



## Women's Experiences in Accessing Reproductive, Maternal, and Child Healthcare Services in the Mopti Regions of Mali

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### Abstract

**Background:** Mali is one of the West African nations facing public health challenges. The country ranks among the top 10 countries in which women face the highest risk of death during pregnancy and childbirth. Particularly during the armed conflict in 2012, in the northern regions of Mali, healthcare services were destroyed and afterwards the healthcare centers were no longer able to run in the normal way. Women's access to health services became a critical issue in those regions. The purpose of this study was to explore the experiences of rural married women of reproductive age in accessing reproductive, maternal, and child healthcare services in the Mopti regions of Mali.

**Methods:** This qualitative research data was collected between August and October 2014 from twenty-one married women, aged 20 to 40 years old, living in the northern small city of Sévaré and its neighborhood village of Waïlirdé. Both localities are situated about 15 kilometers from the city of Mopti and 623 kilometers from Bamako, the capital city of Mali. We used purposeful sampling methods to collect the data from those women, because of their experiences of the issues under investigation and their ability to provide the data in question. All the interviews were tape-recorded and analyzed according to qualitative data analysis guideline. Prior to the investigation, the Malian National Ethical Committee for Health and Life Sciences Committee approved the research. Before the interviews, oral consent was obtained from all the women who accepted to be studied. They were assured of the anonymity and confidentiality of their information.

**Results:** The women's experiences in accessing healthcare services were influenced by several social factors. Based on the study findings, the most significant factors were the distances to the health facilities, the poor quality of the health services with few healthcare professionals, the costs of modern medicines, the cultural beliefs in traditional medicines, and the healthcare professionals' attitudes to patients.

**Conclusions:** The Government run healthcare services should be tailored to meet women's and children's healthcare needs in the rural communities in Mali.

### Keywords

Rural women's experiences, Reproductive, Maternal, Childhealth care, Mopti region, Mali

### Introduction

Reproductive health is defined as an organizational framework that incorporates maternal and child healthcare services [1]. There are other factors that influence access to those services such as the social-cultural and economic [2]. Women's studies on reproductive and maternal healthcare in developing countries have focused on their experiences in accessing some of those services [3-5]. Motherhood at a very young age entails a risk of maternal mortality and the children of young mothers tend to have higher levels of mobility and mortality [3,4]. According to a previous study, many African countries have made some progress in their attempt at reducing maternal and child mortality and mortality levels. However, the most recent available data has also shown that maternal and child mortality levels in African are among the highest in the world. The study also concludes that about a fifth of all children in sub-Saharan Africa die before their fifth birthday compared to less than a tenth reported in Asia and Latin America [6]. Mali ranks among the top 10 countries in the world where women face the highest risk of death during pregnancy and childbirth [7]. It has been reported that there is provision for 57% of pregnant women to have prenatal consultations, but less than one-third of these visits occurred within the first trimester [8]. For 85% of the population living in rural areas, the nearest hospital can be located at least 30 km away from their homes [9]. In addition, 94% of women are reported to have undergone genital circumcision, and this practice affects their reproductive health [10].

The United Nations Population Fund's report on maternal and child deaths has revealed that in Mali, the under-5 years mortality rate per 1,000 births was 194, and the neonatal mortality was 26 [11]. A study reported there were three midwives per 1,000 live births and the lifetime risk of maternal death was one in 22; in some cases, there was no midwife present during delivery [12]. Although pregnant women were offered four prenatal consultations during their pregnancies many women did not pay a single visit to the maternity clinic before the delivery [11]. A Demographic and Health Survey conducted in the northern regions of Mali revealed nearly 70% of the women delivered at home with a significant proportion of maternal deaths and new-born deaths occurring within 48 hours

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postpartum [13]. Although pregnant women are provided with 1-4 prenatal consultation visits, many women are reported not to visit the maternity clinic before the childbirth [14]. Moreover, the 35 healthcare centers offering obstetric and maternal and neonatal healthcare services in the Mopti region were poorly equipped with few qualified physicians, nurses, and midwives available [14]. At the time of this study investigation, the new hospital of Mopti had 112 beds with four operating rooms; one of them for cesarean sections. There were also four specialized physicians: one urologist, one anesthetist- one gynecologist, one traumatologist, as well as one dental surgeon and one physical therapist serving the Mopti, Sévaré and Douentza hospitals and healthcare centers. By the end of 2014, a pharmacist-biologist and a radiologist were reported to have joined the other healthcare staff.

This study focused on rural married reproductive age women, and investigated their experience seeking reproductive, maternal, and child healthcare services in Mali. To the best of our knowledge, very few qualitative studies have explored the experience of reproductive age rural women when accessing healthcare services in the northern regions of Mali. The study sought to offer recommendations to national and local healthcare policy makers for locating resources into healthcare services, and for providing well-equipped facilities with more qualified medical personnel to meet women's and children's health needs in this rural community.

## Methods

### Research setting and ethical considerations

The data was collected between August and October 2014, in the small city of Sévaré and its neighborhood village of Waïlirdé. Both localities are situated about 15 kilometers from Mopti and 623 kilometers from Bamako, the capital city of Mali. Both localities were chosen because of the diversity of their ethnic population in comparison with other northern regions of Mali, such as Douentza, Gao, Kidal, Tombouctou, Gourma-Rharous, and Bourem, which were occupied by Jihadist groups.

Prior to the investigation, the Malian's National Ethical Committee for Health and Life Sciences approved the Study. The committee emphasized respect for the women's human rights, and dignity, and the necessity of obtaining their approval before each individual's interview. On the fieldwork, before the interviews, we obtained from all the selected participants verbal consent that we could tape the interviews. The interviewees were assured that their names and other information that could show their identification would not be revealed in the study's report.

### Participants

The participants were 21 married women between 20 to 40 years. Among them, 20 were multiparous (3 to 12 children) and one childless. All the women came from the northern regions of Tombouctou, Gao, Kidal, Gossi, Baurem and Gourma Rherous. Some were living in the village of Waïlirdé, and some in the city of Sévaré, located about 15 kilometers from Mopti city. Eighteen of the women were farmers, who have never been to school; three had had a formal education, two had completed primary school and were market sellers, and one had completed professional school and was unemployed at the time of the survey. Although they were from different cultural localities and spoke different dialect, they also spoke Bamanankan, with a varying range of fluency. Bamanankan is the second spoken language used in Mali after the French language.

### Sampling methods

For this qualitative research, we used purposive and snowball sampling methods to select women who could provide us with useful information for our investigation. Two women in the community to whom we explained about the research, were asked to find women who met the selection criteria and were willing to be interviewed. The sampling criteria were that participants should be from the northern regions of Mali and be of a reproductive age, married and have had

experiences of government's run healthcare services. Twenty-one women who met the criteria were selected by the two women from the community and the senior midwife from whom we also asked assistance in finding participants who could meet our investigation requirements.

### The data collection

Prior to the data collection which lasted five weeks, an experienced female translator and one research assistant were recruited to help in interviewing the women. The research assistant received training three days per week for three weeks on how to do in-depth interviews.

In order to gain access to the research population, the research assistant was useful as she had been working in the region on previous studies and knew several community women leaders. For this collection of this study's data, she was able to contact two women volunteers, one from the village of Waïlirdé, and the senior midwife of the Mopti communal maternity clinic to identify potential participants who could be interviewed. We discussed the selection criteria with the three women volunteers and then presented them the research protocol, the objectives, and the interview questions.

Before interviewing the 21 participants who took part of this study investigation, we established a person-to-person rapport with them, chatted and had small talk with them during two days, so that they would trust the research team and open up to describe their true feelings and thoughts, and to speak freely about their experiences. The first data was collected in the village of Waïlirdé where the volunteer woman recruited and arranged the interview meetings and venues with 19 women. The interviews were held in the village at volunteer's home, where the participants felt secure, relaxed, and talked freely about their experiences. The second data was collected in the maternity clinic where the volunteer senior midwife recruited and organized the interview meetings with two participants in the clinic; she also provided a room in which these women were interviewed.

### The rationale for using qualitative method

The benefits of a qualitative method approach to health care research are becoming recognized and increasingly important to both academics and clinicians, particularly with regards to its contribution to health sciences research [15,16]. This study was explorative, qualitative health research. The qualitative method was the best choice, for providing us with a design for the study. According to a previous study, a qualitative method is frequently used by researchers who conduct an explorative study to identify the variables for an experimental investigation [17]. The open-ended interview data from this research were the direct quotations of the participants' own words when telling their experiences, opinions, views, and knowledge about the issues. The data from the observations were the interpretations of their behaviors, attitudes to events, and social interactions during the interviews. As has been documented in qualitative research method studies [18,19], one of the advantages of using a qualitative method in this explorative research was that we could illuminate the participants' experiences and the situations in which they were living, and the meaning they gave to their lives in their social-cultural environment relating to their health and that of their children. It has helped to provide descriptions and meaningful explanations of the participants' experiences.

### The interviews

Before we started the interviews with the participants, in a friendly social atmosphere, the research assistant, assisted by the principal investigator, explained again to the group the objectives of the study and the rationale behind the interview questions that were divided into the following six themes: (1) the participants' demographic characteristics, (2) access to perinatal healthcare services in rural communities, (3) knowledge of female genital circumcision and its health consequences, (4) beliefs and attitudes to contraception, (5) child health care in rural communities and (6) opinions concerning the quality of the health services and providers attitudes. The interview questions started with the women's demographic characteristics:

1. How old are you? How many children do you have? Have you been to school? Where were you working before coming to Sévaré or Wailirdé? From which city or village of the north of Mali do you come from?
2. What are your experiences in accessing reproductive, maternal and child healthcare services and how far are those services from your home or village?
3. Do you know the cultural practice of female genital cutting? Have you been through the practice? Do you know its health consequences on female's health?
4. What are your beliefs and attitudes to the use of hormonal contraceptives?
5. Which kind of healthcare methods are you using when your baby or child is sick?
6. What are your opinions about the quality of the health services and the healthcare providers?

We used open-ended interviews, which consisted of several key questions that helped to define the areas to be explored [20]. Secondly, the open-ended interview was considered to be the appropriate method because, even though more than one person was involved in the interview process we were able to ask each woman the same questions using the same words. This approach allowed the issues to be focused upon consistently and to be looked at from each woman's perspectives.

Under the supervision of the principal investigator, the research assistant individually interviewed participants either under a mango tree a little away from other women or in another room that was specially reserved for the interviews. The interviews were conducted in Bamanankan, a local language that the women spoke in addition to their own tribal language. The research assistant was instructed by the research leader to use words that were clear and meaningful to participants, to be a good listener, and not to judge anybody in the situation where her own views might be different from that of the participant. As the use of a digital recorder is undoubtedly the most common method of recording interview data because it has the obvious advantage of preserving the entire verbal part of the interview for later analysis [21] all the interviews were recorded. The assistant was advised to stop and play back some of the interviews to see whether the interviewee was speaking into the microphone loudly and clearly. Sometimes there were pauses and interruptions when the women needed time to collect their thoughts on the issue being discussed, or to do something else. Observations and participants' nonverbal behaviors were written down as fieldwork notes. The interview meeting with each woman lasted from one hour and thirty minutes to two hours. At the end of each interview, snacks and soft drinks were served to all the participants and each of them received two pieces of washing soap and some gifts for their participation.

### Data analysis

To make the data analysis easy, the interview questions were designed in a way that we could decide before hand which key statements could be expanded for the analysis. After listening several times to the recorded tapes, the research assistant then transcribed them from Bamanankan into French on paper. The data was then translated into English by the principal investigator. Respondents were identified by the letter "W" with their age (e.g. w24).

The field notes were entered into the report format and the written transcribed interviews were read over several times by both the assistant and the principal investigator to be sure that the participants' words were correctly translated and nothing was added or omitted from the original Bamanankan version. Although there were pauses and interruptions during the interviews when the interviewees needed time to collect their thoughts on the issue being discussed, or to do something else, these did not cause distraction in the understanding of what they had said.

After this process, the first step was organizing the data [22]. All the data from the transcript and field notes were organized and in this process we returned to our interview guide to identify and differentiate between the questions that we were trying to answer. Organizing our data allowed us to look at the responses to each question individually, in order to make it easier to identify concepts and themes. The second step was the coding which was done manually, a process by which we created categories that facilitated comparison of information. The similarities and differences of the women's answers were then grouped under each corresponding code or category, in order to construct both a descriptive and explanatory framework. To generate the findings of this research, we employed creative and analytical reasoning [23].

### Results

Five major themes emerged from the data of this study.

1. The women's access to perinatal healthcare services
2. Their knowledge of female genital circumcision and its health consequences
3. Their attitudes to contraception and reasoning
4. Child healthcare in the rural community
5. Their opinions about the quality of the healthcare services and healthcare providers

#### The women's backgrounds

The survey questions gathering information regarding the women's demographic characteristics revealed that they were diverse in many aspects such as age, education, employment status, and family structure; from different regions of the northern Mali and spoke different dialects. Their common characteristics were that they were all from the northern regions of Mali, married and spoke, with various levels of fluency, Bamanankan, the second spoken language in Mali after French. While the 21 women studied were from rural areas, 18 (86%) of them did not have any formal education, because they had never been to school.

#### Access to perinatal health care services in the rural communities

The distance to the nearest hospital or maternity clinic was about ten to 30 kilometers from the women's villages. Despite the long distances, they (all?) visited the maternity clinics for perinatal care or gynecological examinations. The women reported that, nurses and midwives gave them advice on preparation for labor, what to eat and drink during the pregnancy, and on how to control their weight. Pregnant women visited the clinics when they had complications with their pregnancies or had health problems. Seven women reported that they had never had problems with their pregnancies, nor with childbirth. One 40 year old woman related having two cesarean sections and a 32 year old woman had had two miscarriages. The women received mosquito nets and medicines at the maternity clinics, but in most of the cases they were asked to buy some of the medicines. In the women's opinion, the medicines were expensive. Some women's husbands bought the medicines; the men had to sell some of their cattle or borrow money from family members. Some women always used traditional medicines during their pregnancies because they could not afford to buy the prescribed medicines.

The women revealed that, in rural communities, women did not attend the perinatal or postnatal health care services because of the social and cultural pressures on them, and because of the long distances to the clinics; in addition, they did not have money for the bus fares to the clinic or to buy the medicines. A mother of four children said this:

*"Before the maternity clinics or the non-governmental organizations were given us all the medicines for the babies and we were very satisfied of maternal and childcare services but now we do not get all medicines anymore and sometimes nothing, so we have to buy the medicines by ourselves (woman 33 years)".*

The unfriendly behavior of some of the midwives and nurses towards the multiparous women was also given as a reason for not using the prenatal and postnatal health care services in the rural communities. Nevertheless, they said they were under medical control of the doctors, midwives, and nurses until the delivery. After the childbirth, the mother was requested to visit the clinics for a postpartum checkup. Newborns were vaccinated, weighed, and provided with other health care, depending on their health conditions. Mothers were sometimes provided with free drugs for the new-born child. Women who failed to visit the clinic, were visited by nurses and midwives in their homes in order to convince them to come to the clinics for perinatal or postnatal healthcare. One woman said this:

*"Women's access to perinatal and postnatal health services in rural communities depends on the health care providers' attitudes (woman 35 years)".*

The women also confessed that in rural communities, women were using traditional medicines for mother's and child's care. In one young woman's opinion:

*"In rural Mali, women used traditional medicine for mother and newborn care because of the cultural traditions (woman 22 years)".*

The women mentioned "breastfeeding" to be important for the baby's health, because breast milk is the best food for the baby; it protects the baby from illness. Women were recommended by the midwives and nurse to breastfeed their babies. One comment by a mother of seven children was that:

*"Mothers' milk is clean, cheap and always available for the baby. It is the first and best food for the baby. It makes me stronger and healthier (woman 38 years)".*

### **Knowledge of female genital circumcision and its health consequences**

The women knew little about female genital circumcision and its consequences to women's health. One woman said:

*"Many women from the northern regions do not know the health problems related to the practice but I knew two women who died during the childbirth at home, but I do not know if their deaths were related to circumcision problems (woman 25 years)".*

For the majority of the women, the practice is not common among women from the northern regions of Mali. Only three women reported to be circumcised and 18 said they were not.

Another woman also said:

*"I have seen some cases in the hospital, here Sévaré where two women have been given birth by cesarean section, because the doctor said, their babies could not come through the vagina, so I do not know if this was because they were circumcised (woman 35 years)".*

### **Attitudes to contraception**

The survey of this study has shown that the women had access to contraceptive services and most of them knew about the services, although 18 (86%) of the 21 women interviewed said they have never used any modern contraceptive methods. The women's common opinion was that Mali is a patriarchal and Islamic society where the man is the decision maker in the family. It is up to him if the woman should use contraceptives or not. However, if her health is threatened, she can discuss this with her husband or ask the health care providers who could intervene to talk to the husband and the family recommending that she use contraception. Because of the social-cultural traditions and religious beliefs, many women have negative attitudes to modern contraception. Some women are reported to use them secretly because they are afraid of their husbands and of the family members.

Explanations for choosing to use or not to use modern contraception, as well as insights into the women's reasoning led us to classify them into two groups: the non-users and the users.

**Reasoning of the non-users:** In the opinion of the 18 (86%) non-users, modern contraception leads to childlessness and for that reason, they do not need to use contraception to facilitate an interval between births. The common belief among these women was that the use of contraception is forbidden in Islam and against Allah's (God's) will. Five of these women said they were afraid of modern methods because they have heard that the methods have side effects, while four other women said their husbands were opposed to the use of modern contraception. A 25 old young woman said this:

*"My mother told me never use modern methods before I have given births to all the children Allah have planned for me".*

Another 33 year woman argued that she is opposed to modern methods because although she is still young enough to give birth. However, she fears their side effects, and did not want to try as people have said also relate that people said it not good for some women. For a 37 years old non-user, modern contraceptive use is not necessary because a woman can space her pregnancies naturally. She said this:

*"I have never been interested in using contraception, because I know when I can be pregnant and when I cannot"*

Another 39 years old woman who rejects birth control methods also said this:

*"Look, our grandmothers and mothers did not use contraceptives, and they never had problems for giving births to many children, why we should use them? We can space our births without using any modern contraceptive methods"*

Another reason given for rejecting birth control methods was the rumors in the rural communities that the methods lead to childlessness and that this was Allah's punishment to the users.

**Reasoning of the users:** The 3 (14%) women among the 21 women who participated in this study were considered to be the only users of modern contraceptive methods. Their first reason was that they do not want more children because of their economic situation which meant they could not afford to have several children. Two of the women had suffered from difficult pregnancies and did not want to face the same difficulties. They said it is good thing to use modern contraceptive methods to delay pregnancies or to space births. One of them who had health problems with her previous pregnancies said:

*"My two previous pregnancies were close to each other and this affected my health and that of the babies, so my husband decided that I should use birth control modern methods (woman 27 years)"*

One of the women whose husband was opposed to birth control methods, reported having had an injectable hormonal contraceptive:

*"I have something that the doctor has put in the skin of my arm, and I did not tell my husband that I have something in my body to prevent pregnancies. Since I have the thing in my skin, I have not had problems with it, and have not been pregnant (woman 36 years)"*

Another user said:

*"The doctors explained to my husband about all the health risks that I am facing and other problems that I might face in the future, if I do not use contraceptive methods. So my husband has allowed me to use contraception, something that the doctor has put inside me (she means Intrauterine Contraceptive Devices, IUCDs). He is checking often that everything is ok and now I am healthy (woman 39 years)".*

The same respondent expressed her satisfaction with modern contraceptive methods as she commented:

*"I prefer hormonal contraceptive methods to any natural methods, because you cannot trust them and they are too risky for the health. Actually, I am using oral contraceptives and I have no problem with them. But I must say that, my husband does not know about it (woman 39 years)".*

In sum, while all the women interviewed recognized that spacing their pregnancies has a positive effect on the mother's and

child's health, it was useful to divide them into two groups in order to consider the reasoning behind their actions, and to identify their differing reasoning. The non-users' reasoning was based on cultural traditions and religious beliefs regarding modern methods, while the users' reasoning was based on their belief in the health and well-being of the mother and child.

### Child healthcare in the rural communities

Women used both traditional and modern medicines to treat or to protect newborns, infants, and children from illness and infections. These traditional medicines were taken orally or anally, or a mixture of local butter and leaves were rubbed on the forehead, on the middle of the chest, abdomen and toes; other herbal remedies could be given as drops into the eyes. Some medicines were also worn around the neck, the wrist or around the waist. There were special medicines to protect newborns, infants, or children from illness or disease that might be caused by the evil eye, spirits, or witchcraft. One woman made this comment:

*"Doctors and nurses are not given enough medicines and those they are giving are not always helping, so the only medicines available and sometimes effective to treat or prevent our children from illness, diseases or infections are the traditional medicines (woman 29 years)".*

The women's opinion was that, beside modern medicines, rural women have always used traditional medicines for the health care of newborns, children, and adults.

### Opinions about the quality of the health services and the healthcare providers

The quality of reproductive, sexual, and maternal healthcare services was reported to be poor and not adapted to the women's and children's needs.

Three of the women who were not satisfied with the healthcare services said this:

*"Me, I am not satisfied, but because I cannot afford to go to the private doctor, so I am forced to come to the public hospital (woman 22 years)."*

*"Since my last delivery, I have not got my health back, all the medicines that the doctors have prescribed me, have not helped me, so I am not satisfied with their services (woman 25 years)".*

*"No help from doctors here. They never give what the patient needs. One never gets all the medicines from here, even there are not enough beds in the hospitals and maternity clinics (woman 33 years)".*

The women's relationships with outside healthcare providers and particularly with foreign medical staff were reported to be friendly compared to local healthcare providers, particularly the physicians who were not always friendly with patients.

## Discussion

Pregnancy is a normal physiological event that is complicated by pathological processes dangerous to the health of the mother and the fetus in 5-20% of cases [24]. While the purpose of prenatal care is to ensure, as far as possible, an uncomplicated pregnancy and the delivery of a live healthy baby [24], the physician who undertakes the care of the pregnant woman must be familiar with the changes that occur during the pregnancy, so that significant abnormalities can be recognized and their effects can be minimized. There are several reasons why pregnant women might not receive adequate prenatal care including inability to pay for health care, a lack of healthcare professionals, social-cultural perceptions of prenatal healthcare or religious prohibitions [25,26].

Women's access to healthcare services and particularly those in rural communities is affected by several social and cultural factors [27]. Many of these factors are intertwined with gender inequality and to the low status of women in the society [28]. In a patriarchal society, beliefs, cultural practices, and norms concerning appropriate

behavior in matters related to women's fertility, reproduction ability, and sexuality hinder their access to reproductive healthcare. The women's experiences presented in this article seem to indicate that rural women's access to health services in Mali was far below any acceptable standard.

It is worth mentioning that the sample of our study was relatively small and its findings were not representative of all married women of reproductive age in the northern regions of Mali. According to previous studies, the aim of a qualitative study is not the numbers of population studied but the validity, and the information richness that it generates. The author, therefore, argues that there are no rules for sample size in qualitative research [29].

Nevertheless, these findings provided evidence of the cultural and social challenges to married women when seeking access to healthcare in rural communities in developing countries [30]. It is also worth mentioning that the sample reflects several ethnic groups from the northern regions and therefore, the women's experiences might differ from other rural women in the country.

Though the reproductive, maternal, and child healthcare services were located far from the women's villages and they did not use them very often, they knew the importance of the health services. The reasons for women not using maternal healthcare services in Africa were also found in previous studies [31,32]. Provider-patient relationships and social communication are reported to influence attitudes to health service utilizations [33,34]. One positive aspect of the healthcare service in the rural areas was that nurses and midwives show their concern for women's health by visiting them in their homes to convince them to come to the clinic and use the perinatal health services. Nurse' and midwives' home visits were another alternative way to dispense reproductive, maternal and child' healthcare to women who for some social-cultural, geographical or economic reasons are not able to come to the hospital or maternity clinic by themselves.

For the past decades, a number of cross-cultural studies on infant feeding practices have been published [35-37]. In these studies, concerns have been expressed over the use of infant-feeding bottles having a detrimental effects on children's health; we share the surveyed women's opinions that breast milk is the best food for the baby and the well-being of the mother.

UNICEF's [38] report has revealed that the rates of circumcised women in Mali were lower among the ethnic groups in the northern regions than those in the southern populations - predominately the Bambara, Soninke, Dogon and Senufo ethnic groups. From this inter-ethnic analytical point of point, the study has used empirical data to show how ethnic identity shapes the cultural tradition of female genital circumcision (FGC) practices. Moreover, the connection between Islam and FGC was not consensual among the northern ethnic populations in Mali, despite their affiliation to Islam. In our opinion, ethnic or individual identity can prevail over cultural and religious practices of FGC.

The women's place of residence, educational level, gender, social-cultural, family relationships, number of children, and employment status were statistically significant factors for contraceptive use [23,39]. Compared to urban Mali women, who are exposed to information about modern contraceptive methods [40], our study showed that the rural women's attitudes to contraception were associated with fear and cultural-religious beliefs. The clandestine use of contraception was the only way for rural women to have control over their health or pregnancies. A previous study has also reported that women's clandestine use of contraception was common in urban Mali societies [40].

Access to hospitals or maternity clinics for child healthcare was not an urgent matter for all the women in this study, because they first use traditional medicines, which are more easily obtainable and cheaper than modern medicines. Similar studies have also reported the same findings claiming that traditional medical methods are

cheaper and commonly used in developing countries [41-46]. While we share the same view reported in the previous studies, according to our findings and in the women's opinions, poverty, long distances to hospitals or maternity clinics, and social-cultural beliefs and practices are additional reasons for women using traditional medicines in rural areas.

Our interpretation of the women's opinion was that they were satisfied with the services that were provided for them, despite the limited resources and poor conditions in which the healthcare providers were working. Another factor that is said to be related to the quality of healthcare services is the nature of the social relationship that exists between the health provider and the patient [47]. The patients' perceptions of the healthcare services also depend on their social communication and interactions with the healthcare providers [48,49]. The common complaints about healthcare providers by patients in the reproductive healthcare sector are related to social communication [50].

We also observed that despite the different views and opinions among the women about the quality of the healthcare services and the providers' attitudes to patients, overall the women were all satisfied with the providers' interpersonal social communication; particularly with the foreign physicians who were reported to be friendly and have compassion compared to the native physicians.

## Conclusions

The research has highlighted the challenges women face through social-cultural traditions and economic status when accessing modern health care in rural communities in the northern regions of Mali. Their experiences are mostly influenced by the long distances to the healthcare facilities, the poor quality of the health services, the limited number of health professionals, the costs of modern medicines, the cultural beliefs in traditional medicines, and the health professionals' attitudes to patients.

## Suggestions for Policy Implementation

From a healthcare policy perspective, we suggest that national and local healthcare policy makers should put more resources into healthcare services in order to improve women's and children's health and wellness. In addition, healthcare service costs should be affordable for rural populations that are generally poor. In future, we recommend more ethnography research, that could explore in depth some of our findings.

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## Competing Interests

There are no competing interests for this study. All the co-writers contributed equally, they read and approved the final version for submission.

## Authors' Contribution

Filio Degni and Ibrahima A. Diallo have planned and written the protocol of this study.

Reija Klemetti checked several times the protocol including the study's questions before the interviews.

Filio Degni went to the fieldwork with research assistants to collect the data. He wrote the first draft to the final version.

Walid El Ansari checked partly the English language, and participated in the writing of the final version of the manuscript with Filio Degni.

Kathleen Valtonen did the writing with Filio Degni and checked the English language.

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