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Socio-Cultural Factors Influencing the Utilization of Antenatal Health Care Services in Pageri Administrative Area, South Sudan

Rehema I. Mzimbiri[1], David Msokwe[2*], Andruga F. Mike[3]

[1]Department of Postgraduate Studies, Eastern Africa Statistical Training Centre (EASTC), Dar es Salaam, Tanzania
[2]Department of Management Studies, Tanzania Institute of Accountancy, Dar es Salaam, Tanzania
[3]Sudan National Bureau of Statistics, Khartoum, Republic of the South Sudan
Email: rmzimbiri@gmail.com, *davidmsokwe2016@gmail.com, andugamike@eastc.ac.tz

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Abstract

In order to maintain good maternal health and reduce the risk of morbidity and deaths in mothers and newborns, access to appropriate prenatal care (ANC) is essential. South Sudan's health indicators are among the lowest in the world because of a weak health system and confluence of political, socio-cultural, and economic issues. In South Sudan, the ANC package begins in Primary Health Care Units (PHCUs) and Primary Health Care Centres (PHCC). In addition to identifying pregnant women and increasing public awareness of the importance of starting and adhering to ANC early, the PHCUs and PHCC also offer services to prevent HIV transmission from mother to child, treat and prevent STDs, provide nutrition counselling and micronutrient supplements, identify and refer high-risk women, and conduct monthly outreach clinics. We explored the role of social-cultural factors on utilization of ante-natal healthcare services among women in South Sudan, using data from a cross-sectional study of 2022. A total of 118 women of childbearing age (15 - 49 years) were randomly selected from three payams of Nimule, Pageri and Mugali. Pretested semi-structured questionnaires and key informants checklist were applied to collect qualitative data from key informant interviews and focus group discussions. Content analysis method was applied to determine the utilization of Ante-Natal Care (ANC). The study findings show that ANC utilization was negatively influenced by cultural beliefs, norms, religion and role of husbands. Therefore, socio-cultural factors are matters of concern that should be integrated into Maternal Child Health programmes for healthy pregnancies and affirmative birth outcomes in South Sudan. It is recommended that policies should put emphasis on antenatal healthcare so that the country's population is maintained.

Subject Areas

Demography, Gender and Human Health

Keywords

Socio-Cultural Factors, Utilization, Ante-Natal Health Care Services, Pregnant Woman, Maternal Mortality, South Sudan

1. Introduction

Maternal mortality rates are very high worldwide. In 2020, around 287,000 women lost their lives during or after pregnancy and childbirth [1]. While low- and lower-middle-income nations accounted for over 95% of the burden, much of it could have been avoided with the help of the existing treatments [1]. In 2017, pregnant women in Sub-Saharan Africa (SSA) specifically had the greatest rates of stillbirths and maternal deaths. Pregnant young adolescents (aged 10 - 14) are more likely than other women to experience problems and even pass away [1]. The causes for most of these deaths however are said to be preventable, avoidable and could be alleviated through thorough adherence to Antenatal Care (ANC) during pregnancy and neonatal period [1] [2].

According to Joseph *et al.* [3] and the World Health Organisation [4], pregnant women should attend at least eight ANC appointments, with the first one occurring during the first trimester. ANC is recognised as one of the cornerstones of pregnancy and child health. The Global Strategy for Women's, Children's, and Adolescents' Health (2016-2030) Monitoring Framework uses ANC coverage as a proxy for access to and utilisation of prenatal care in the context of universal health coverage [4]. Despite the interventions, including ANC, and efforts that the state has put in place to reduce maternal mortality (MM), South Sudan remains amongst the least developed countries with the highest MMR in the world, with 789 deaths amongst 100,000 births in 2019; and 40 neonatal deaths in 2021 [5] [6] [7].

South Sudan had one of the world's poorest health indicators in 2017 (1150 per 100,000), with a weak health system due to political instability or intercommunal conflicts, lack of health infrastructure, shortage of medical supplies, and poor obstetric care [8] [9]. Furthermore, Wilunda *et al.* [10] found that South Sudan's high rate of maternal mortality was caused by a mix of socio-cultural norms, a weak health system, and negative perceptions of childbirth. However, in Pageri, clarity is required regarding the aspect of socio-cultural factors specifically, cultural beliefs, norms, religion and role of husband in the utilization of ANC. Clarity is also needed about the interventions that will enable women to receive care such as education, screening, counselling, treatment of minor disorder, and immunization services. Population in the Pageri Administrative region experienced serious civil unrest and endemic violence along with the liber-

alization from North Sudan [11]. The region also has a persistent record of low skilled birth deliveries (58.5%) as well as low ANC attendance (59.9%) as per the required global and national ANC targets, similar to the situation experienced in Nigeria [12]. It is high time to understand the contribution of family and socio-cultural factors in shaping attitudes and practices towards improving the health status of the population through ANC utilization.

The present work will inform researchers, policy makers, and healthcare providers about the socio-cultural factors influencing the uptake of ANC services in South Sudan's Pageri Administrative Area. The generated knowledge will also be an invaluable tool for any potential interventions aimed at addressing the low rate of antenatal care services in the Pageri Administrative Area and other locations, thereby addressing the disparity and injustice of maternal mortality and achieving SDG 3.1 by 2030. **Figure 1** illustrates the socio-cultural factors influencing utilization of ANC.

2. Methods and Materials

2.1. The Study Area

Pageri is an Administrative Area of Magwi County located in Eastern Equatorial States. It was established in 2016 and constitutes three payams with a population of 166,938 (Nimule), 164,258 (Pageri), 153,399 (Mugali). The total population of women of childbearing age (15 - 49 years) in the three payams is 31,298. The study area was selected due to poor access to ANC services.

2.2. Sampling Procedures

This was a cross-sectional study conducted in 2022 targeting women utilizing ANC services in Pageri. Purposive sampling techniques were used to select thirty-nine (39) villages in the three payams (Mugali, Nimule and Pageri) and health workers at the health facilities. Since birth starts at 15 to almost 49 years as per Bongaarts [13], the stratified random sampling technique was also used to select the involved women form sub-groups for in-depth interviews. The selection involved multiple, non-overlapping and homogeneous groups (strata), which provided equal chance for every member to be selected to reduce costs and improve efficiency.

2.3. Sample Size

In the selected study area, a total of 118 pregnant women were involved in the research. This sample was obtained in two stages. First, the sample size was estimated from the total number of pregnant women using the formula developed by Gibson [14] and Kothari [15], with a confidence level of 0.05. Second, the estimated sample size was used to compute the proportion of the sample (pregnant women) in each Payams with 39 villages based on the number of pregnant women for each village (**Table 1**). The sample size was determined using the formula:

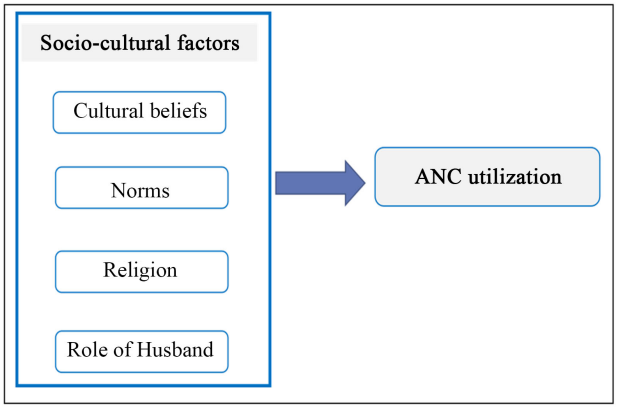

Figure 1. Socio-cultural Factors Influencing ANC Utilization.

Table 1. Sample size determination.

sn	Payam	Population	Sample size
I	Mugali	390	32
II	Nimule	800	66
III	Pageri	250	20
Total		**1440**	**118**

Source: SSNBS, [16] and authors' computation (2024).

$$n = \frac{Z_{\alpha/2}^2 * Npq}{\left[e^2 * (N-1)\right] * \left[Z_{\alpha/2}^2 * pq\right]} \quad (1)$$

whereas:

n: the size of the sample in a finite population;

N: the size of the population (31,298);

p: population dependability, where p is equal to 0.5, or frequency calculated for a sample size n. This is based on the population of all developing nations and $p + q = 1$;

e: for this investigation, a 9% margin of error was used;

$Z_{\alpha/2}$: at the 0.05 level of significance, the normal reduced variable is 1.96.

The formula above generated the sample size for this investigation as:

$$n = \frac{(1.96 \times 1.96) \times 31298 \times 0.5 \times 0.5}{\left[(0.09 \times 0.09) \times (31298 - 1)\right] \times \left[(1.96 \times 1.96) \times 0.5 \times 0.5\right]}$$

$$n = \frac{30058.6}{254.4661}$$

Thus, $n = 118.124179$.

Therefore, the study involved 118 respondents. The formula has provided an optimal sample size which leads to getting fact and suitable results for the study.

The size was sampled from three Payams based on the population proportion for sample size (PPS) mathematically written as following:

$$ns = \frac{Ps}{Po} * nl \quad = \text{presented in columns of Table 1} \quad (2)$$

whereby,

ns: Stands for sub-sample size (Sample size from each Payam);

Ps: Stands for sub-population (A population from each Payam);

Po: Stands for over-all population (All pregnant women of 1440 in 3 Payams);

nl: Stands for large population (Over-sample size of pregnant women = 118).

Ethical issues were considered by submitting a letter of introduction from the Eastern Africa Statistical Centre to the Administrative Medical officer of Pageri Administrative Area; and confidentiality was ensured.

2.4. Data Collection and Analysis

Data were collected from primary and secondary sources. Secondary data were collected through documentary review (books, articles, and journals). Primary data were collected through questionnaires, interviews and focus group discussions. Questionnaires were prepared by authors in a clear standard and without ambiguity. Respondents were given questions related to religion and utilization of ANC among Pregnant women in Pageri Administrative Area. Short answers in the questionnaires were supplemented by interviews with key informants. Key informant interviews were conducted with community leaders, religious leaders and health workers to gain understanding about the influence of cultural beliefs, norms, religion and husbands in the utilization of ANCs. In addition, ten focus group discussions were conducted to elicit more socio-cultural information using semi-structured questionnaires.

Data were analyzed mostly qualitatively with few quantitative techniques especially questionnaires on religion and utilization of ANC. Open coding techniques were used to analyse the content of the qualitative data. Guba and Lincoln's criteria of credibility, dependability, confirmability, and transferability were used to determine the level of trustworthiness. Descriptive statistics were also used for triangulation with quantitative data.

3. Findings and Discussion

3.1. Demographic Information of the Respondents

This study involved a total of 118 respondents in the three Payams of Mugale, Nimule and Pageri. The respondents included pregnant women from Pageri Administrative Area, who were aged from 15 to 49 years. The age range was based on the justification provided by Bongaarts [13] that the age at first birth to girls starts at 15 years old. Women in this age range were targeted due to their vulnerability in accessing health services. **Table 2** depicts the demographic profile of the study area and sample.

3.2. Influence of Cultural Beliefs and Practices on Utilization of ANC among Pregnant Women in Pageri Administrative Area

Findings revealed that limited decision making space within households and superstitions in rural settings were among the factors that caused poor utilization of ANC among pregnant women particularly in the first trimester. This was affirmed by one of community leaders in study area, who mentioned that,

Table 2. Demographic profile by residence and sample size.

sn	Payam	Sample size	Percentage distribution
1	Mugali	32	27.0
2	Nimule	66	56.0
3	Pageri	20	17.0
Total		**118**	**100.0**

Source: SSNBS, [16] and authors' computation (2024).

"*Men have more value than women in this society in many ways… Being the male-headed household, he has a vital role in final decision-making for health-seeking behaviour and many more social and economic matters such as education, travel, and work*". (*Ebele, community leader*-14)

The leader added that, "Labor and delivery are women's matters, so mothers-in-law can play an important role in making it easier…"

It was discovered that because of cultural views, husbands are not included in the usage of ANC; instead, mothers-in-law hold more power, followed by daughters-in-law. However, as compared to some years in the past, there have been changes in the treatment of expectant mothers and accessibility of maternity services. The availability of ANC triggered access to modern services over traditional practices particularly during pregnancy and delivery. This is supported by a study done by Alibhai *et al.* [17] which unveiled that in fragile and conflict-affected situations, cultural factors have an influence on ANC utilization.

The respondents also explained that cultural practices had eventually lost importance, and that access to health services had also changed over time in the study area.

"*Cultural beliefs were rampant in our time. I had a problem with expelling the placenta for my fifth birth. It did not come out for three days… As I struggled with placenta, people gave me healing water to drink. I tied a trowel over the placenta, and tried to vomit by putting hair into my mouth, and tied a rail ticket to my back but all those did not work… There were no doctors by that time and so, these were common practices during delivery. Nowadays, women go to hospital if they have such problems*". (*Adako, community leader*-16)

In addition, women reported availability and expansion of health facilities in the study area, and this also influenced ANC utilization at the local level. Other factors which were attributed to low ANC uptake included issues related to travel time and distance to medical facilities.

It was also emphasised that timely access to a service could be aided by ensuring reliable transportation options. Women might also seek guidance from any skilled medical staff in the facilities in the event that issues emerged during birth. Regarding this, a community leader declared that:

"*It would be good if there was a Health Post with qualified nurses in this village… If the facility is near, it is easier to go. If there were some trained nurses or*

midwives in the village, women could ask them for advice about safe delivery…After I delivered the baby, I hung the towel for two hours to bring the placenta out. If there were qualified health people, they would stop such kind of harmful practices". (*Guwo, community leader*-15)

It was discovered through participant group conversations that women, especially older women, thought of pregnancy and childbirth as normal processes that did not need special attention. As a result, these women did not follow the custom of giving birth in health facilities or nor receive medical attention from professionals. For example, a community leader said the following about the matter:

"*There was no tradition of going to hospital for delivery. In our time, women delivered all their children at home without anyone's help. We did not even know what a doctor or nurse was like, but these days, women are prepared to go to hospital when labour starts. We were working all day and delivered at night without anyone's help. Some women delivered in the jungle while collecting firewood and fodder for cattle*". (*Guwo, community leader*-16)

According to the findings, some mothers would rather receive prenatal care at health posts. Through interviews, participants underlined the importance of the village to have a functional HP staffed by qualified medical personnel. Participants proposed that increased utilisation of maternal health services during childbirth may be achieved if the services were easily accessible in the community. Thus, one woman stated the following:

"*I prefer going to the hospital for delivery. There were no trained professionals for delivery at home in the village… Different women came to our home and suggested different practices for delivery based on their experience. I do not like that. If you go to the hospital, you are safer than at home… There are health facilities like health professionals and equipment for treatment but nothing in the village. It was a high risk delivering at home*". (*Guwo, woman*-2)

3.3. Social Norms and Utilization of ANC among Pregnant Women

Social norms are common behaviours in a society considered to have a great impact on development in various sectors, including health since they can either help or hinder development. The study findings show that poor utilization of ANC was motivated by the fear of caesarean section, traditional confidence and power trust on Ttradition Birth Attendance (TBA). Women respondents reported that TBAs who lived closer to their homes had been helping the community for years with traditional care and rehabilitation regardless of the complications during deliveries.

Probably, the person-centred care is also important to motivate positive health behaviours as values and practices also shape an individual's knowledge and perception of health and illness/disease, and healthcare-seeking practices and behaviours [6] [18] [19]. A respondent said, "*We always decide to deliver at home because if one deliver at home than at the facility, she seems confident and powerful.*" *Another respondent said*, "*I afraid to deliver at the facility as I might*

be operated on rather waiting to deliver in the normal way".

3.4. Role of Men or Husbands and Utilization of ANC among Pregnant Women

Men are in charge of practically all family resources, and so, they have a significant say in defining what constitutes health care for women in dominantly patriarchal cultures like those found in Uganda and other Sub-Saharan African nations [20] [21] [22] [23]. Men and women of all ages, who are frequently drawn to traditional values, oppose when their wives seek prenatal treatment, particularly from qualified medical professionals. One old man asserted that, "*For us men, we are not supposed to see. It is very shameful. How do you look at a woman's genitals*?" (*Adako, Old man*-5).

The findings are supported by a study done in Tanzania that reported that local cultures and norms demanded women to have secrecy in pregnancy while men were perceived to have no role to accompany their partners during ANC visit [24].

3.5. Religion and Utilization of ANC among Pregnant Women

Religion is thought to play a significant role in the study area and, therefore, it was crucial to determine the extent to which religion influenced utilization of ANC among the South Sudanese. Results are summarized in **Figure 2**.

Based on the findings in **Figure 2**, the largest percentage of respondents (43.6%) said that their religious beliefs encourage them to seek ANC services. But a sizable portion of respondents (40.80%) felt that their religions did not support ANC services, and 15.5% did not take a position, indicating that either they thought religious matters were too delicate to be discussed in their places of worship in an open and transparent manner. The findings corroborate a study by Mutowo *et al.* [25] who found that Zimbabwean women who belonged to specific religious groups were more likely to forego prenatal treatment. Furthermore, comparable research has demonstrated that utilisation of maternity

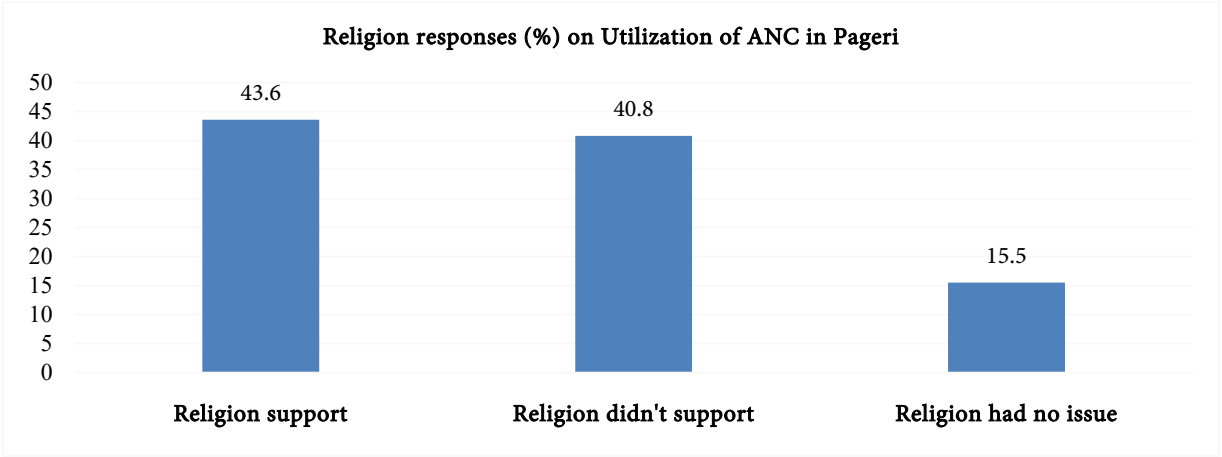

Figure 2. Religious beliefs and utilization of ANC during pregnancy.

and child health care is significantly influenced by faith and socio-cultural values and orientations [26]. However, Merlin *et al.* [27] had a different view that absence of antenatal visits or having only 1 - 3 antenatal visits were found to be risks factors towards antenatal care (ANC). ANC is very important during pregnancy due to possibility of lowering the risk of maternal morbidity and mortality.

4. Implications of the Findings

This study focused on the socio-cultural factors influencing the utilization of antenatal health care services in Pageri Administrative Area, South Sudan. The study provides an insight to governments and stakeholders to ensure that pregnant women have access to micronutrient supplementation, and treatment for hypertension to prevent eclampsia, and immunization against tetanus and to improve maternal healthcare. The study also addresses the SDG 3.1 that indicates the disparity and injustice in maternal mortality, which should be addressed and achieved by 2030. This can be achieved by aligning local and national health policies to global health policies; and by increasing health financing and supporting health workforce in developing countries.

5. Study Restrictions

Primary and secondary data were employed in the investigation. Thus, in order to solve the accessibility of information, researchers designed clear consent form, convincing statement and unambiguous questions in order to allow respondents to respond easily.

6. Conclusion and Recommendations

It is well known that disparities in access to high-quality healthcare services contribute to high rates of maternal fatalities in different parts of the world. Therefore, measures to avoid maternal deaths are vital; and knowing the factors influencing access to utilization is of paramount importance as well.

In Pageri Administrative Area, ANC utilisation is associated with several socio-cultural beliefs, including cultural and religious beliefs, norms, and husbands. This could be explained by a lack of sufficient information on the services offered at health facilities. Moreover, pregnant women who live far from medical facilities are more likely to choose home births or TBA-assisted deliveries than hospital deliveries due to the distance to health facilities. Regarding what transpired during delivery, the TBAs were found to be quite covert and eager to assist.

The centres for providing ANC in the study area had a different number of population of pregnant women. For example at Namule there were almost 56 percent of registered pregnant women which is larger compared to another centre, thus improvement of services should also consider such variations in order to serve pregnant women timely which will help to reduce maternal and infant mortality.

Declaration

All ethical considerations were observed, including seeking research permits from relevant institutions and local authorities.

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Availability of Data and Materials

The datasets used and analyzed during the current study are available from the corresponding author on sensible request. Funding of all operational costs was met by the authors themselves.

Conflicts of Interest

The authors declare no conflicts of interest.

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