of the interviewers assigning the category “nurse” for everyone that preferred a health worker, while the other reported both “nurse” and doctor”. For this reason, the categories of “doctor” and “nurse” have been merged to one category: “health worker”.

4.11 Data analysis

Data entry and statistical analysis was performed in PASW. The main findings are presented as proportions (percentages) of various responses given to the questions asked. We used a Chi-square test for selected variables to assess those associations we believed could interfere with variables of interest. The outcome variable was based on happenings that in many cases were occasional, thus the possibility to explore the sample further with more advanced statistical tests was not applicable.

4.12 Ethical considerations

Ethical clearance was obtained from the Ethical Review Committee in Norway and The Gambia Government/Medical Research Council Laboratories, se attachments 5 and 6.

4.12.1 Informed consent and confidentiality

Informed consent from the participants was achieved by informing them of the aims and the themes of the study, the approximate duration of the interviews, the use and reporting of the findings and the participant's right to withdraw from the study at any stage, without negative consequences. The participants were informed that participation was voluntary before written informed consent was obtained. The participants gave their consent through a thumbprint or signature. Confidentiality was ensured through the use of unlinked information, namely that the information given was anonymous. Participant's names were not recorded on the questionnaires, instead an identification number was used that cannot be linked to the person it refers to. Protection of privacy was obtained by attempting to make sure that only those people with a concern in the study were present during the interviews. For the information letter and the informed consent form see attachment 2 and 3.

4.12.2 Vulnerable groups

An ethical concern that was taken into consideration when planning and conducting this study was that the participants could be classified as belonging to a vulnerable group due to their poverty, low levels of education and a lack of acquaintance with research. These are factors that might make the participants vulnerable to exploitation. However, there is a strong need to conduct research in vulnerable populations because the research findings can contribute to improving their situation. Hence, the aim and result of the research should be useful to the people involved or other similar populations (89;90).

According to the Council for International Organizations of Medical Science (CIOMS), when planning a project with vulnerable groups, care must be taken regarding the possibility of exposing the participants to inequitable allocations of burden and benefit (89). We regard the following as important to our study:

- The research could not be conducted in a population that is less vulnerable (89): In spite of the possibility that this population might be classified as vulnerable, the study could not be carried out in a less vulnerable group. The rural and poor are the target population, due to the trend of decreased access to maternal health services in these groups (2).

- The knowledge that is obtained should be useful for the participant, the participant's surroundings or similar communities regarding diagnosis, prevention of health problems in the population needs to be in place (89). In our study, information and expectations about the outcome for the participants was clarified before interviews were conducted, and the findings will be distributed to the government in The Gambia. Our aim is to increase knowledge that can provide better access to health care services for women – especially women in vulnerable parts of the population.

4.12.3 Risk/benefit

In our assessment, participation in our study entailed little or no risk. However, contact information for the research team was communicated orally and written, in case of questions or other inquiries. We also arranged contacts in the Ministry of Health that could refer participants to the appropriate health care services if necessary, however no such inquiries were reported to us.

5 Results

432 out of 450 women accepted to participate, which gave a respondence rate of 96%. A lack of time due to other duties was cited as the main reason for non-participation by several of the women who refused to participate.

5.1 Socio-demographic characteristics

In table1, the socio-demographic information of the participants is described.

Table 1: Socio-demographic information of the participants

Variable	N (%)	Mean Value (SD)
Age (N=428)		26 (6.2)
15-19	63 (15)	
20-24	121 (28)	
25-29	127 (30)	
30-34	70 (16)	
35-49	47 (11)	
Ethnicity/Tribe (N=431)		
Mandinka	160 (37)	
Wollof	108 (25)	
Fula	137 (32)	
Bambarra	17 (4)	
Serere	4 (1)	
Nar	3 (1)	
Jola	1 (0)	
Manjagos	1 (0)	
Religion (N=432)		
Muslim	432 (100)	
Marital status (N=432)		
Single	3 (1)	
Married	426 (99)	
Widowed	2 (1)	
Divorced	1 (0)	
Live with partner (N=431)		
All of the time	297 (69)	
Sometimes	128 (30)	
N/a	6 (1)	
Number of wives of husband (N=425)		1.5 (0.7)
1	253 (60)	
2	136 (32)	
3	29 (7)	
4	7 (2)	
School (N=429)		
Yes	67 (16)	
No	362 (84)	
School years (N=67)		6.2 years (3.2)
1-5	30 (45)	
6-10	27 (40)	
11+	10 (15)	
Islamic school[1] (N=431)		
Yes	424 (98)	
No	7 (2)	
Work (N=431)		
Petty trading	106 (25)	
Gardening	60 (14)	
Farming	34 (8)	
Other	9 (2)	
No work	222 (52)	

[1] Islamic school is not part of the government school system

In table 2, previous births and stillbirths are presented.

Table 2: Previous birth and stillbirths

Variable	N (%)	Mean Value (SD)
Parity (N=432)		3.7 (2.1)
1	64 (15)	
2-4	239 (55)	
5-10	129 (30)	
Previously experienced stillbirth (N= 430)		
Yes	61 (14)	
No	369 (86)	
Previous stillbirth (N=61)		1.9 (0.3)
Number of stillbirth		
1	50	
2	8	
4	1	
Ever given birth in a health facility (N=430)		
Yes	259 (60)	
No	171 (40)	

As shown in table 1, the diversity in socio-demographic characteristics among the participants was limited: 75% were less than 29 years old, 100% were Muslims and almost 99% were married. With regards to marriage, 60% of women stated that they lived partly together with their husband, and 40% lived in polygamous relationships. 15% of the sample had attended government school, with almost half of them attending for five years or less. All attended Islamic school, with a few exceptions.

Table 2 gives an overview of the participants' childbirth history; 60% of the participants had given birth in a health facility at least once previously. In our sample, 15% were primiparous, 55% had given birth to 2-4 children, and 30% had given birth to 5-10 babies. 14% stated that they had previously experienced one or more stillbirths.

5.2 Importance of various barriers

The main outcome variable for our study was assessed by asking the question: "Can you tell me the three top reasons for why you did not give birth in a facility"? An overview of the main reasons the respondents stated for not giving birth at a health facility are shown in Table 3.

Table 3: Main reasons for not giving birth in a health facility

Variable (N=432)	% (N)	CI
No time to go	75 (323)	71-79
-Childbirth happened before arrival of transport	41 (176)	36-45
-Realise/informed late	9 (37)	6-11
-Delivered on the way	5 (21)	3-7
No transport	29 (123)	24-33
-Night/bad weather/poor road	7 (32)	5-20
Services are poor	10 (42)	7-13
Respondent did not think necessary	8 (36)	6-11
Facility too far	10 (41)	7-12
Too expensive	5 (22)	3-7
No childcare	4 (16)	2-5
Husband/family did not think necessary	1 (2)	0-1
Did not know where to go	0	

The most commonly cited reasons occurred in the category “No time to go”, with three out of four respondents indicating that lack of time was an important barrier to giving birth in a health facility. More than half of these (42% of all the respondents) stated that arrangements had been made for transport to the health facility, but that childbirth took place before transport arrived. 9% of the women mentioned delays being caused by realising that they were in labour late, or there was a delay in informing their families that they were in labour. 5% of reported that they gave birth on their way to the facility.

One hundred and twenty-three (29%) of the respondents stated that they did not have access to transportation when they were about to deliver. 7% of the full sample stated that going into labour at night, bad weather or poor roads were the reasons for not getting transport. Only 8% of the women interviewed mentioned that they did not consider it necessary to give birth in a health facility. Roughly 70% of the women reported that they gave birth before the arrival of transport or they had no access to transport, making these important barriers to giving birth in a facility.

The facility being too far away was only seen as an important barrier to 10% of the women in the study. Roughly 10% of the respondents expressed negative perceptions of the health care service as an important barrier for seeking care. Approximately 8% of the women stated not considering it necessary to give birth in a hospital as an important barrier.

A small number of participants mentioned lack of money as an important barrier: only 22 (5%). No childcare was an important barrier for 4% of the respondents. Only two women mentioned that their husbands or families considered it unnecessary to go to the facility. None of the participants stated that they did not know where to go.

5.3 Personal experiences related to most recent pregnancy

In the following table the women's experiences related to pregnancy are listed.

Table 4: Personal experiences related to most recent pregnancy

Variable	N (%)	Mean Value (SD)
Attended ANC (N=432)		
Yes	424 (98)	
No	8 (2)	
Number of ANC attendances (N=422)		3.7 (1.3)
1-2	63 (15)	
3-4	259 (61)	
5-6	92 (22)	
7-8	8 (2)	
Health professional seen for *first* ANC (N=423)		
Doctor	1 (0)	
Nurse	422 (100)	
Advice given during ANC regarding[1]: (N=423)		
Danger signs	401 (95)	
Where to go in case of danger signs	397 (94)	
Where to give birth	360 (85)	
Arrangement for transport	114 (27)	
Arrangements for funds/finance	120 (28)	
Arrangements for a blood donor	130 (31)	
Advice for health care provider to attend delivery	298 (70)	
Information about expected time of birth	92 (22)	
Satisfaction with ANC (N= 423)		
Excellent	342 (81)	
Good	81 (19)	
Average	1 (0)	
Poor	0 (0)	
Do not know	1 (0)	
Reasons for not attending ANC (n=8)		
Did not know where to go	0	
Health facility too far	0	
Too expensive	2 (25)	
No one to accompany	2 (25)	
No good service	0 (0)	
Travel	2 (25)	
Other	2 (25)	

[1] More than one alternative could be given

Almost all of the participants stated that they had attended ANC at least once, with an average attendance of 3.7 (see table 4 for a distribution of visits). Of the women that did attend ANC, every respondent (except one), stated that a nurse was *first* seen for a check-up on the last pregnancy, with the one exception stating that she had seen a doctor.

Advice given at the ANC clinic was assessed among women who reported having made use of the service. Among them, 95% stated that they were informed about the danger signs, 94% were informed of where to go if they experienced complication, 85% were informed where to give birth, 27% were told about arrangements for transport, 28% were told about arrangements for funds/finance, 31% were told about arrangements for blood donor, 70% were advised to make use of skilled personnel to conduct delivery and 22% stated that they were informed about expected time for giving birth.

The same women were asked to rank the service given at ANC and the responses were as follows: 342 (81%) - excellent, 81 (19%) - good, one - average, and no women said the service was poor. Eight of the participants stated that they did not attend ANC.

5.4 Personal experiences in most recent childbirth

In table 5 the women's experiences related to most recent childbirth are listed.

Table 5: Personal experiences related in most recent childbirth

Variable	N (%)	Mean (SD)
Place of birth (N= 429)		
Respondent's home	403 (94)	
TBAs home	4 (1)	
Other	3 (1)	
On the way to the facility	19 (4)	
Plan to give birth at the given place (N= 432)		
Yes	117 (27)	
No	315 (73)	
Arrangement made prior to birth (N=432)		
Yes	276 (64)	
No	156 (36)	
Arrangements made (unprompted and prompted)[1] (N= 276)		
Identify transport	255 (92)	
Save money	160 (57)	
Identify blood donor	48 (17)	
Identified skilled provider	184 (66)	
Final decision about where to deliver (N= 432)		
No one	24 (6)	
Respondent	226 (52)	
Respondent and husband	109 (25)	
Husband	36 (8)	
Respondents mother	3 (1)	
Mother-in-law	7 (2)	
Friend/neighbour	1 (0)	
Health professional	19 (4)	
TBA	7 (2)	
Assistance during birth (N= 430)		
TBA	311 (72)	
Community health worker	7 (2)	
Relative/friend	65 (15)	
Nurse/midwife	3 (1)	
No one	35 (8)	
Assistant TBA	2 (1)	
Other	7 (2)	
Preference for someone else to assist (N= 432)		
Yes	359 (83)	
No	73 (17)	
Preferred assistance (N= 432)		
Health personnel	358 (83)	
TBA	68 (16)	
Other	6 (1)	
Reasons for preference[1] (N= 431)		
Staff/skills/drugs	357 (83)	
Staff can handle complication	285 (66)	
TBA is helpful	60 (14)	
TBA provide confidentiality	15 (4)	
TBA show respect/sympathy	21 (5)	
Other	22 (5)	
Payment to assistant (N=432)		
Yes	322 (75)	
No	80 (19)	
N/A	29 (7)	
Do not know	1 (0)	

Payment to assistant in GMD[2] (N=199)		34.3 (30.8)
1-20	51 (26)	
21-50	131 (66)	
51-100	15 (8)	
101-300	2 (1)	
Other payment (N=292)		
Soap	168 (58)	
Fabric(clothes)	70 (24)	
Food	52 (18)	
Other	2 (1)	
Aware of policy (N= 432)		
Yes	393 (91)	
No	39 (9)	
Impression of reduced cost (N= 393)		
Yes	393 (100)	
No	n/a	

[1] More than one alternative could be given
[2] 1 EUR ≈ 40 GMD

Most of the participants (94%) gave birth in their home. As previously mentioned, 19 women gave birth on the way to a health facility, while the remaining gave birth in a TBA's or someone else's house.

Twenty seven percent stated that they had planned to give birth at home.

Roughly two thirds of the full sample (64%) stated that they had made arrangements to prepare for childbirth. See table 5 for the different arrangements.

The final decision of where to give birth was stated to have been made by the respondents themselves in approximately half of the cases. One of four stated that the decision was made by the respondent and her husband together, 8% by the husband alone, 6% said that no one took a decision, 4% that the decision was made by the health professional, 2% by the mother-in-law, 2% by a TBA and 1 stated that the final decision was made by a friend or neighbour.

During childbirth, 3 out of 4 respondents reported that they were assisted by a TBA, 2% by a community health worker, 15% by a relative or friend and 8% stated that they gave birth with no assistance.

Eighty three percent of the women stated that they would prefer being assisted by someone else than the person who had assisted them, while 17% were satisfied with the assistance they had. Of the whole sample, 83% desired a health professional, 16% a TBA and 1% someone else. The participants were asked to give reason(s) for why they preferred the given person to assist them. Four out of five (83%) stated that they wanted health personnel because they were regarded as having the right skills and had access to drugs. Two out of three emphasised the health personnel's competence in handling complications. 14% stated that they would have preferred a TBA to assist as they are helpful, 4% desired a TBA due to

their ability to provide confidentiality, and 5% preferred the TBA because they showed respect or sympathy.

We asked if the person(s) assisting during childbirth was given any reward in cash or in kind; 75% stated that a reward had been given. Of these, 199 gave cash and 292 gave gifts, typically soap, fabric and food.

Ninety-one percent stated that they were aware of the new policy of free maternal health services, while 9% were not. The 393 women who were aware of the policy were asked if their impression was that the cost actually had reduced, and all answered in the affirmative.

5.5 Knowledge of the danger signs

Almost all (99%) of the participants stated that the unforeseen problems that can occur during pregnancy and childbirth can endanger the life of a pregnant woman; only two disagreed.

The respondents were asked to spontaneously mention serious health problems that can occur during pregnancy that are a danger to woman's life. The three most common risk factors mentioned were anaemia (84%) severe abdominal pain (63%) and severe headache (51.2%). For the key risk factors (marked with "[1]", see table 7,m 8 and 9 in the appendix), 35% of the women mentioned severe bleeding, 17% mentioned oedema and 10% mentioned blurred vision. When the participants were asked again if a woman could die from the problems they had mentioned, almost all said yes, no one said no and 2 women replied that they were unsure.

During labour and childbirth, the three most commonly mentioned health problems that can endanger the life of a woman were prolonged labour (72%), anaemia (64%) and severe bleeding (57%). For the key risk factors, severe vaginal bleeding was among the most frequently cited, as well as prolonged labour, retained placenta mentioned by 47%, and convulsions mentioned by 12%. 428 of the respondents stated that a woman could die from these problems, no one said no and 2 said that they did not know.

The most commonly mentioned health problems that can endanger the life of a woman during the two first days after childbirth were hypertension, stated by 57%, anaemia by 54% and severe headache mentioned by 54% of the women. For key risk factors, 46% mentioned severe vaginal bleeding, 5% high fever and four of the participants stated foul-smelling

vaginal discharge. When asked if a woman could die from these problems, almost all (99%) said yes, one said no and two did not know.

When looking just at the risk factors that were included in the original questionnaire, the mean of mentioned risk factors for pregnancy was 2.85, childbirth 2.49 and post-partum 1.65. (Excluding danger signs that are marked with"2" in table 7, 8 and 9 in the appendix).

Table 7, 8 and 9 in the appendix shows all the risk factors that were mentioned.

5.6 Attitudes and perceptions of health workers and TBAs

Attitudes and the perceptions of doctors, nurses and traditional birth assistants were assessed by listing common perceptions of them, and asking the respondents to state if they agreed with the statement, disagreed or did not know. Our findings indicate a broad consensus of the participants' perceptions of doctors'/nurses'/TBAs' ability to know what kind of care a woman needs during pregnancy, and during and immediately after childbirth. A significant majority of participants (99%) agreed that doctors and nurses know about the care a woman needs and 97% agreed that TBAs also know. When asked if doctors/nurses/TBAs treat women with respect, nurses stood out with 53 women (12%) disagreeing with this statement. The perceptions of doctors and TBAs coincide to a stronger degree, with 95% agreeing that doctors treat women with respect, and 98% agreeing that TBAs treat women with respect. The participants were asked if nurses/doctors/TBAs know what to do in the case of complications: 99.5% agreed that doctors know what to do, 99% agreed that nurses know and 11 women that TBAs know what to do (See appendix for table 10, 11 and 12).

5.7 Perception of local facilities for childbirth

The participants' perceptions of local facilities were assessed by asking different questions about the local facilities where they can give birth.

Approximately two thirds of respondents noted the government health centre, and one third (37%) a government hospital, as their closest health facility where they can give birth. With regards to how they would get to this facility, 83% mentioned some kind of transport and 73 (17%) stated that they would walk. When asked how long it would take to get to the health facility, 388 respondents were able to indicate a time. A mean of 60 minutes (SD 44.7) and median of 60 minutes was found. 60% of the women stated that it would take up to 60 minutes to get to the facility by the given means of transportation. The range of estimations of time was from 3 to 240 minutes. The respondents' opinions of the service in the given

facility were then asked and the following rankings were given: 293 (68%) excellent, 117 (27%) good, 14 (3%) average and poor 7 (2%).

All the results are displayed in the table 13 in the appendix.

5.8 Further analysis

We conducted the Chi-square test to explore possible associations between age, parity or previous hospital delivery and the following variables: most important reasons for not giving birth in a health facility, number of ANC visits, quality of care at ANC, plans for where to give birth, arrangements made for childbirth, assistant preference, reason for this preference, decision-maker for where to give birth and the attitudes of nurses. Even though age, parity and previous hospital delivery are likely to be positively correlated in many of the cases, we chose for this study to analyse these variables separately to be able to detect possible variations within the sample. Associations were assessed to detect potential differences between the tribes for the same variables, however, no association was found. The following associations were found:

- Previous hospital delivery was found to be negatively associated with stating the category “not necessary to give birth in a health facility”, as 5% (13/259) who had a previous hospital delivery stated it not necessary, while 14% (23/171) without a previous hospital delivery stated the same (relative risk 2.7; 95% confidence interval=1.40-5.14;p=0.002).
- Not having given birth in a health facility before showed a positive association with planning for a home delivery, as 38% (65/171) of the women without a previous facility delivery planned for a home birth, while 20% (52/259) who had given birth in a facility before planned to give birth at home (relative risk 1.89; 95% confidence interval=1.39-2.58 p=< 0.001).
- Previous facility birth had a significant positive association with making arrangements before childbirth, as 69% (178/259) of the women who had given birth in a health facility made arrangements before childbirth, while 56% (96/171) of the women that had not given birth in a health facility before, reported making arrangements (relative risk 1.22; 95% confidence interval=1.05-1.43; p=0.008).

Chapter 6

6 Discussion

6.1 Main findings

The most important barriers for giving birth in a health facility were found to be a lack of time and problems with transport to the health facility, followed by poor services, distance to a facility and the view that giving birth in a health facility was not necessary. The women in our study reported that some aspects of birth preparedness and complication readiness were communicated during ANC, particularly information regarding danger signs and where to give birth. However, information about making arrangements for transport and money prior to birth, and information about expected time of birth was communicated to a lesser extent. More than half of the women reported having made arrangements prior to birth. Half of these had made arrangements for transport, while identifying a skilled health professional, saving money or arranging a blood donor were mentioned less frequently.

The women showed an awareness of the fact that complications can arise, and expressed a confidence in that health care workers have the ability to help them in case of complications. The majority of the women reported that they would prefer to give birth attended by a health worker. Despite being aware of some of the known limitations of TBAs, some of the women expressed a preference for using them, describing TBAs as being helpful, providing confidentiality, showing sympathy and respect. The reported quality of care at ANC and health facilities for childbirth was generally good.

6.2 Methodological strengths and weaknesses

In this section, reliability and validity are defined, and are discussed in relation to strengths and limitations of this study, in order to determine to which extent our results may be biased.

> "Reliability refers to reproducibility and consistency of the instrument. It refers to the homogeneity of the instrument and the degree to which it is free from random error. There are certain parameters, such as test-retest, inter-rater reliability and internal consistency that needs to be assessed before an instrument can be judged to be reliable" (91 p.396).

> "Validity is an assessment of whether an instrument measure what it aims to measure. It should have face, content, concurrent, criterion construct (convergent and discriminate) and predictive validity" (91 p.396).

Validity can be divided into internal and external validity. Internal validity refers to the quality of the data, and external validity refers to the ability to generalise the findings to a wider population (91).

6.2.1 Sampling method and data collection

The women we recruited were a convenience sample, which means that there is a risk of selection bias, i.e. whether our findings can be generalised to a wider population can be questioned (91). Our aim was to recruit as many women who fulfilled our inclusion criteria during the study period as possible. We primarily recruited women who came to the reproductive and child health clinic after childbirth, where attendance is high (54). We also conducted door-to-door sampling. This, and the fact that the respondent rate was very high, leads us to believe that we did capture most of the women in our target group. Clearly, our findings should not be assumed to be representative of all Gambian women, but we believe our findings provide useful insights into the situation of many women in rural parts of the country.

The inclusion criteria of having given birth within the last six months reduced the chance of recall bias i.e. the ability to remember and report the issue that is studied. Threats due to recall bias are a result of respondents having a selective memory when reporting about previous experiences and behaviours (91). Studies on the BP/CR strategy has been particularly criticised for a lack of consensus and a length time period in the inclusion criteria of “recent birth”. Interviews conducted up to several years after childbirth have been defined as “recent birth” (31).

6.2.2 The data collection tool

In the manual that we based our questionnaire on, there is no mention of how the reliability of the questions was assessed or which criteria were fulfilled. However, the following description is given: “Users of the tool should not make any significant changes to the questions or items since they were carefully selected by clinical experts based on available scientific evidence and mutual consensus” (31). Furthermore, it is stated that the developers had previously been involved in designing several studies, thus, we have assumed that the questionnaire was developed according to scientific standards and that the reliability of the tool is satisfactory.

Face validity refers to the relevance of the questions in measuring what they are intended to measure (91). We regard this as being maintained, as our objectives are in-line with the

questions in the questionnaire. Content validity is an extension of face-validity, in that it relates to the test being judged to measure what it is supposed to measure in a more systematic way (91), which we regard as out of our scope to assess. For the same reasons, criterion and construct validity have not been tested by us.

As illiteracy rate is high in the country, an interview-assisted questionnaire was conducted. The questionnaire we used was semi-structured, which allowed the respondents to use their own words for the majority of questions. The key advantage to this approach is that relevant information may be collected that might not be captured with the use of structured questions where responses need to "fit" into a given category (91). Some of the questions in our questionnaire were open-ended, and we made notes during the interviews, which were coded retrospectively, in order to capture as much information as possible. This coding was independently conducted by two of the research team to reduce bias (AF and PML).

A possible limitation of this study is that for some of the questions asked, more time and a different approach or interview technique could have resulted in more complete and possibly more honest responses. We believe this can be particularly important when assessing the quality of services. Without building sufficient trust before such questions are asked, the possibility is likely stronger that the participant fear negative consequences from providing critical answers. Furthermore, the fact that the interviewers were health worker can have influenced the respondent's answers. We tried to reduce this effect by emphasising that confidentiality would be maintained and reassuring them that the interviewers were present as interviewers and not as health workers. The ability of obtaining cultural attitudes and believes might also have been hampered by using this study technique. However, given our objectives and the resources available, we believe the data collection tool used was appropriate.

One weakness with our questionnaire was that it was not translated into the local language given the large number of languages spoken at the study site. As a consequence, there is a risk that the participants' answers may have been influenced by the way questions were asked by the interviewers, who translated questions from English to the interviewee's language "real-time" during the interview (possible "interview bias" (91)). The interviewers were trained to ask the questions as directly as possible when translating, however, a questionnaire that requires translation on the spot decreases level of control of the interview setting and increases the chance of introducing interview bias. As previously explained, we experienced some challenges with the use of interviewers that we have attempted to adjust for in section 4.9.2.1.

6.2.3 Origin and practical experience of researcher

The researcher in charge of the data collection did not speak any of the languages at the study site and was not very familiar with the culture. Not speaking the language was a severe limitation as the ability to see and understand important situations and gain an insight into the communication between the interviewers and the participants was very limited.

Not knowing the culture limited the ability to adapt the research tool to the local setting. However, a benefit with being unfamiliar with the culture, particularly in the planning phase, is that it can facilitate a more "open-minded" approach. The research tool we used was developed for use in low- and middle-income settings. One of the research team, (JS) who has sound experience with conducting research in the country, as well as a Gambian midwife within the same project, appraised the questionnaire and gave feedback to facilitate local appropriateness. Additionally, two experienced researchers were advising during the entire process: one regarding methods (AF), and one with experience of conducting research on maternal health in the study site (JS). Furthermore, a pilot study was conducted to test if the questionnaire was applicable to the local setting. Some adjustments were made following the pilot to facilitate a better understanding of the questions.

One issue that has threatened the validity of this project is the researcher in charge of the data collection's limited experience in conducting interviews. A more practice-based training of the interviewers and closer follow-up during field work would have been an asset.

6.2.4 Use of interviewers

Reducing interviewer bias is a major challenge during data collection. The interviewer can influence the answers given by the respondents by asking leading questions or portraying attitudes that influence the way the respondents answer. This practice can be unconscious or conscious (91). The interviewers that were employed in the current project were health workers. We considered the use of health workers as necessary, because an understanding of medical terminology was important for parts of the questionnaire. However, the use of health workers as interviewers may have contributed to interviewer biases for several reasons. For example, the respondents could be reluctant to make negative statements about the profession of the interviewer. Furthermore, with regards to questions about the non-use of health facilities, particularly when asked by a health worker, the respondent may have been influenced to provide answers they thought the interviewer wanted to hear, ("social desirability bias" (91)). The interviewer's gender is another factor that may be of importance. This study dealt with issues of pregnancy and childbirth, and some women may

have felt uncomfortable discussing such topics with a man. On the one hand, women in The Gambia are used to relating to male midwives, which might reduce the gender bias. On the other hand, however, according to Secka (76), women see issues regarding pregnancy and childbirth as the domain of women, which indicates that the gender of the interviewer could have been a source of bias.

The reactive effect, described as the awareness of being studied, can influence the responses that are given. Examples of such behaviours are when the respondents reacts to the study situation by becoming more interested in the themes that are being assessed or change their behaviour as a result of being studied (91). This is another factor that could have influenced the way the respondents replied. Also, random measurement error, used to describe errors that are more "incidental", can occur. These errors can result from the participants guessing instead of admitting they do not know, or giving different answers to different interviewers or on different days. There is an assumption that such responses will be balanced out in the bigger picture, however, it shows the importance of using research questions with a high level of reliability (91).

6.2.5 Further limitations

To use or not to use health services is a complex process involving not just the woman, but also the family and the community (31). A weakness of the current study is the emphasis on the woman alone, with little focus on the cultural practices and cultural appropriateness of the health care services, as well as to the role of the family and other key persons in the community.

In conclusion, a number of potential biases in this project indicate that the findings can be a deviation from the "true values" in the society and that this should be taken into account when the results are interpreted. Hence, both the internal and external validity can be questioned. However, we believe that we have been able to reduce some of the biases by making adjustments where possible and excluding answers where irregularities were observed. Furthermore, given that previous studies in the country have looked at similar factors, the possibility to view our results in the context of other studies may contribute to strengthen the trustworthiness of our findings.

6.3 Discussion of results

In the MDG 5, the proportion of women that give birth attended by a skilled provider was chosen as an indicator for reducing maternal mortality (1). Reasons for low coverage of

maternal health services are complex and many factors interplay (66). In The Gambia, the estimated use of skilled attendance for childbirth is low: 54.5% and the coverage in rural areas significantly lower (50;59). Thus, we have assessed the most important barriers for why women in rural Gambia give birth outside a health facility. Our findings on the importance of the various barriers, birth preparedness and complication readiness, and other factors that might influence the use of skilled care for care for childbirth, will be discussed in accordance with findings from relevant studies conducted in The Gambia and other low- and middle-income countries, with most emphasis on the various identified barriers.

6.3.1 Importance of various barriers

6.3.1.1 Time

The most commonly cited barrier for not visiting a health facility for childbirth, mentioned by three out of four women, was “no time to go”. Among the reasons for lack of time were; childbirth happened before arrival of transport, delay in realising or informing about being in labour and giving birth on the way to the health facility.

Lack of time was found to be the most important barrier in the studies conducted by Løchting (84), and Jallow (85). Also, in a study from Uganda, most women who gave birth at home stated that the factors they could not control, such as quick labour or labour starting during the night, were the reasons for why they did not give birth in a health centre (73). However, in identified literature, a lack of time is often not explicitly given when barriers are described; instead, delays due to factors than can influence the availability of time is described. Some factors that are outlined as causing delays in the first phase in the three phases of delay model is, as already mentioned; the decision to seek care, status of the women, ability to recognise the need to seek care, lack of birth preparedness, distance and availability of transport (62;65).

The majority (60%) of the women in our study, who stated “no time” as a barrier, also stated having made arrangements for transportation to hospital. Thus, it seems reasonable to assume that most of them would have gone there if they had sufficient time. However, it may be that “lack of time” for some of the women was linked to them not seeing the need to hurry off to the health facility, since labour and giving birth went quickly and without complications. We question if this may be part of the picture since we were informed by the regional health team at our study site that their recommended practice was to make use of skilled TBAs for uncomplicated childbirths. They explained that this was due to having insufficient capacity for handling all deliveries at the health facilities. The written health policies that we have been

able to obtain do not provide clear recommendations on the use of TBAs and, thus, it is unclear if health workers in the study area are instructed to encourage women without risk-factors and complications to give birth at a health facility or not. If health providers recommend the use of TBAs, this is likely a structural barrier to seeking skilled attendance during childbirth. Furthermore, if this is the case, it should have meant that more women responded in the category of "respondent did not think necessary", and consequently that barrier should have been more important than our findings indicate. On the other hand, our findings indicate that the majority of the women were advised during ANC to give birth in a facility, as nine out of ten stated that they were informed about where to go if complications arose, over 80% said they were advised about where to give birth and almost 70% stated that they had been advised to have a health professional present for childbirth. The general health policy in the country is to increase use of skilled health workers for childbirth and at the same time, TBAs are trained and supported by the government (46) which may seem contradictory. Nevertheless, with a critical shortage of health workers (50), it can be argued that making use of TBAs might be a better option than giving birth without attendance.

Delays in seeking care affect the time it takes to get to a health facility for childbirth. Our findings indicate that the women themselves were the final decision-maker of where to give birth in 50% of the cases, in 25% of the cases the decision was taken together with the husband. The study by Jallow (85) also report that the women themselves were central in the decision-making. Only 4% of the women in our study reported that the TBA or mother in-law took the final decision. This is in contrast with findings from several studies in The Gambia where elderly women and TBAs are described as having a central role when decision is to be made. In some cases, delays have been found to derive from the cultural practice of these actors (76-79). Different findings are identified regarding men as decision-makers for place of birth, however, one study found that the women had to get the husbands permission (54). The fact that the TBAs do not always have watches could be another source of delay in the timely referral of complications such as retained placenta (79).
Furthermore, the importance of time as a barrier can be explained by the position of women in the Gambian society. Low education and poverty are among the determinants proven to be most important in hindering the use of health care services (4;21;66). The status of women in a society is influenced by education levels, the economical and political situation. Furthermore, the level of a woman's status influences the use of health care services, and there seems to be a difference between the desire to use or not to use a health facility, and a woman's ability to do so (21). In the current study, only 15% had attended formal school and, among this group, only half had spent more than five years in school. The specific economic status of the participants was not ascertained, however the population of the area of data

collection is classified as poor (50). Some women stated that the lack of time to go to a health facility was a result of them informing their family about being in labour too late. This may indicate that these women have a low position within the family. Moreover, as described by Secha (76), men lack trust in the women to be responsible for money when the husband is travelling is another factor that might indicate a low position within the family, and contribute to delay. A lack of communication regarding issues such as pregnancy and childbirth may also pose delays and contribute to a limited time to reach a health facility (76). Our findings show that only 21% were informed about term of delivery during ANC, information that can be crucial for timely awareness of the onset of labour and making arrangements to reach a health facility.

In a study from Ghana, it was shown that the decision of where to give birth was made after the onset of labour. This study found that the husband decided, as the woman was not perceived to be in the right state of mind to think clearly due to the labour and subsequent pain. However, advice given by health workers to give birth in a health facility was suggested to influence women to go to a health facility without asking their spouse (72). This indicates that advice from health workers can be effective in reducing the first delay in seeking skilled care for childbirth. It is difficult to make assumptions of why there are variations in the findings regarding the different decision-makers in The Gambia. As the study from Ghana describes (72), this may be a result of the women having been advised to do so by the health workers during ANC.

Cham et al (77) identified several factors that contributed to delays in seeking care, including under-estimation of severity of complications, delays of two hours to five days in seeking care and lack of money.

6.3.1.2 Transport

The majority of women in the current study (81%) stated that they would use some means of transport, while the remaining women would walk to the health facility for childbirth. Access to transport was the second most important barrier to giving birth in a health facility. This is supported by Løchting (84), who reported that a lack of transport and lack of money for transport were the second most important barriers. Transport is described as an important barrier in other studies from The Gambia (77;78), in reviews from low- and middle income countries (62;65), and in studies conducted in Uganda, Cambodia, Malawi and Ghana (35;70;72;73). In some studies from The Gambia, the TBAs also expressed concerns regarding problems with getting transport to take women that needed referral to health

facilities (78;79). They suggested that the government should provide them with a donkey and cart to be able to provide timely referral (79).

Besides insufficient access to transport, some contributing factors that challenged the use of transport were when labour commenced during the night or in the rainy season, both of which are supported by Løchting (84) and Cham et al (77), who found that women who initially made plans to give birth at home and experienced complications, experienced challenges in getting access to transport after the decision was made to go to a health facility (77). In general, access to health facilities is considered to be high in The Gambia, but for women in labour, a lack of timely transportation can be an important issue. This has been found to be especially problematic in rural areas, where the waiting time for transportation can be longer than the actual travel time, and should therefore be considered equally important as distance (50). Lack of transport, time and money are interrelated, and factors concerning one of them may also concern the other(s). An illustration is that it takes time to identify transport, and transport might be expensive. Cost for donkey cart may be seen as reasonable, but it is a time-consuming means of transport. Hiring of a taxi is expensive, and the availability of cars in the villages is low. Thus, cost of transport could be a "hidden" contributing factor for problems with arranging for transport costs. Furthermore, transport issues may be under-reported as a barrier in our study. As explained in section 4.9.2.1, it is debatable whether the most important barrier for some respondents was "no time" or "no transport" due to the coding rules that were made retrospectively. In many cases, we found it difficult to decide whether lack of time or lack of transport was the right category to capture the barrier described by the women, as there often seemed to be an overlap between these categories. However, independent of how these barriers are defined, these are clearly the barriers that stand out for being of remarkably higher importance than any of the other barriers we identified.

6.3.1.3 The quality of services

A negative attitude towards the service or the health workers was the third most important barrier in our study. However, a poor opinion of the service was reported as an important barrier by only a few participants (10%).

There are several possible explanations for few women reporting of poor service. The first is that the women may simply have been satisfied with the service they received; however, poor quality of service has been reported as a major barrier in several studies conducted in The Gambia (61;77), and countries as Ghana, Malawi, Uganda and Bangladesh (35;65;71;74). Cham et all's study is one in which the reports of experiences of poor service

were especially prominent; women described being afraid of going to the health facility due to negative experience with the health care workers and a fear of being treated poorly. Another possible explanation for the low reporting of poor service is that the women were satisfied as long as some help, of any kind, was available. It is also possible that the lack of knowledge or experiences with other health facilities causes the women to have low expectations, and thus have less to report on than one might expect . These assumptions are also given by Seljeskog et al (35), who made observations in the labour ward that was interpreted as poor service; as lack of privacy, many people having access to the labour ward, lack of equipment, limited communication between the health care providers and the women and some women even gave birth without attendance. However, it was found that few women complained.

As will be described further, women who preferred to have the TBA assisting them during childbirth cited the issues of privacy, respect and confidentiality as important reasons. These findings indicate the shortcomings of the health services regarding quality, and are important when addressing and improving the health services, especially for women that regard these factors as important. The fact that TBAs were reported to be approached by women for questions regarding pregnancy and childbirth (76), and that there was poor communication between health providers and women during ANC service (61), indicates a need for improvements in the practice of the health workers. However, the challenges due to an insufficient number of staff have been highlighted in several studies (81;92) hamper the ability to provide better quality services. In Malawi, poor working conditions of the staff was emphasised; a high number of patients with regard to available staff and lack of equipment leading to frustration and fatigue which again contributed to provision of sub-optimal care. Furthermore, it was described that a socio-economical gap between poor women and well-educated staff contributed to different perceptions and understanding of certain issues, which lead to complication of communication (35). In a study from Uganda, most women were unsatisfied with the service given at the hospital, citing a lack of cultural appropriateness and negative attitudes among the health workers (93).

Nevertheless, as explained in section 6.2, the role of the interviewers can also influence the responses given by participants. One of the interviewers in the current study had worked as a health care worker in the area for many years. The other assistant started working in the region more recently. There is a possibility that some of the women recognised the interviewers, which may have contributed to the under-reporting of negative experiences. Regardless of whether the interviewers were familiar, being interviewed by a health worker about the quality of service might restrict the openness of the respondents due to a respect

for the occupation and work of the health worker, a fear of being punished, or to avoid appearing as a “complaining” person. Løcthing (84) did not report any service-related barriers in their study.

6.3.1.4 Distance

In the current study, distance to the health centre was reported as an important barrier to less than 10% of the participants. In many other studies, however, distance has been shown to be a major barrier (35;70;72;73). Given that The Gambia is a small country and a large portion of the population lives within 7.5 km of a health facility (50), distance might be less important compared to other countries. However, distance is related to, and will be dependent on, factors such as transport and time, which were found to be the most important barriers. Thus, it is possible that distance could be a “hidden” factor within these barriers.

6.3.1.5 Necessity

The barrier “not necessary” was only stated by 8% of the respondents as being an important reason not to give birth in a health facility. We found a high level of awareness about the fact that complications can arise, and that health workers can provide sufficient care in such a situation. These perceptions could be important explanations as to why this barrier was not more prominent, particularly since almost all of the women expressed the view that health services are a necessity. However, as already discussed in section 6.3.1.1, the importance of this barrier might have been underestimated. Several studies have indicated that uncomplicated pregnancies or previous childbirth outside a health facility are used as rationales for not needing skilled attendance for childbirth (72;73;77). This is further strengthened by the findings of Løchting (84), who reported that 16% of the participants stated that having no complications during pregnancy and previously uncomplicated homebirths were reasons not to seek attendance at a health facility (84). Hence, this could suggest that there is some bias in our results. We found that women that has never given birth in a health facility were almost three times (RR 2.7) more likely to state that it was not necessary to give birth in a hospital than women that have had given birth in a health facility before. However, the sample size for these variables is too small to draw any conclusions from.

6.3.1.6 Cost

Cost is a barrier of limited importance in our study, which is supported by Løchting (84). This is in contrast to the importance of cost as a barrier for the use of health services found in other low- and middle-income countries, where user fees or “under the table” payments are frequently reported, such as in Uganda and Ghana (69;72). According to the review by Thaddeus et al (62), cost has been reported by many users as a barrier to seeking skilled

care for childbirth. However, they found that compared to other factors, cost was not as important in determining the decision of where to give birth. The study by Løchting (84) found that the median cost for transport to health facility was 25 GMD (1 EUR≈40 GMD), and more than half of the participants reported that they did not have any expenses for transport.

Some likely explanations for the relatively low importance of cost as a barrier in our study is that user fees for maternal health services have been eliminated in The Gambia, and unofficial costs are seldom reported (84). The absent of unofficial cost is supported by our findings, as over 90% of the women were familiar with the policy of free maternal and child health services, and all of them agreed that the costs actually was reduced.

6.4 Birth preparedness and complication readiness

As described, in the birth preparedness and complication readiness strategy, several elements are included: (a) identification of a skilled provider, (b) saving money, (c) identifying transport and (d) identify a blood donor and (e) knowledge of danger signs.

6.4.1 Knowledge of risk factors

For women that give birth at home and experience complications, being able to recognise the danger signs of prolonged labour and bleeding is crucial for reducing delays in seeking skilled care (62). However, having knowledge of the danger signs does not automatically guarantee that an individual is able to recognise them in practice, thus an indicator of knowledge is not a significant enough indicator of the ability to take action (31).

Among the participants, a wide consensus was found that unforeseen problems can occur at each stage of childbearing (referred to as pregnancy, labour/childbirth and postpartum period), that can endanger a woman's life. Secka (76) found that men were also aware of this.

Our findings indicate that the women had some knowledge about risk factors, and as many as 93% stated that they were given information on the danger signs during ANC. However, an awareness of some of the key risk factors that can occur during pregnancy and after childbirth was shown to a little extent. The key danger signs that can occur *during* childbirth were the most frequently mentioned. Severe bleeding stands out as the key risk factor mentioned most frequently for each stage of childbearing, but was only mentioned by 15% in the study of Anya (61). In terms of risk factors during childbirth, prolonged labour was mentioned by 72%. However we did not captured the women's perception of the length of

labour before they perceive it as prolonged. Anaemia is frequently mentioned for all three stages and after childbirth more than half of the population points to hypertension as a risk factor that can threaten the life of a woman. The findings of danger signs are similar to a study from Tanzania (71). Furthermore, in a study in The Gambia, anaemia and hypertensive disorders has also found to be the most stated danger signs (61). One challenge is that some of the risk factors that there was a high awareness of is particularly difficult to detect without the right equipment, as anaemia and hypertension. Other findings of low level of knowledge regarding the risk factors for complications in the country (54;61).

Our findings indicate that besides a low awareness of the key danger signs, the participants hold the less knowledge of danger signs that can occur immediately after childbirth, with a mean of 1.65 complications compared to pregnancy, where a mean of 2.85 danger signs. (See appendix 1 for table 7,8 and 9). It is difficult, however, to compare knowledge levels across different studies, as different approaches have been employed to measure such knowledge.

6.4.2 Arrangements prior to childbirth

6.4.2.1 Birth preparedness and complication readiness

"Safe motherhood" emphasises the importance of birth preparedness and complication readiness to reduce the delays and barriers to accessing skilled care for childbirth (31).

For the women in our study, 27% of the whole sample stated that their initial intention was to give birth in the place where the childbirth actually happened. 64% stated that at least one step was taken for making arrangements prior to the birth, and among these women, the identification of transport being mentioned most frequently, by 92%. In terms of other preparations, 66% of these respondents stated having identified a skilled provider, 57% stated had saved up money and 11% had identified a blood donor. We found that women who had not given birth in a health facility before were almost twice as likely of planning to give birth at home than women who had previously given birth in a facility (relative risk 1.89; 95% confidence interval=1.39-2.58; p=<0.001). Furthermore, women that had given birth before were more likely to have made arrangements for childbirth, than women who had never given birth in a health facility before (relative risk 1.22; 95% confidence interval=1.05-1.43; p=0.008). However, this finding yields limited practical implication as it would be difficult to explicit target these women with interventions.

Telfer et al (54) presented findings regarding birth preparedness in The Gambia, which showed that the majority gave birth where they had planned, in a sample where only 18% of

women gave birth in a health facility, indicating that the majority had planned and desired to give birth outside a health facility. For women who had planned for a homebirth, 4% had made arrangements for transport and 4% had made financial arrangements. These findings indicate a dramatically lower number of women preferring to give birth in a health facility, in addition to low levels of birth preparedness (54). However, the study was conducted in 1998/99, which may indicate that practices and desires have changed amongst women. Since 1990, The Gambia has experienced a considerable increase in the use of skilled health attendance (48), there are programs running to increase birth preparedness and complication readiness (83), and the services of maternal and child health has become free of charge.

We assessed the women's perceptions of the information they was given during ANC. A high number (between 70% and 92%) stated that they were given information about where to go in case of danger signs, where to give birth and advice about being attended by a health care worker for childbirth. A lower number, between 27% and 30%, stated that they were given advice about making arrangements for transport, saving money and arrangements for a blood donor. An alarmingly low number (21%) stated that they had been given information about their date of term.

With respect to birth preparedness and complication readiness, we did not find strong associations between the participants' statements of the information received during ANC and their actions in terms of making preparations. This might imply that either the respondents did not see the benefits of birth preparedness and complication readiness, or the message needs to be communicated more effectively. Our findings of the importance of lack of time and transport indicate that planning prior to birth can be important in reducing these barriers.

6.4.2.2. Comparison to other studies of BP/CR

We have not identified any studies assessing birth preparedness and complication readiness that makes use of the exact same questionnaire, which hampers the possibility for comparisons to be made across different studies. In a study in Burkina Faso, birth preparedness was assessed and, compared to the current study's findings, a higher level of birth preparedness prior to childbirth was found. However, 69% of the population stated that they were exposed to the strategy of birth preparedness prior to being interviewed about birth preparedness (63). We have only obtained such information from our participants for the last pregnancy, and we do not have information about how extensive the training in birth preparedness and risk-factors in the given community is. Furthermore, for women that had recently given birth in Burkina Faso, 43% reported that they had made plans for a skilled

worker for childbirth, 46% made plans for transport and 83% planned to save money prior to childbirth (63).

For the latter study, the intervention that was carried out can explain the higher levels of birth preparedness. However, knowledge of the risk factors was higher among the participants in the current study. We do not have sufficient information to state reasons for the difference, but some possible causes could be that health education in The Gambia is more sufficient, or there may be variations in the research tool and interview techniques used. A study from India showed a baseline of 16% reporting of birth preparedness. After information on birth preparedness for emergency care was provided to pregnant women, the number of women that made arrangements had increased to 52% (64).

In a qualitative study in Ghana, many of the participants expressed the importance of preparing for childbirth. The women were advised to have items such as clothes and soap ready before childbirth and although transport and blood donor arrangements were seldom made, the importance of saving money was emphasised, although this was described as challenging for some women (72). The motivation described can be important in facilitating success of such interventions.

6.5 Perceptions and experiences that can influence the use of maternal health services

The first step towards an individual using a health service is the belief that attending the service will positively benefit their health (62). The act of seeking skilled care for childbirth is influenced by the perceived benefits for the woman and baby, and the extent to which they believe they actually need such a service. For the most part, these perceptions are a result of the knowledge of risk factors, their opinions about the available help at the health facility and previous experiences with the health care system (21). Perceptions and the attitudes of health workers, as well as decision-making ability, are factors that are highly relevant in this area; as discussed previously.

Our findings indicate that over 80% of the women would prefer to give birth attended by a skilled provider, a finding that is supported by Løchting (84). This is also in line with a study from Zambia, where it was found that 96% of women wished to give birth in a facility, while only 54% actually did (75). The majority of the women in the current study rated the service in their closest health facility where they could give birth to a baby, as excellent or good. However, we have indicated that negative experiences and perceptions may be under-reported, and that “social desirability bias” might have introduced some bias.

Important facilitating factors for the use of health services for childbirth were a perception that the health care workers have the ability to handle complications and that they possess the necessary equipment and skills. Similar findings were reported in a study from Ghana, where women had the knowledge about important complications and expressed a wish to be attended by health care workers if they were affected by complications (72) and in Malawi where health workers were preferred to assure a positive outcome, (35) and in Burkina Faso where women stated that they desired skilled attendance due to the ability to handle complications (63). A study from Uganda also illustrated that, generally, women expressed an awareness and appreciation of the advantages of giving birth in a health facility (73), which shows a great potential for increasing the use of skilled attendance.

In the current study, 72% of the participants gave birth attended by a TBA. Women's views about the availability and cultural appropriateness of TBAs has been underlined (2;73). In rural Tanzania, the most important facilitating factors for skilled attendance during childbirth were a respectful provider and the availability of drugs and medical equipment in the facilities (94). A study from Uganda, where women said that although they were aware of the limitations of the TBAs, they were still the preferred attendant for childbirth: the health facility was viewed as the last resort if complications arose (93). In some countries cultural practices are major barriers to the use of health services for childbirth. The social cost of skilled attendance during childbirth was too high in Uganda and Ghana; home-deliveries increased a woman's status, while having a skilled attendant lowered their status (74;93). Women have been found to present a fear of going to the health facility because they are embarrassed about being poor, and therefore not having suitable clothes, while giving birth at home would mean avoiding this situation (71;74). The current study did not identify any cultural factors that could serve as barriers, and the health care workers were the desired attendant during childbirth for the majority, which indicate that increasing the utilisation of skilled provider will be an easier task in The Gambia, compared to countries with strong cultural perceptions that hinder use.

However, as mentioned, it has been found that elderly women in the community are consulted before the decision to seek skilled care is made (54). Religious beliefs can also pose as potential barriers to seeking skilled care. Cham et all identified certain beliefs about the progress of labour being influenced by Muslim prayers (77). There are also communities who believe that there will be negative consequences if a man was to see any of the childbirth (76). Such beliefs are important to address to increase the number of women seeking skilled health care.

Participants in the current study who preferred a TBA to assist during childbirth gave the following reasons for their preference: a TBA is helpful and they provide confidentiality, respect and sympathy. Almost all of the participants stated that they believed that the TBA was aware of the kinds of care a woman needs during pregnancy, a belief that was also shared about doctors and nurses. When asked if the TBAs could handle complications, 80% denied this statement. Only a few participants agreed, and the rest said that they did not know. For the same question regarding doctors and nurses, all participants agreed that they could help. Nurses were the only group involved in pregnancy and childbirth services that were described as treating women negatively. In accordance with other studies (78;79) we found that women perceive the TBA to be a respectful provider.

6.6 Determinants versus perceived barriers to utilisation

The most important identified determinants for the use of health services for childbirth that were identified in an international review of studies were: (a) ethnicity, (b) language, (c) age, (d) socio-economical and cultural indicators: the decision-making status of women in households in addition to their economic situation and education, and (e) geographical factors: distance, location of health centres, transportation, cost and quality of services (66).

Gabrysch et al (21) emphasise the importance of assessing potential barriers to utilisation that are not readily obtained from statistics that are used when identifying determinants, e.g. quality of care and accessibility (21). The strong focus on various socio-economical factors that are associated with low use of skilled attendance can be seen as an approach where the responsibility on the health system is under-emphasised. An important supplement is to focus more on perceived barriers to utilisation of health care. In a study from Malawi looking at perceived barriers, the authors state that the barriers to use of skilled attendants partly can be attributed to the health system. Furthermore, they suggest that a more individualized service is needed (35). In addition to our findings, other studies report a discrepancy between the women's desire and actual use of skilled birth attendants (75;84). In such settings in can be suggested that factors hindering use are beyond the control of the women themselves.

Association is not proof of causation, thus identifying socio-economic or other determinants that are associated with utilisation of care does not necessarily mean that there is a cause-effect relationship between the two. For example, distance to the facility is a determinant of low utilisation of skilled attendants during delivery, which makes logical sense. However, it may be that the reason for low utilisation in remote areas is more about cultural beliefs or

preferences among these women than the fact that they would need to travel far to get to the facility. Perhaps skilled attendance would remain unchanged even if a facility was built right in the middle or their village. Understanding why women do not come to the health facility to give birth is of key importance for policymakers who want develop interventions to address maternal mortality.

Establishing the real causes for low utilisation of health services is a methodological challenge, and combining several research methods may be useful for increasing our understanding of the relationship between possible causes and utilisation. Triangulation is one way of mixing methods, i.e. in combining different studies to facilitate a better understanding than the studies could have provided separately.

By assessing perceived barriers through qualitative studies and surveys, the evidence on possible reasons for low utilisation is extended beyond findings from previous studies on factors associated with utilisation ("determinants"). Identification of determinants may be an important contribution for increasing our understanding of underlying causes of low use, such as low education and low economical status, factors which need to be addresses. However, socio-economic and other factors that might be associated with utilization are generally difficult to change, both in the short and medium terms. Studies of perceived barriers on the other hand, can identify contextual barriers that may more easily be addressed within a shorter time frame.

Our findings of the barriers, together with other studies from The Gambia (77;84), coincide with the geographical factors identified in studies of determinants.

6.7 Policy and research implications

We have found that a lack of time and transport are among the two most important reasons given by the participants for why they did not give birth in a hospital. Factors such as time, availability of transport and distance are interrelated. When people face delays or non-availability of transport, they can lose valuable time needed to reach a health facility. In addition, long distance to the facility will interfere with the available time and the need for transport.

Our findings indicate that it might be worthwhile to explore interventions on how women in labour can get to the health facility in a timely and effective manner. More specifically, we suggest evaluating interventions that aim at improving transport to the health facility, and

evaluate the effectiveness of the strategy of birth preparedness and complication readiness in reducing delays and barriers. Possible interventions are:

- Increased use of ambulances stationed at the health centres for bringing women in labour to the health facilities. Cell phones are available, the funds for which could be provided by the government. The TBAs or the village health workers are in the community and can serve as the link between the families and the ambulances.

- Increased dissemination of information about the benefit of planning for childbirth, particularly by saving money and arranging for transport in advance can be important steps to combat the barriers and delays of lack of time and problems with accessing transportation. Information about birth preparedness and complication readiness should be targeted not only towards the women, but also to the community, as women are often influenced by their family and other key persons in the decision to seek care and making the necessary funds for this available. The focus of complications in the post-partum period is suggested to be emphasised. Such interventions are already in place, however, our findings suggests that it may be worth considering scaling up these efforts. Radio is one communication channel that could be considered to spread such information to the wider community. Information about the expected time of birth should be given to all women that attend ANC, as this is important information in facilitating preparation.

6.8 Conclusion

The two most important barriers to giving birth in a health facility were a lack of time and challenges related to accessing transport to the health facility. These barriers are inter-related. A woman's position in society and within the family and decision-making ability in addition to cultural practices may be contributing factors in causing delays and could thus lead to a lack of time to seek skilled attendance for childbirth. The third most important barrier was related to poor services: If the goal is to give birth in a health facility there must exist a premise that the woman and their families have the intention to do so, and that they are aware of the benefits. The assumption of the reduced risk of maternal deaths if women are attended by skilled personnel during childbirth is the reason why it is an infringement of women's rights when health care is not accessible to them. Our findings on the awareness of each stage of childbearing being a source of life-threatening complications, a belief in the ability of the health care workers to help if such problems arise, and the widespread wish to be attended by a skilled health worker indicate that there is great potential to reach the MDG 5 with regards to increased use of skilled attendance and to reduce inequity in The Gambia, which is the aim of the health policy of the country. However, the barriers need to be combated. Perceptions about negative attitudes among health professionals, in addition to barriers as lack of transport and money may mean the effort to go to the facility can be perceived as being too demanding, when seen in relation to the perceived benefits of seeking skilled care. The barriers experienced by women, their families and the community are crucial information for policy makers to make adequate interventions. Our suggestions are to explore interventions aiming at reducing barriers and delays to the timely transport of women to a health facility.

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Appendix

Appendix 1: Tables

Table 6: The women's opinion of if danger signs are life threatening

Table 6: #301 The views of the women regarding if danger signs that can occur during pregnancy, labour/childbirth and the postpartum, period can be life-threatening.

Variable	N (%)
Serious health problems can endanger life (N=432)	
Yes	427 (99)
No	2 (1)
Do not know	3 (1)

Table 7: Danger signs during pregnancy

Table 7: # 302-303 Knowledge of health problems that can occur during pregnancy that can endanger the life of a woman, mentioned spontaneously.

Variable (N=431)	N (%)
Severe vaginal bleeding[1]	148 (35)
Swollen hands/face[1]	74 (17)
Blurred vision[1]	43 (10)
Severe abdominal pain	269 (63)
Severe headache	219 (51)
High fever	132 (31)
Severe weakness	119 (28)
Accelerated/reduced fetal movement	93 (22)
Water breaks without labour	64 (15)
Difficulty breeding	55 (13)
Loss of consciousness	10 (2)
Anemia[2]	361 (84)
Dizziness[2]	132 (31)
Hypertension[2]	116 (27)
Dehydration[2]	108 (25)
Malnutrition[2]	73 (17)
Heavy work[2]	45 (11)
Malaria[2]	44 (10)
Could a woman die from these problems (N= 430)	
Yes	429 (99)
No	0 (0)
Do not know	2 (1)

[1] *Key danger signs during pregnancy (according to JHPIEGO)*
[2] *Are not in the original questionnaire, mentioned by more than 20 women*

Table 8: Danger signs during labour/childbirth

Table 8: # 304-305 Knowledge of serious health problems that can occur during labour and child birth that can endanger the life of a woman, mentioned spontaneously.

Variable (N=430)	N (%)
Long lasting labor[1]	310 (72)
Severe bleeding[1]	246 (57)
Retained placenta[1]	*203 (47)*
Convulsions[1]	50 (12)
Severe headache	186 (43)
Loss of consciousness	61 (14)
High fever	15 (4)
Anemia[2]	278 (64)
Size/position of baby[2]	130 (30)
Dehydration[2]	128 (30)
Pain[2]	115 (27)
Hypertension[2]	101 (23)
Could a woman die of these problems (N=430)	
Yes	428 (100)
No	0 (0)
Do not know	2 (1)

[1] Key danger signs during labor and childbirth
[2]Are not in the original questionnaire, mentioned by more than 20 women

Table 9: Danger signs immediately after childbirth

Table 9: #306-307 Knowledge of serious health problems that can occur during the first two days after birth that can endanger the life of a woman, mentioned spontaneously.

Variable (N=432)	N (%)
Severe bleeding[1]	200 (46)
High fever[1]	22 (5)
Malodorous vaginal discharge[1]	4 (1)
Severe headache	232 (54)
Swollen hands/face	106 (25)
Blurred vision	63 (15)
Difficulty breeding	59 (14)
Loss of consciousness	27 (6)
Convulsion	7 (2)
Hypertension[2]	248 (57)
Anemia[2]	235 (54)
Severe weakness[2]	216 (50)
Pain[2]	166 (38)
Dizziness[2]	165 (38)
Retain products[2]	81 (19)
Dehydration[2]	45 (10)
Could a woman die from these problems (N=432)	
Yes	429 (99)
No	1 (0)
Do not know	2 (1)

[1] Key danger signs during postpartum period
[2]Are not in the original questionnaire, mentioned by more than 20 women

Table 10: Care in the childbearing period

Table 10: #401 Women's perceptions of if doctors/nurses/TBAs know what kind of care a woman needs during pregnancy, during childbirth and immediately after childbirth.

Variable	N (%)
Doctors (N=432)	
Yes	429 (99)
No	0 (0)
Do not know	3 (1)
Nurses (N=432)	
Yes	428 (99)
No	1 (0)
Do not know	3 (1)
TBA (N=432)	
Yes	419 (97)
No	4 (1)
Do not know	9 (2)

Table 11: Respect from care providers

Table 11: #402 the women's perceptions of if doctors/nurses/TBAs in their community are treating women with respect.

Variable	N (%)
Doctor (N=432)	
Yes	409 (95)
No	21 (5)
Do not know	2 (1)
Nurse (N=432)	
Yes	*377 (87)*
No	53 (12)
Do not know	2 (1)
TBA (N=429)	
Yes	420 (98)
No	3 (1)
Do not know	6 (1)

Table 12: The care provider's ability to handle complications

Table 12: # 403 the women's perception of if nurses/doctors/TBAs in their community know what to do in case of complication.

Variable	N (%)
Doctor (n=432)	
Yes	421 (100)
No	0 (0)
Do not know	2 (1)
Nurses (n=424)	
Yes	*421*
No	1 (0)
Do not know	2 (1)
TBA (n=425)	
Yes	11 (3)
No	343 (81)
Do not know	71 (16)

Table 13: Perception of local facilities for childbirth

Table 13: The women's perception of local facilities.

Variable	N (%)	Mean (SD)
Closest health facility (N=432)		
Government hospital	159 (37)	
Government health centre	273 (63)	
Second facility (N=432)		
Respondents home	8 (2)	
Government hospital	267 (62)	
Government health centre	15 (4)	
Government dispensary	2 (1)	
None	140 (32)	
How to get to the health facility (N= 431)		
Transport	358 (83)	
On foot	73 (17)	
Time to get to health facility (N= 388)		60 min (44.7)
Service in the facility (N= 431)		
Excellent	293 (68)	
Good	117 (27)	
Average	14(3)	
Poor	7(2)	

Appendix 2: Information letter

Information letter

Assess the importance of various barriers for seeking skilled care for childbirth among women in rural Gambia: SCC 1209

Version number: 2 Oslo, 15 06 2010

We invite you to take part in a study where we will ask women about the experience of being pregnant and of giving birth. The study has been approved by the ethical committee in The Gambia and in Norway. You have been selected for the interview by means of a random or chance selection process, much like picking an orange out of a basket without looking. The interview will last approximately 20 minutes.

The information you provide during the interview will be kept confidential and only me, Priya Miriam Lerberg and the researchers involved in this study will have access to the questionnaires. Your name will not be recorded.

By participating in this study and answering the questions asked, you will help us broaden our understanding of barriers for giving birth in a health facility. Such understanding is vital for planning and provision of maternity care services in The Gambia.

Your participation is voluntary and you have the right to withdraw at any stage should you wish. The decision to withdraw will not have any negative consequences for you. If there is anything that is not clear we are delighted to clarify it.

If you have any question about this study, please ask, or contact the investigators at this address: _____.
Thank you very much for your help!

Appendix 3: Informed consent form

Template Consent Form

Assess the importance of various barriers for seeking skilled care for childbirth among women in rural Gambia: SCC 1209

Version number: 2 Oslo 15 06 2010

The information sheet has been read to me and I understand it / I have read and understood the information sheet.

I understand what participation in the study means for me.

I understand that the information regarding me that is collected in the course of this study will remain confidential.

I understand that I am free to take part in the study or refuse, and that I can withdraw from the study at any time, and without giving any reason. Deciding not to take part or to withdraw from the study will not affect the care that I am normally entitled to.

I have had a chance to ask questions and have them answered.

Signature or thumb print of volunteer: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0

This form has been read by / I have read the above to _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
(write name of volunteer) in a language that he/she understands. I believe that he/she has understood what I explained and that he/she has freely agreed to take part in the study.

Signature of field worker: _

Name of field worker: _

Date: |___|___| / |___|___| / |___|___|___|___|

Appendix 4: questionnaire

Inclusion criteria: Living in North Bank East Region , age 15-49 , have given birth outside a facility within 6 months
Questionnaire number:_____ Interviewer name: _____ Date: _____ Result code: ___
1=completed, 2= time set for later, 3= not competent, 4= Incomplete, 5= refused, 6= other:
(specify)_____

Section 1: Socio-demographic information:

First, I would like to ask you some questions about yourself.

Q. #	Question	Codes	Go to Q.
102	How old are you now?	Age in completed years _ _	If under 15 or over 49,Stop
103	Have you given birth in the last 6 months, either to a child that was born alive or a baby that was born dead?	Yes 1 No 2 3 months 6 months	If no, STOP
104	What is your ethnicity?	Wollof: 1 Mandinka: 2 Fula: 3 Other: _____(specify) 97	
105	What is your religion?	Muslim: 1 Christian: 2 No religion: 3 Other:_____(specify) 97	
106	What is your marital status now? Are you single, married, widowed, divorced, or separated?	Single: 1 Married/in union: 2 Widowed: 3 Divorced: 4 Separated: 5	→109 →109 →109 →109
107	Are you currently living with your partner?	Yes: 1 No: 2	→109
108	Do you live with your husband all of the time or most of the time?	All of the time: 1 Sometimes: 2	
109	How many wives does your husband have in total?	Number of wives: __	
110	Have you ever attended formal school?	Yes: 1 No: 2	→ 111
111	How many years did you go to school?	Number of years: __	
112	Have you attended Islamic school?	Yes: 1 No: 2	
113	In addition to your housework, do you do any other work which you are paid in cash or in kind?	Yes: 1 No: 2 If yes: what? _____(specify)97	

Section 2: Births and stillbirths

Now I would like to ask you some questions about the pregnancies you have had during your life, focusing on pregnancies that resulted in babies born alive or babies born dead. We will not be discussing miscarriages.

201	Have any of your pregnancies resulted in a baby that was born dead (stillbirth)?	Yes: 1 No: 2	→203
202	How many of these pregnancies resulted in a baby that was born dead?	Number of babies born dead: __	
203	Have any of your pregnancies resulted in a baby that was born alive?	Yes: 1 No: 2	→ 205
204	How many of these pregnancies resulted in a baby that was born alive?	Number of babies born alive: __	
205	Have you given birth at a health facility before?	Yes: 1 No: 2	

Section 3: Knowledge

Now I would like to ask you some questions about pregnancy and childbirth in general. I am going to be asking you questions about the three stages women go through when having a child; the period of pregnancy, the period of labour and birth, and the period immediately after childbirth.

301	In your opinion, can unforeseen problems related to pregnancy occur during pregnancy or childbirth that could endanger the life of a woman?	Yes: 1 No: 2 Don't know: 98	
302	In your opinion what are some serious health problems that can occur <u>during pregnancy</u> that could endanger the life of a pregnant women? PROBE: Any others?	Bleeding: 1 Severe headache: 2 Blurred vision: 3 Convulsions: 4 Swollen hands/face: 5 High fever: 6 Loss of consciousness: 7 Difficulty breeding: 8 Severe weakness: 9 Severe abdominal pain: 10 Accelerated/reduced fetal movement: 11 Water breaks without labour: 12 Other: _____(specify) 97 None: 00 Don't know: 98	→ 304 → 304
303	In your opinion, could a woman die from [this problem] any of these problems?	Yes: 1 No: 2 Don't know: 98	
304	In your opinion, what are some serious health problems that can occur <u>during labour and childbirth</u> that could endanger the life of a woman? PROBE: any others?	Severe bleeding: 1 Severe headache: 2 Convulsions: 3 High fever: 4 Loss of consciousness: 5 Labour lasting more than 12 hours: 6 Placenta not delivered 30 minutes after baby : 7 Other: _____(specify) 97 None: 00 Don't know: 98	→ 306 → 306
305	In your opinion, could a woman die from [this problem] any of these problems?	Yes: 1 No: 2 Don't know: 98	
306	In your opinion, what are some serious health problems that can occur <u>during the first 2 days after birth</u> that could endanger the life of the woman? PROBE: Any others?	Severe bleeding: 1 Severe headache: 2 Blurred vision: 3 Convulsion: 4 Swollen hands/face: 5 High fever: 6 Malodorous vaginal discharge: 7 Loss of consciousness: 8 Difficulty breeding: 9 Severe weakness: 10 Other:_____(specify) 97 None: 00 Don't know: 98	→ 401 → 401
307	In your opinion, could a woman die from [this problem] any of these problems?	Yes: 1 No: 2 Don't know: 98	

Section 4: Attitudes and perception

Now I am going to read out a list of common perceptions about doctors, nurses, and traditional birth attendants. I would like to know if you agree with these statements, disagree with this statements, or if you don't know if you agree or disagree with these statements. READ EACH QUESTION THROUGH ONCE, FIRST BEGINNING WITH "DOCTOR", THEN BEGINNING WITH "NURSE", THEN "TBA".

		Doctors	Nurses	TBAs	
401	In this community, do [DOCTORS/NURSES/TBAs] know what kind of care a woman needs during pregnancy, childbirth and immediately after childbirth?	Yes: 1 No: 2 DK: 3	Yes: 1 No: 2 Dk: 3	Yes: 1 No: 2 Dk: 3	
402	In this community, do [DOCTORS/NURSES/TBAs] treat women with respect?	Yes: 1 No: 2 DK: 3	Yes: 1 No: 2 DK: 3	Yes: 1 No: 2 Dk: 3	
403	In this community, do [DOCTORS/NURSES/TBAs] know what to do in case of complications?	Yes: 1 No: 2 Dk: 3	Yes: 1 No: 2 Dk: 3	Yes: 1 No: 2 Dk: 3	

Section 5: Perceptions of local facilities

Now I am going to ask some questions about the local health facilities in which you can give birth to a baby.

501	Do you know of a place where you can go to give birth to a baby with assistance from a doctor, nurse, or midwife? IF YES: where is that? RECORD ALL PLACES MENTIONED. IF MORE THAN ONE FACILITY MENTIONED: which of these health facilities is the closest to you? _____ (name of health facility)	**Home:** Respondent's home: 11 TBA's home: 12 Other home: 13 **Public sector:** Gvt. Hospital: 21 Gvt. Health centre: 22 Gvt. Dispensary: 23 **Other public:** _____(specify) 26 **Private sector:** Pvt. Hospital: 31 Maternity/nursing home: 32 Other private: _____36 (specify) **Other:** _____97 (specify) Does not know a place: 98	→ 506 → 506
502	In your community, how would you go to this health facility? PROBE: What type of transportation would she mainly use to get to the health facility?	Ambulance: 1 Private car: 2 Taxi/bus: 3 Cart: 4 Motorbike: 5 Boat: 6 On foot: 7 Bicycle: 8 Other: _____(specify) 97 Don't know: 98	
503	In general, how long would it take you to reach this health facility? (IF LESS THAN 2 HOURS RECORD IN MINITS)	Hours: ___ Minutes: ____ Don't know:	
504	In your opinion, how are the services in this facility? Would you say they are excellent, good, average, or poor?	Excellent: 1 Good: 2 Average: 3 Poor: 4 Don't know: 98	

505	Can you tell me why you have ranked the services as [CHECK 504] PROBE: What else? RECORD ALL RESPONSES.	Doctor always there: 1 Facility always open: 2 Staff respond to my questions: 3 Facility always has necessary medicines: 4 Not a long wait: 5 Staff treat women with respect: 6 Often doctor not there: 7 Often facility is closed: 8 Staff do not answer my questions: 9 Facility does not have necessary medicines: 10 Long wait to be seen: 11 Staff treat women poorly: 12 Other:_____(specify) 97 Don't know: 98	
506	What kind of services can be offered you for childbirth at the facility that the TBA cannot offer you?		

Section 6: Personal experiences related to last pregnancy

In the next sets of questions, I am going to be asking about your experiences related to the phases women go through when having a child that we discussed earlier: pregnancies and birth. I'd like to begin by speaking with you about your last pregnancy that resulted in a baby (born alive or dead).

601	Did you see anyone for antenatal care during this pregnancy?	Yes: 1 No: 2	→ 607
602	How many times in total did you receive antenatal care during your pregnancy?	Number of times: __ Don't remember:	
603	Whom did you <u>first</u> see for a check-up on this pregnancy? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN	**Health professional:** Doctor: 1 Nurse/midwife: 2 Clinic officer: 3 **Other person:** TBA: 4 Community health worker: 5 Relative/friend: 6 **Other:** _____(specify) 97 Don't know/don't remember : 98	
604 A d v i c e a b o u t	During this pregnancy did a health worker advise you about any of the following, at least once: 1. Danger signs of serious health problems during pregnancy, childbirth, or soon after? 2. Where to go if you had danger signs of serious health problems? 3. Where you should give birth to your baby? 4. Arrangement for transport? 5. Arrangements for funds/finances?	Yes No Danger signs 1 2 Where to go Where to give birth Transport	

a d v i c e	6. Arrangements for a blood donor? 7. Arrangements for a healthcare professional to deliver your child? 8. Information on expected time of birth?	Money Yes No Blood donor: Health professional Time of birth	
605	Can you tell me the reasons why you attended ANC?		
606	Overall, how would you rank the service given at ANC? Would you rank them as excellent, good, average or poor?	Excellent: 1 Good: 2 Average: 3 Poor: 4 Don't know: 98	→701 →701 →701 →701 →701
607	Why did you not see anyone for antenatal care? (TICK ALL THE RESPONSES GIVEN)	Did not know where to go: 1 Health facility too far: 2 Too expensive: 3 No one was there to accompany: 4 No good service: 5 Other: _____(specify) 97	

Section 7: Personal experiences related to last birth

Now, I'd like to speak with you about the birth that resulted from the pregnancy we were just discussing.

701	Where did you give birth to your last child?	Respondents home: 1 TBAs home: 2 Other: _____(specify) 97	
702	Did you plan to give birth at this place?	Yes: 1 No: 2 Don't know: 98	
703	Prior to the birth, did you or your family make any arrangements for the birth of this child?	Yes: 1 No: 2 Don't know: 98	 → 705 → 705
704	Which arrangements did you or your family made for the birth of this child? (CIRCLE ALL RESPONSES GIVEN.) THEN PROBE: Did you [ANY REMAINING ARRANGEMENTS]?	Unprompted / prompted Identify transport: 1 Save money: 2 Identify blood donor: 3 Identified skilled provider 4 Other _____(specify) 97	
705	Who made the <u>final</u> decision about where you would give birth?	No one: 1 Respondent: 2 Respondent & husband: 3 Husband: 4 Resp. mother: 5 Resp. father: 6 Mother in-law: 7 Father in-law: 8 Sister/sister in-law: 9 Other members of resp fam: 10 Other members of husb fam: 11 Friend/neighbour: 12 Health professional: 13 TBA: 14	

		Other: _____(specify) 97 Don't know: 98	
706	Can you tell me the three top reasons why you did not give birth in a health facility? PROBE: what else?	Resp. didn't think necessary: 1 Husb/fam didn't think necessary: 2 Facility too far: 3 No transport: 4 No childcare: 5 Too expensive: 6 Services are poor: 7 Did not know where to go: 8 No time to go: 9 Other: _____(specify) 97 Don't know	
707	Who assisted with the birth? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.	TBA: 1 Comm. health worker: 2 Relative /friend: 3 No one: 4 Other: _____(specify) 97	
708	Would you have preferred that someone else assisted with the birth? (instead of [CHECK 707]	Yes: 1 No: 2 Don't know: 3	 →710 →710
709	Who would you have preferred to assist with the birth?	**Health professional:** Doctor: 1 Nurse/midwife: 2 Clinical officer: 3 **Other person** TBA: 4 Community health worker: 5 Relatives /friend: 6 Other: _____(specify) 97	

Appendix 5: Ethical clearance from the Norwegian committee

UNIVERSITETET I OSLO
DET MEDISINSKE FAKULTET

Førsteamanuensis Atle Fretheim
Universitetet i Oslo
IASAM
Pb.1130 Blindern

Regional komité for medisinsk og helsefaglig forskningsetikk Sør-Øst A (REK Sør-Øst A)
Postboks 1130 Blindern
NO-0318 Oslo

Telefon: 22 84 46 66

E-post: jorgen.hardang@medisin.uio.no
Nettadresse: http://helseforskning.etikkom.no

Dato: 18.06.2010
Deres ref.:
Vår ref.: 2010/1368a

2010/1368a Assess the importance of various barriers for seeking skilled care for childbirth, among women in rural Gambia.

Vi viser til søknad om forhåndsgodkjenning av ovennevnte forskningsprosjekt. Søknaden ble behandlet av Regional forskningsetisk komité for medisinsk og helsefaglig forskningsetikk i møtet 27. mai 2010. Søknaden er vurdert i henhold til lov av 20. juni 2008 nr. 44, om medisinsk og helsefaglig forskning (helseforskningsloven) kapittel 3, med tilhørende forskrift om organisering av medisinsk og helsefaglig forskning av 1. juli 2009 nr 0955.

Prosjektleder: Førsteamanuensis Atle Fretheim

Masterstudent: Priya Miriam Lerberg

Forskningsansvarlig: Universitetet i Oslo

Prosjektets målsetning er å undersøke viktigheten av ulike barrierer som hindrer kvinnene i rurale strøk i Gambia i å benytte seg av helsefasiliteter i forbindelse med fødsel. Det er høy dødelighet blant kvinnene i forbindelse med fødsel og lav utnyttelse av trenet helsepersonell i Gambia. Mortalitetsraten er anslagsvis 690 per 100 000 levende fødsler og 43 % av fødslene foregår i hjemmet. Et hovedspørsmål i studien er hvorfor kvinnene ikke oppsøker trenet (profesjonell) fødselshjelp. Et underspørsmål i undersøkelsen er å vurdere kunnskapsnivået blant kvinner om sentrale aspekter ved svangerskap og fødsler, samt hvor godt forberedt kvinnene er på fødslene. Studien er kvantitativ og ønsker å inkludere ca. 400 respondenter. Forskningsdeltakere er kvinner i fruktbar alder mellom 14-49 år. Inklusjonskriterier er alle kvinner som har født utenfor helseinstitusjon i et angitt område i en tre måneders periode. Informasjon gis på lokale språk både skriftlig og muntlig for å sikre frivillig, informert samtykke. Det skal benyttes et strukturert spørreskjema som er brukt i lignende studier tidligere. Under intervjuene vil det kun være masterstudent, assistent og forskningsdeltaker. Alle personopplysninger i studien skal oppbevares avidentifisert ved at alle forskningsdeltakerne får en kode uten navn.

Komiteens vurdering
Forskningsdeltakerne må regnes til å være særlig sårbare på grunn av de sosioøkonomiske forholdene de lever under, og det er derfor viktig at resultater av prosjektet kommer informantene til fordel. Det skal brukes lokale forskningsassistenter som forventes å bidra med lokal kunnskap, samtidig som bruken av assistenter som er kjent for kvinnene kan medføre reduksjon i kvaliteten på forskningsdata. En ønsker å rekruttere respondenter gjennom et lokalt helsesenter, men skal rekruttere kvinner som har født hjemme. Hvis de ikke kan bruke helsesentrene til å rekruttere, vil de forsøke å finne respondenter selv i lokalmiljøet.

Fødsler som har gått galt eller vært traumatiske/belastende på andre måter kan være et ømtålig tema. I enkelte afrikanske samfunn kan fødselsskader være forbundet med skam, og en

undersøkelse om hvorfor kvinnene ikke har oppsøkt profesjonell helsehjelp kan muligens utløse en følelsemessig reaksjon (skyld/skam eller lignende). Det fremkommer ikke i beskrivelsen hvorvidt disse kvinnene vil ha tilgang til hjelp/støtte i etterkant. Komiteen mener det bør være beredskap i form av tilgjengelig helsepersonell for forskningsdeltakere som kan få behov for oppfølging i etterkant av studien, og setter beredskap som vilkår for gjennomføring av studien.

Komiteen mener informasjonsskrivet er mangelfullt, med hensyn til informasjon om at prosjektet dreier seg om kvinner utenfor helsevesenet. Det er nødvendig at informasjon om at prosjektets forskningsdeltakere er kvinner som har født uten hjelp fra helsevesen.

Vedtak

Prosjektet godkjennes under forutsetning av at de vilkår som er anført ovenfor blir hensyntatt før prosjektet settes i gang/blir tatt til følge.

Godkjenningen er gitt under forutsetning av at prosjektet gjennomføres slik det er beskrevet i søknaden, og de bestemmelser som følger av helseforskningsloven med forskrifter samt at komiteens krav om beredskap og endring av informasjonsskrivet.

Dersom det skal gjøres endringer i prosjektet i forhold til de opplysninger som er gitt i søknaden, må prosjektleder sende endringsmelding til REK.

Forskningsprosjektets data skal oppbevares forsvarlig, se personopplysningsforskriften kapittel 2, og Helsedirektoratets veileder for «Personvern og informasjonssikkerhet i forskningsprosjekter innenfor helse- og omsorgssektoren». Personidentifiserbare data slettes straks det ikke lenger er behov for dem og senest ved prosjektets avslutning.

Godkjenningen gjelder til 31.12.2012. Prosjektet skal sende sluttmelding på eget skjema, se helseforskningsloven § 12, senest et halvt år etter prosjektslutt.

Komiteens vedtak kan påklages til Den nasjonale forskningsetiske komité for medisin og helsefag, jfr. helseforskningsloven § 10, 3 ledd og forvaltningsloven § 28. En eventuell klage sendes til REK sør-øst A. Klagefristen er tre uker fra mottak av dette brevet, jfr. forvaltningsloven § 29.

Vennligst oppgi vårt saksnummer/referansenummer i korrespondansen.

Med vennlig hilsen

Gunnar Nicolaysen (sign)
Professor dr. med
Komiteleder

Katrine Ore
Fungerende komitésekretær

Kopi: Universitetet i Oslo ved øverste ledelse

Med vennlig hilsen

Gunnar Nicolaysen (sign)
Professor dr. med
Komitéleder

Katrine Ore
Fungerende komitésekretær

Email with final clearance from Norwegian ethical committee

From: post@helseforskning.etikkom.no [mailto:post@helseforskning.etikkom.no]
Sent: 6. juli 2010 15:57
To: Atle Fretheim
Subject: REK sør-øst Svar på merknader

Kjære Atle Fretheim,

komiteen tar innsendt informasjon om prosjektets håndtering av komiteens vilkår for godkjenning av prosjekt til etterretning. Prosjektet er godkjent (med vilkår)i det utsendte vedtaksbrev datert 18.06.2010.

Innsendt informasjonsskriv og samtykkeskjema fra Gambiske myndigheter er lagt i prosjektets saksmappe hos REK.

Vennlig hilsen Katrine Ore

Appendix 6: Ethical clearance from The Gambian committe

The Gambia Government / MRC Laboratories Joint
ETHICS COMMITTEE

C/o MRC Laboratories Fajara
P. O. Box 273, Banjul
The Gambia, West Africa
Fax: +220 – 4495919 or 4498 513
Tel: +220 – 4495442-6 ext. 2308

1st July 2010

Ms Priya Miriam Lerberg
University of Oslo
Faculty of Medicine
Dept. of International Health
P.O. Box 1130
Blindern

Dear Ms Lerberg

SCC 1209v2, Assess the importance of various barriers for seeking skilled care for childbirth among women in rural Gambia.

Thank you for submitting your proposal dated 7th May 2010 for consideration by The Gambia Government/MRC Joint Ethics Committee at its meeting held on 25th June 2010.

Your well-written research proposal was discussed and the Committee is pleased to approve the project; however it recommended that you should look at distance from the health centres and the role of Traditional Birth Attendants when undertaking the study.

Best wishes,

Yours sincerely,

Mr Malcolm Clarke
Chairman, Gambia Government/MRC Joint Ethics Committee

Cc: Ms Anna Able-Thomas, Dr Mamady Cham

Additional documents submitted for review:

- Informed Consent Form, Version 2 – 15 June 2010
- Participant's Information Sheet, Version 2 – 15 June 2010
- Questionnaire, Version 2 – 15 June 2010
- Project Protocol – 15 June 2010
- Project Timeline – 15 June 2010
- Budget – 15 June 2010
- CV – Priya Miriam Lerberg