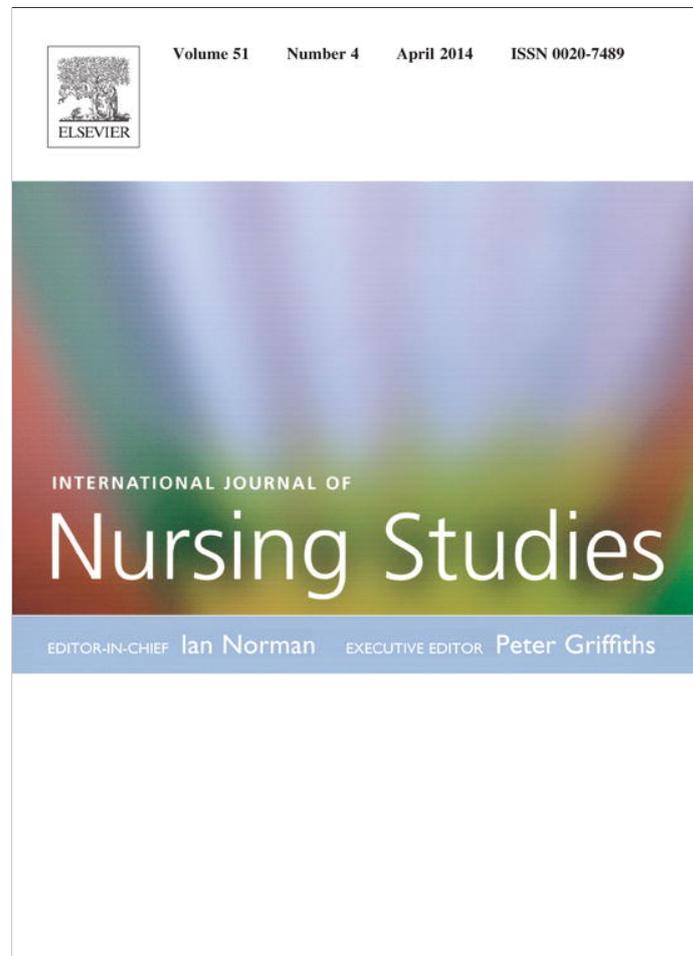


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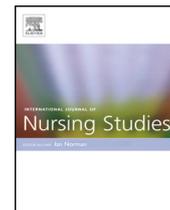
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# Cultural perceptions and health behaviors related to safe motherhood among village women in Eastern Sudan: Ethnographic study

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## ABSTRACT

**Background:** Meeting the health needs of Sudanese women, especially those living in village areas, is imperative and cannot be accomplished without understanding the cultural perceptions and health behaviors related to safe motherhood. Nevertheless, there is little literature exploring these perspectives through qualitative study, as most of the studies performed in Sudan applied quantitative methods and focused on urban areas.

**Objective:** This study aims to explore cultural perceptions and behaviors relevant to safe motherhood among Sudanese village women.

**Design/method:** A qualitative method using an ethnographic approach was applied for the study. Semi-structured in-depth interviews were conducted with six village women of reproductive age living in a village in Gadarif State, Eastern Sudan.

**Findings:** The thematic content analysis revealed socio-economic factors, religious values and local beliefs shaping the village women's perceptions of their behaviors related to motherhood safety. Particular concerns included responses to health problems, preference for birth with traditional birth attendants, female genital mutilation/female genital cutting and a lack of utilizing family planning.

**Conclusions:** An implication arising from this study is that maternal services should develop a collaboration between village midwives and traditional birth attendants. This study further suggests that educational messages must be delivered to family relatives with consideration of the cultural influences highlighted by the village women.

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## What is already known about the topic?

- Health risk behaviors concerning an underutilization of maternal services and harmful practices were often reported among Sudanese women, especially those living in village areas.
- Socio-economic and cultural factors can influence perceptions and behaviors related to safe motherhood among village women in Sudan.

## What this paper adds

- Socio-economic and cultural values arising from a strong emphasis on the will of God and local beliefs regarding feeling vulnerable to spiritual illnesses shaped the responses to health problems among village women in Eastern Sudan.
- Harmful practices concerning female genital mutilation/cutting (FGM/C), reinfibulation (RI) and underutilization of family planning were highly valued among village women and were further reinforced by local and religious beliefs.

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- Practices of FGM/C and RI were directly linked with reasons for preferring traditional birth attendants (TBAs) in home birthing.
- There is a need for collaborative work between village midwives (VMWs) and TBAs to promote safe motherhood.
- Health education messages should be delivered through home-visit services offered by the VMWs, and family members should be included as target participants.
- A qualitative research method explicating the possible interconnection of some phenomena related to safe motherhood can facilitate a more holistic understanding of village women's perceptions and behaviors. This information can be used for the implementation of culturally sensitive maternal services.

## 1. Background

Safe motherhood is a basic human right ([Safe motherhood: a review, the safe motherhood initiative 1987–2005, n.d.](#)), as it ensures that all women receive quality of care and maintain a healthy life throughout pregnancy and childbirth ([World Bank, 2012](#)). Access to family planning (FP), regular prenatal and postnatal care, emergency responses to complications, the usage of skilled birth attendants and addressing issues of female genital mutilation (FGM) (also called as female genital cutting (FGC)) have been discussed as pillars of safe motherhood ([Abdel-Tawab and El-Rabbat, 2010](#)).

With a maternal mortality ratio of 730 per 100,000 live births in 2010 ([World Health Organization \(WHO\), 2012](#)), the improvement of maternal services to ensure safe motherhood is one of the most significant health issues in Sudan. Nevertheless, the key components of safe motherhood are frequently not practiced among Sudanese women, especially those living in rural areas. Rural women have a significantly lower quality of health due to inadequate maternal services and various sociocultural and religious factors.

Social and cultural influences often shape health behaviors and perceptions of health ([DuongTran and Garcia, 2009](#)). Sociocultural contexts arising from religious beliefs and practices can produce misinformation and misconception of good health practices. This in turn may act as a possible barrier for Sudanese women to access essential maternal services offered by trained healthcare providers.

The utilization of trained midwives is used as an indicator to evaluate progress in the reduction of maternal mortality ([Costello et al., 2004](#); [Save the Children, 2010](#)). In Sudan, village midwives (VMWs) are key reproductive health providers, as women in villages prefer home births ([Republic of Sudan, Federal Ministry of Health, 2006](#)). Nevertheless, obstetric care attended by unskilled birth attendants, such as traditional birth attendants (TBAs), who have obtained experience through traditional means without a formal education, is still the most common choice among women in most villages.

The prevalence of regular prenatal and postnatal care is also crucial for achieving better outcomes of safe motherhood. [The Republic of Sudan, Federal Ministry of Health](#)

and [Central Bureau of Statistic \(2011\)](#) indicates an improved rate of accessing prenatal care (74.3%), while previous studies ([Abdel-Tawab and El-Rabbat, 2010](#); [Ali et al., 2010](#); [WHO, 2009](#)) report a wide disparity in the utilization of prenatal and postnatal care between urban and rural areas.

The cost of accessing care and the availability of skilled birth attendants are two important factors that help rural women decide whether to use maternal services or a TBA ([Simkhada et al., 2008](#)). Some studies ([Griffiths and Stephenson, 2001](#); [Stephenson and Tsui, 2002](#)) further indicate that rural women in developing countries are less likely to use maternal services due to a perception that these services are for curative rather than preventative measures. These perceptions are further reinforced by local beliefs that pregnancy is a natural process and therefore manageable without professional help ([Mathole et al., 2004](#)). Similarly, [Myler and Harrison \(2003\)](#) found that prenatal care was not seen as directly beneficial if women had not experienced problems in previous pregnancies. [Furuta and Mori's \(2008\)](#) study conducted in Eastern Sudan also supported this finding.

In addition to these factors, religious beliefs and practices can serve as significant influences on Sudanese village women's decisions to utilize maternal services. This was supported by several studies ([Adamu and Salihu, 2002](#); [Harandy et al., 2010](#)) showing that Muslim women believe that the outcomes of any health-related matters rest in God's hands. [Furuta and Mori's \(2008\)](#) study revealed that this religious belief could be a powerful barrier for refugee women in Eastern Sudan regarding accessing maternal services.

Cultural values and practices are also significant determinants of female genital mutilation/cutting (FGM/C), which is widely practiced by Sudanese women. FGM/C carries a high risk of obstetric complications, such as severe bleeding, prolonged labor and even perinatal death ([Satti et al., 2006](#)). Nevertheless, it is often reinforced by traditional beliefs, enhancing the social consequences for marriageability, avoidance of social exclusion, pressure from female relatives and increased sexual pleasure for men ([Elmusharaf et al., 2006](#); [Gruenbaum, 2005](#); [Satti et al., 2006](#)). According to the [Sudan National Committee on Traditional Practices \(SNCTP\) \(2009\)](#), the prevalence rate of FGM/C was more than 90% for all states in Northern Sudan. Several studies ([Landindo, Country of Origin Information Center \(LCOIC\), 2008](#); [SNCTP, 2009](#)) further found that the most severe type of FGM/C is largely practiced among Sudanese women. In addition, reinfibulation (RI) is described as a hidden form of FGM/C. This includes practices of re-stitching or re-infibulation after delivery ([Berggren et al., 2006](#)). There are very limited studies on RI, but according to [Almroth-Berggren et al. \(2001\)](#) and [Berggren et al. \(2006\)](#), many Sudanese women submit to RI for the sexual satisfaction of their husbands.

The underutilization of FP has been highlighted as another barrier to safe motherhood for the vast majority of Sudanese women. [The Republic of Sudan, Federal Ministry of Health and Central Bureau of Statistic \(2011\)](#) indicates that very few women (9%) use contraceptive methods.

Little interest in FP may be directly linked with the social value of birth in Islamic ideology. In Islam, children are highly valued for family extension, and birth is perceived as a natural practice (Hedayat, 2006). For this reason, the majority of Sudanese women view any method of contraception as taboo.

Recent government efforts appear to be empowering urban Sudanese woman to look after their health by using FP to space out births rather than abiding by cultural malpractices. Indeed, more highly educated urban Sudanese women have started to cease the practice of FGM/C and RI (Berggren et al., 2006; Satti et al., 2006). Some urban women are also likely to access FP (Haroun et al., 2008; Ibnouf et al., 2007; Umbeli et al., 2005).

Ibnouf et al. (2007) showed that the availability and accessibility of health education and awareness still varies between rural and urban areas. The vast majority of village women are either illiterate or have had limited access to education, which directly limits their opportunity to receive health education. The educational disparity is reflected in the fact unintended, closely spaced pregnancies as the result of an underutilization of contraception as well as the continuous practice of FGM/C occur more frequently among women from rural areas.

Many socioeconomic and cultural factors contribute to these misconceptions, which may increase Sudanese village women's health risks. It is necessary to expand research addressing village women's perceptions and behaviors in relation to health to provide appropriate intervention and improve the safety of motherhood.

Nonetheless, there are very few studies addressing this research issue, and most of them were conducted in urban areas. In addition, most studies focused on investigating particular concerns, such as FGM/C or FP, thus limiting their ability to capture a more holistic view of women's perceptions and health behaviors related to safe motherhood.

Only one study (Furuta and Mori, 2008) explores the experiences and perceptions of rural women related to health behaviors in Sudan. Their study reveals rich qualitative information regarding cultural and religious contexts affecting risk behaviors related to safe motherhood among refugee women in Eastern Sudan. Furuta and Mori's (2008) study is the first knowledgeable contribution of the insights of women into health behaviors and perceptions, but it is limited in its examination to particular groups of refugee women. There is a need for further studies from a qualitative perspective to understand cultural and religious influences on Sudanese village women's health perceptions and behaviors. This information will provide culturally compatible maternal services for better outcomes of safe motherhood.

The purpose of the study was to explore cultural perceptions and behaviors relevant to safe motherhood among Sudanese village women.

## 2. Methods

A qualitative, exploratory descriptive study design was used to describe and explore a particular phenomenon

within a specific setting (Polit and Beck, 2010) using an ethnographic approach. Ethnography stresses the importance of studying cultural phenomena, rules and norms (Holloway and Wheeler, 2010), as it is concerned with understanding how culture allows people to ascribe meaning to their lives and experiences (Nicholls, 2009). Ethnography allows the researcher to understand an individual's behavior within a particular culture (Roberts, 2009) from a personal perspective using the informant's own voice (Robinson, 2013). The strengths of this approach make it suitable for exploring the cultural perceptions and health behaviors of Sudanese village women.

### 2.1. Setting

The study was conducted in a village in Gadarif state, located in Eastern Sudan. Islam is the predominant religion in this area. Electricity and pipeline water are unavailable. Basic hygiene is very poor, as the majority of households are not equipped with latrines.

There is one functional health center providing medical, nutritional and maternal services in this village. The staff of this health center included a Sudanese medical doctor, qualified nurse and trained birth attendants, including a health visitor and VMWs. Between 2009 and 2012, the maternal child health (MCH) project was implemented in this health center through a collaboration between the Sudan Gadarif State Ministry of Health and the NGO Rocinantes under the sponsorship of the Japan International Cooperation Agency (JICA).

According to the baseline survey conducted by the NGO Rocinantes (2011), approximately 2500–3000 villagers were living in this community. The population of females of reproductive age was approximately 20%. Only 31.3% of the villagers had completed primary education with a higher prevalence of illiteracy among females than males. Health risk behaviors and harmful practices relating to the limited use of prenatal and postnatal care as well as a preference for home births with TBAs, FGM/C and short-interval pregnancies were observed in this area.

The impact of the MCH project showed a significant improvement in the village women's access to prenatal care. However, childbirth attended by TBAs remains highly valued among almost all village women.

### 2.2. Sample

The snowball sampling technique was used for this study. Participants were married and of reproductive age and had given birth within the past two to three years. The initial numbers and criteria of interviewed participants were determined by a discussion between the researchers and the Sudan Gadarif State Ministry of Health, which is the responsible authority for the study area.

A total of six women with limited access to the MCH services were selected. The participants were identified as key informants regarding how they comprehended perceptions and practices related to safe motherhood within a particular cultural context. The differences in age as well as parity were taken into consideration. Two participants were selected from the younger generation

(under 30 years old), who had given birth to between one and three children. The other four participants were of the older generation (between 30 and 40 years old) and had given birth to more than three children.

### 2.3. Data collection

Semi-structured interviews were developed to explore village women's perceptions of and behaviors related to safe motherhood with a particular emphasis on views of prenatal and postnatal checkups, responses to health problems occurring during the prenatal and puerperium periods, preference of delivery attendants, usage of FP, and practice of FGM/C. Using the ethnographic technique interview, the researcher attempted to explore the ways that traditions and customs were practiced by mothers in this village. Semi-structured interviews were given in English by the first and second authors and then translated into Arabic by a Sudanese woman experienced in the healthcare field. Preliminary discussions between the researchers and translator were conducted to obtain a mutual understanding regarding the content and technique of the ethnographic interview.

An ethnographic interview is used to gain an insider's perspective (emic) of the views and behaviors of the studied group (Nawafleh et al., 2012). Using an emic perspective can facilitate the linking of the study to local concerns and practices (Baines and Cunningham, 2013). To strengthen the emic perspective, the translator was considered the internal key informant because she was familiar with the villagers' culture, knew their language and understood their rituals, traditions and common beliefs regarding women's health. The role of translator therefore formed an important component of data collection as having detailed information required by the study. The translator was asked to be mindful of the participants' voices in terms of the local language, communication techniques and human interaction utilized by the participants.

During the interview, an audiotape was used and notes were taken. Each participant was interviewed for approximately 50–60 minutes. The interviews were conducted at the participants' houses according to their preference. Since the implementation of the MCH project, both the second author and translator managed to establish a good relationship with the participants through their initial experiences of working at the health center. This encouraged the participants to relax and discuss any issues and concerns that arose from the beginning of the interviews.

Considering that the participants were illiterate, the authors made sure to have verbal consent concerning confidentiality, self-determination and protection from discomfort. However, the researcher had to adjust the interviewing environment several times because of interruptions from the participants' relatives or neighbors.

### 2.4. Data analysis

All interviews were typed, transcribed and coded immediately using thematic content analysis. Thematic content analysis is a common qualitative analytic procedure

that involves constructing themes by identifying similarities, patterns and relationships (Petty et al., 2012). The thematic content analysis in ethnography focused on the description and interpretation of cultural meanings of perceptions, behaviors and languages expressed by the participants (Petty et al., 2012). To ensure transferability in ethnography, languages, local concerns and common views expressed by the participants within their culture, were carefully transcribed verbatim. The significant sentences were then grouped into clusters of meaningful units. The meaningful units were assigned to preliminary cultural themes and sub-themes. The preliminary cultural themes with sub-themes were carefully interpreted to ensure the best fit for the specific content. Data analysis in ethnography must be guided by continually asking the data 'how do people shape their lives and ideas?' (Nawafleh et al., 2012). Thus, a reflective interview with three participants was continued until a level of data saturation was reached. Credibility in ethnography is attained by prolonged engagement (Lützhöft et al., 2010), which could be strengthened by previous interpersonal engagement of both the second researcher and the translator in the participants' fields. The interpretation of the findings was further discussed with an expert who was familiar with the participants' culture, thus further strengthening the credibility. Self-reflection and audit trials during regular meetings between the two researchers and translator were performed to ensure conformability. In this process, the translator's role was explicitly recognized through reflection on her previous informal observations to emphasize the emic perspective, while the first and second researchers attempted to interpret cultural themes by using an outsider's perspective (etic) perspective. Utilizing these processes to address issues of trustworthiness, the final cultural theme and subtheme were constructed.

## 3. Findings

The participants ranged from 16 to 40 years of age, and the number of children ranged from three to six. One participant was in a period of puerperium, and another was 9-months pregnant. All participants were illiterate and had not completed primary education. None of them had an occupation, and their main tasks were housework and child-rearing.

The thematic content analysis revealed four themes supported by sub-themes: cultural and religious obstacles to accessing maternal care, TBAs as a first choice of during delivery, FGM/C and RI as culturally and locally meaningful practices and FP as not culturally and religiously valued.

### 3.1. Theme 1: cultural and religious obstacles to accessing maternal care

#### 3.1.1. Sub-theme: pregnancy as personally manageable

Some participants showed an interest in utilizing the prenatal care offered by the VMWs for future pregnancies. However, the participants' views of health problems inhibited them from taking advantage of the afforded offer. The participants perceived several symptoms, such as fever, dizziness and bleeding, as abnormal. They also

recognized a necessity of having health checks if such abnormal symptoms were experienced. Nevertheless, they perceived some symptoms, such as tiredness and pain, as normal, as the majority of village women had experienced them. The village women believed that most pregnancies could be managed without professional checks because of experiences accumulated from previous pregnancies and deliveries. As a result, they did not make regular visits to the health center for prenatal care. This is clearly evidenced from such statements as:

“I actually had pain in my leg during the last pregnancy, but I did not go to the clinic because I thought it was a normal symptom, as the other village women had experienced something similar.” (VW1)

“My previous pregnancies always resulted in normal, healthy deliveries. Therefore, I never thought I needed to have regular checks.” (VW3)

### 3.1.2. Sub-theme: health problems associated with poverty as being in the hands of God

Financial constraints were perceived by all participants as being another barrier to accessing prenatal care. Although all participants noted that permission from their husbands was required when utilizing healthcare, this permission was provided without any hesitation, as their husbands were usually supportive. They emphasized economic constraints as being uncontrollable, which ultimately leads to a difficulty in accessing the necessary care, as affirmed in the statement:

“There is no hesitation if I need to ask my husband to visit a health center. It just all depends on my financial situation.” (VW7)

The participants mostly attributed economic obstacles to accessing healthcare to the will of God. All participants cited that they would accept if the pregnancy outcome was negative because of their belief in God's will, as suggested by the following statement:

“I was very sick during my last pregnancy, and the delivery was prolonged, with strong labor pains. I lost my newborn baby three days after this delivery. I could not afford to go to the health center. When I lost my baby, I was very sad but had to accept this as the will of God.” (VW5)

### 3.1.3. Sub-theme: feeling vulnerable during the puerperal period

Belief in witchcraft is ubiquitous among the village women. All participants cited that the mother and newborn baby must stay at home for 40 days after delivery because the mother and baby are vulnerable to witchcraft during this period. The participants use traditional customs for protection against evil spirits. This local practice inhibits the village women from obtaining the necessary postnatal care, as expressed by the following comment:

“A mother who just gave birth cannot go out until 40 days after the date of delivery, even if she suffers from health problems. This is to protect her against “Saher” (witchcraft).” (VW3)

“If mothers go out, they will get sick, and our children may also suffer from polio or brain disease. We usually put something made of silver, the Koran or foods such as dates and dura near the place we sleep during the 40-day period.” (VW3)

## 3.2. Theme 2: TBAs as a first choice during delivery

### 3.2.1. Sub-theme: TBAs as experienced delivery attendants

TBAs were perceived as the best attendants for child birth among all participants because they ensure a home birth, which is the most comfortable, as it takes place in a familiar environment. The participants reported that previous experiences in home birthing by the TBAs ensured that they could receive a better quality of support. The participants further expressed their confidence with their choice of TBAs, even in the case of abnormal child birth. This is because of their trust in the TBAs' experience as birth attendants who can determine abnormal cases. A prominent desire for the use of TBAs was also shared with family members:

“All village women believe that the TBAs have a lot of experience. We can trust them because if the TBA determines that the delivery will be difficult, for example, if it exceeds 24 hours, she usually tells us to go to the clinic.” (VW3)

“All seven of my mother's deliveries were attended by a TBA without any problems. For this reason, my mother trusts the TBA. She always asks for a TBA for my deliveries.” (VW6)

### 3.2.2. Sub-theme: TBAs are accessible but VMWs are not

A preference for TBAs was recognized due to the inaccessibility of VMWs. The participants stated that choosing VMWs could be inconvenient considering that they might require help during the night. In contrast, TBAs were perceived as accessible attendants. This was portrayed in the following statement:

“My last delivery was a difficult one, with strong labor pains and a prolonged delivery. The TBA attended this delivery, but because of all the problems, she eventually called the VMW to seek her assistance. The VMW stayed for a while, but she went back to her house because she realized that the delivery would indeed be a prolonged one. The VMW did not want to stay with me because she lived in another village. However, the TBA stayed with me. I found that the TBA could be relied upon but the VMW could not.” (VW5)

Further reasons for preferring TBAs related to RI was uncovered by the participants. RI, which is performed after delivery, was widely practiced among the village women, with the main motive being the sexual satisfaction of their husbands. Among the village women, RI was called “Ammar” in the local language, meaning repair. In this village, deliveries are attended by TBAs. In the days after the delivery, the female relatives (who are generally mothers or mothers-in-law) call for a village women (a traditional surgeon who differs from the TBAs) to perform

the RI. It is because of this custom that the participants were concerned that the VMWs would prohibit the RI, while the TBAs would support this practice:

“We know that “Ammar” (RI) is not allowed in Sudan. Therefore, if we asked the VMWs, they would forbid our having Ammar. We also know that the TBAs are supportive and will carry out the procedure. Ammar is a traditional practice required of all village women; therefore, we cannot stop.” (VW1)

### 3.3. Theme 3: FGM/C and RI as culturally and locally meaningful practices

#### 3.3.1. Sub-theme: FGM/C as women's traditional responsibility

FGM/C was called “Tahoor” by the village women, meaning “purification”, and this practice appeared to be meaningful to them. Although the experience of FGM/C was very painful, they expressed that they had to perform it on their daughters to comply with the tradition and customs. All participants indicated their strong spiritual belief that it was the village women's responsibility to have FGM/C performed. They cited that women without FGM/C will not be accepted by the village, further reflecting their fear that their daughters will not get married. This was evidenced in the following comment:

“Tahoor (FGM/C) on my daughter is my responsibility. Almost all daughters in this village were circumcised. If my daughter does not have Tahoor, she will be shamed and shunned and will not be accepted by the village people. Village men don't like uncircumcised girls, so she will not get married if I do not circumcise her.” (VW5)

#### 3.3.2. Sub-theme: FGM/C as essence of RI

FGM/C was viewed as a necessary practice, as it can facilitate successful RI among the participants. An interesting perspective was expressed by some participants, who believed that the tetanus vaccination offered during pregnancy would prevent successful RI. Such misconceptions were highlighted by the following statement:

“We believe that we need to be ready in the perineal area after delivery. Tahoor helps Ammar to repair the perineal area so that it can be the same as before delivery. We also know that if we have a tetanus vaccination, the perineal area will not be closed properly.” (VW6)

### 3.4. Theme 4: FP as not culturally and religiously valued

#### 3.4.1. Sub-theme: cultural values for child birth

Little interest and desire for the use of FP was reported by almost all of the participants. This was partly due to cultural values that state that having more children is beneficial for the family and the community's growth. Further reasons were the perception that fertility is a natural consequence and that controlling it through contraception is against God's will:

“Having many children is good for my family, as it assists in creating a big family and village. The children

can help with household chores, which is a great benefit.” (VW3)

“I never think about birth control because having children is a natural outcome and a blessing from God.” (VW6)

Younger participants with three children or fewer expressed a strong desire to have more children. In contrast, the older group, who had more children, expressed their reluctance to have any more children and showed an interest in applying FP if it was a natural method:

“I don't want to have another child because I am tired, but I cannot prevent it as it is all in God's hands. If the spacing between my birth can be controlled by a natural method, then I would accept it because it is natural and therefore not against God's will.” (VW3)

#### 3.4.2. Sub-theme: continuous breastfeeding as a natural birth control method

Continuous breastfeeding was indicated as a natural method of birth control. The participants were likely to continue breastfeeding until their children were 2 years old or older because they were aware that this is a natural strategy to avoid unexpected pregnancy:

“I usually continue breastfeeding until my children are two years old because I won't get another baby during this period. We call this “Roadda Nazifa,” which means “clean breastfeeding.” (VW1)

## 4. Discussion

The main limitation of the study is derived from data resources. In ethnography, data are often collected through the use of data triangulation, applying observation, interviews and document reviews (Baines and Cunningham, 2013). Nonetheless, this study only applied the interview method with a small sample, which limited its ability to capture the whole culture of village women. The sampling method includes a further limitation, as the participants in this study were invited from the non-user cohort of the MCH services since its implementation. Thus, the views and experiences explored by the study were very limited and could differ from those of women who had already utilized the MCH services. Further limitations included the use of a translator and researchers' interpretations, which may not fully account for the strategies used to ensure trustworthiness. Nevertheless, this study reveals cultural and religious influences that shape the ways the participants perceive or respond to ensure their safe motherhood.

Both prenatal and postnatal care are essential determinants of safe motherhood. However, the findings indicated that the utilization of prenatal and postnatal care among the participants was limited. Socio-economic and cultural factors acted as barriers to the use of these services. The participants recognized some signs of health problems that required a prenatal check but were not severe enough to make them utilize these services. The health problems identified by the participants were not acknowledged as potential drivers of maternal and

perinatal death. Their perceptions and confidences regarding some of the health issues experienced by pregnant women did not usually impact the positive outcomes of pregnancies and deliveries. Studies by [Ali et al. \(2010\)](#) and [Furuta and Mori \(2008\)](#) in Eastern Sudan reported similar reasons for the underutilization of prenatal care, as did other studies in Africa ([Abrahams et al., 2001](#); [Mathole et al., 2004](#); [Myler and Harrison, 2003](#)). Among those interviewed in the study, prenatal care was viewed as a curative measure rather than a preventative measure. One of the important roles of regular maternal services is to offer health education ([Simkhada et al., 2008](#)). The findings must be incorporated into the educational message emphasizing the direct benefits of regular services to prevent common complications experienced by the village women.

In Muslim culture, women are generally required to obtain permission from their husbands or mothers-in-law in any decision making ([Campbell and Guiao, 2004](#)). This often creates conflict for women seeking health support. The conflict then becomes a major demotivating factor for rural women in developing countries in terms of taking advantage of the maternal services ([Simkhada et al., 2008](#)). However, contrary findings were produced by this study. The village women reported that they would never hesitate to obtain permission from their husbands, as they are supportive toward their receiving healthcare. They highlighted that the inhibiting factor for using the healthcare service was financial constraints.

All participants attributed the underutilization of maternal services caused by poverty to be the will of God. The prevalent perspective in Islamic culture is that anything beyond one's control is God's will and one's destiny ([Adamu and Salihu, 2002](#); [Hedayat, 2006](#)). This cultural view was shared by the participants. They believed that maternal death or health problems are unchangeable, as they depend on the will of God. This eventually results in a demotivating factor for receiving the necessary care. Similar findings were reported by previous studies ([Adamu and Salihu, 2002](#); [Campbell and Guiao, 2004](#); [Furuta and Mori, 2008](#)). Instead of using healthcare services, the village women tend to fall back on the belief that it is the will of God that problems arose during the pregnancy and delivery. However, with improved access to healthcare services and educational programs aimed at village women, these ideas and beliefs can be changed.

The belief in witchcraft has also been identified as an important influence on the underutilization of necessary care by studies in Ghana ([Farnes et al., 2011](#)) and Zimbabwe ([Mathole et al., 2004](#)), but this was not addressed by previous studies conducted in Sudan. The findings indicate that the local belief described as fear of witchcraft plays an important role in the underutilization of postnatal care among the participants. They showed a preference for using faith healing rather than seeking postnatal care. This clearly advocates the importance of home visits based on postnatal care services delivered by the VMWs.

The current government policy indicates that the VMW is the basic backbone to ensuring safe motherhood at the village level, while the findings indicate that the TBA was

the most popular choice for delivery services among the participants. The most common reasons are related to their beliefs regarding traditional choices and availability. The findings indicate that home birthing with TBAs was viewed as being safe, comfortable and satisfactory according to the previous delivery experiences of the participants. Similar findings on women's decisions to have home births were also reported by other studies ([Adamu and Salihu, 2002](#); [Dietsch and Mulimbalimba-Masururu, 2011](#); [Griffiths and Stephenson, 2001](#)).

The participant's choice of TBAs was reinforced by female family members. [Furuta and Mori's \(2008\)](#) study reported that the preference or beliefs of refugee women in Sudan were controlled by female relatives, who are usually the decision-makers in the household. Similar results were found by this study, revealing that positive views of and experiences with TBAs were held by female relatives and shared among the participants. This was a powerful factor in the choice of using TBAs.

Inaccessibility of VMWs emerged as being a significant factor in the preference for TBAs for home births. Although the MCH project has placed an emphasis on encouraging VMWs to reach out to pregnant women and to increase the number of home births attended, there is still a shortage for each village. This was reflected in the reluctance of the village women to select VMWs as birth attendants, especially when the delivery was prolonged into the night. The timing of childbirth is unpredictable, highlighting the issue of a shortage of VMWs, which is a result of both inadequate government support and the low social status of VMWs. The provision of adequate support as well as an incentive for career development opportunities for VMWs would be beneficial in retaining them in rural areas ([Abdel-Tawab and El-Rabbat, 2010](#); [Save the Children, 2010](#)). Such efforts could further facilitate addressing the issue of cultural malpractices performed by the village women.

Addressing the issue of FGM/C is one of the pillars to safe motherhood and has attracted much attention in Sudan. Previous studies ([LCOIC, 2008](#); [Satti et al., 2006](#); [SNCTP, 2009](#)) have determined that the prevalence of FGM/C is still high among Sudanese women. This was confirmed by this study, which found that all participants had FGM/C performed on themselves and their daughters. To the participants, the act of performing FGM/C carries many positive meanings, and this is reinforced by traditional beliefs. These beliefs include the conviction that if FGM/C is not performed, then they will face social exclusion and will not be suited to marriage.

The importance of practicing FGM/C is directly linked with the continuous practice of RI. The main motive for RI after delivery is the sexual satisfaction of the husband ([Berggren et al., 2006](#)). Similar observations were detected in this study. The village women emphasized the value of a proper FGM/C, as it facilitates performing a better RI. Both FGM/C and RI were felt to be culturally and locally necessary practices among the participants. In addition, local beliefs have resulted in the misinterpretation that vaccinating against tetanus has a negative impact on RI.

Female social pressure has a strong influence on the practice of FGM/C and RI in Sudan ([Berggren et al., 2006](#); [LCOIC, 2008](#)). The participants identified female relatives,

such as mothers or mothers-in-law, as being the driving force behind their decision to engage in this practice. Berggren et al. (2006) discuss this phenomenon by referring to a “female version of paternalism.” The function of female paternalism between mothers and daughters was highly valued among the village women. Even if the younger generation can be convinced that the act of FGM/C and RI should be eradicated, they are still faced with pressure from female relatives and elders to comply with traditions and customs.

Issues of RI cannot be discussed without referring to the reasons for the preference of home births with TBAs. TBAs were perceived as being superior to VMWs, which was partly due to the village women's conviction that TBAs would assist with RI but VMWs would prevent it.

The practices of FGM/C and RI have various cultural interconnections that cannot be considered solely through the modern biomedical perspective (Satti et al., 2006). Health education messages regarding issues of FGM/C and RI should consider their impacts on cultural and spiritual beliefs among the village people. Such education should not be targeted to younger groups of village women only but to their female relatives as well. Furthermore, contrary to older women's views on FGM/C and RI, Berggren et al. (2006) show that some Sudanese men were reluctant to allow their wife or daughter be infibulated due to their concerns about the negative impact on the health of their female counterparts. At the same time, these males had difficulty expressing their insights because they felt that FGM/C and RI were under the domination of females. These findings suggest that there is a need for further research to explore the perceptions of FGM/C and RI of all those involved.

However, accessing insights is a difficult task because infibulation practices are often held in private (Gruenbaum, 2005). Indeed, the quality of the findings appears to be affected by ethical considerations and a respect for privacy. Possible approaches to future research could include participant observation by building a rapport with the villagers. This may facilitate accessing the actual events of FGM/C and RI. Furthermore, the role of TBAs should be acknowledged in relation to health education against cultural malpractices, as has been revealed by this study, despite being contrary to the government's policy.

Sudanese women, especially in the capital areas, seem to be encouraged to use contraception, as supported by previous studies (Haroun et al., 2008; Ibnouf et al., 2007; Umbeli et al., 2005). Nonetheless, religious issues appear to be the dominant inhibitor for the low interest in FP among the participants, as they believe that controlling fertility through contraception is a violation of God's order. Child birth is natural and therefore not controllable within this religious understanding (Hedayat, 2006). Such a religious belief was highly valued among the participants, although the older group expressed an interest in the use of natural FP methods. The primary reason for such an interest was to have a break between one child and the next.

Among the village women, breastfeeding is acknowledged as a natural form of FP that does not violate the will of God. Ibnouf et al. (2007) support this statement, finding that Sudanese women in rural areas were likely to use

breastfeeding as a traditional method of FP. Thus, for the village women, educational activities may be more suitable and readily acceptable if they focus on natural methods of FP rather than the introduction of modern contraceptive methods. Educational messages could reinforce the importance of child-spacing rather than stopping fertility (Furuta and Mori, 2008). The scope of the educational target should include both the village women and the village men, as contraception use is determined by the agreement of both the husband and wife in Islamic culture (Ott et al., 2003).

## 5. Conclusion

This study demonstrates how cultural and religious ideas act as barriers for village women to ensure safe motherhood. The dominant Islamic ideology, which heavily emphasizes the will of God, as well as local beliefs in terms of a fear of being bewitched and misinterpretations of the significance of maternal services are obvious factors for village women's reluctance to access the necessary services. Such negative effects on village women's perceptions and health practices are mostly closely related to those observed in similar studies (Adamu and Salihu, 2002; Campbell and Guiao, 2004; Farnes et al., 2011; Furuta and Mori, 2008). While, this qualitative study addresses a research gap by providing more holistic views of the cultural impacts on the village women's perspectives and practices, incorporating multiple phenomena concerning the utilization of maternal services, continuous practice of FGM/C, RI and little interest in FP and the interrelationships among some of these phenomena.

For instance, the findings reveal a direct connection between the practice of FGM/C, RI and a preference for TBAs, which was not accessible in previous quantitative studies implemented in Sudan. This suggests that future research should not focus on a single concern or phenomenon, as is the case for most studies, and should instead concentrate on investigating cultural effects on the inter-relationship between several practices related to safe motherhood. This can be accomplished through qualitative data collection.

Such a study would facilitate the design of more culturally sensitive maternal services through multiple long-term inter-sectorial strategies, although this study recognizes the profound complexity of attempting to address ingrained cultural and religious beliefs and practices. This in turn could promote a collaborative working relationship between VMWs and TBAs. These efforts could further assist in building a rapport with the village women and eventually discouraging harmful practices as well as promoting the safer maternal services offered by VMWs. A further challenge for the maternal services is to expand home-visiting, create and improve health education during prenatal and postnatal care, and invite female relatives as well as men to share their views for future positive changes within the culture of the village.

## Conflict of interest

None declared.

## Funding

None declared.

## Ethical approval

The study protocol was approved by the Ethics Committee affiliated with the University of Khartoum. Permission for this study was obtained from the Sudan Gadarif State Ministry of Health as well as the head of the village.

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