

Reasons for underutilisation of antenatal care services amongst women coming for delivery at Juba Teaching Hospital, South Sudan

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ABSTRACT

Introduction: Antenatal care (ANC) is routine care provided for women during pregnancy to promote their overall health, that of their unborn babies, and to identify, prevent, and/or manage complications or problems as they arise. Its main components include risk assessment, health promotion and education, and therapeutic intervention. Although it has been found that 71% of pregnant women attend formal ANC clinics at least once, only 44% of them have four or more visits. This study aims to determine the reasons for underutilisation of ANC services amongst the women who came for labour and delivery services in the Department of Obstetrics and Gynaecology at Juba Teaching Hospital in Juba, South Sudan.

Method: This prospective study was conducted from March 1st to May 31st, 2024. It included pregnant women who came for labour and delivery services at the hospital and who had zero to three ANC visits during their pregnancy. Data were collected by trained data collectors through direct patient interviews using a structured and pretested questionnaire and analysed using SPSS software.

Results: The study interviewed 310 women, of whom 67 (21.6%) had no ANC visit, 165 (67.9%) had one, 43 (17.7%) had two, and 35 (14.4%) had three. The main reasons for discontinuing or not attending ANC were lack of finance (22.9%), long distance to health facilities (12.9%), high cost of service (11.3%), lack of transport (11%), and lack of family support (9.4%).

Conclusion: Although we observed that most of those coming for delivery services had exceeded our cut-off of four ANC visits, we would expect far fewer to have had eight visits, as recommended by WHO in 2016.

Key words: antenatal care attendance, delivery, Juba Teaching Hospital, maternal morbidity, maternal mortality

Introduction

Antenatal care (ANC), also called prenatal care, is routine care provided for women during pregnancy to promote their overall health and that of their unborn babies and to identify, prevent, and/or manage complications or problems as they arise. Its major goal is to ensure birth of a healthy baby and minimise maternal risk.^[1] Its main components include risk assessment, health promotion and education, and therapeutic intervention.^[2] This care is provided through scheduled visits at which in every visit, specific physical examination, laboratory tests and radiologic examination are carried out in addition to prescription of some medicines such as folic acid and ferrous sulphate.

While “complications of pregnancy and childbirth remain the leading cause of morbidity and mortality in reproductive age women worldwide”,^[3] good ANC can prevent or lead to timely recognition and treatment of maternal and foetal complications and therefore, reduce the overall morbidity and mortality of both mothers and their babies. Because of its importance, the percentage of pregnant women who attend an ANC visit in their first trimester of pregnancy is one of the standard indicators used to assess the quality of maternal health services.^[4] The World Health Organisation (WHO) recommends that women start follow-up as early as possible in the first trimester,^[5] this is to ensure that they have sufficient ANC visits, which helps in the identification of potential complications and provision of effective management in early pregnancy.

Early initiation of ANC services utilisation also helps to establish gestational age (GA) and recording of maternal baseline characteristics, in addition to the provision of early social service support and intervention, when warranted.^[4]

According to estimates from the WHO, 60% of pregnant women worldwide attended ANC follow-up before the 12th week of pregnancy. However, regional and income disparities were identified.^[6] In the highest income countries, more than 80% of pregnant women received early ANC compared to 25% in the lowest income group. This late attendance for ANC services reduces the number of visits.^[6] Generally, in sub-Saharan Africa, pregnant mothers do not reach the recommended number of ANC visits.^[7,8] Although it has been found that 71% of pregnant women attend formal ANC clinics at least once, only 44% of them have four or more visits.^[8] In South Sudan, data are limited on ANC attendance.

This study aims to determine the reasons for underutilisation of ANC services during pregnancy amongst the women who came for labour and delivery services in the Department of Obstetrics and Gynaecology at Juba Teaching Hospital in Juba, South Sudan.

Method

This prospective study was conducted from March 1st to May 31st 2024. During this period, 2,020 pregnant women came to Juba Teaching Hospital seeking delivery services. Among these women, 1,710 had the recommended four or more ANC visits and were excluded. The study was on the remaining 310 who had zero to three visits. Informed consent was obtained from the participants prior to data collection. Those who declined were excluded from the study. Data were collected by trained data collectors through direct patient interview using a structured and pretested questionnaire. All information was kept confidential and privacy respected. Data were analysed using SPSS software.

Results

Almost half (47.4%) of the 310 mothers were aged 25 - 34 years, 89.7% of them had less than 5 deliveries and 93.5% had parity of 5 or less, 96.1% lived in urban areas, 93.2% were South Sudanese nationals, 27.4% had never attended formal education, 81.3% were married, 7.1% were Muslim, 24.3% had a family size between 5 and 10 (Table 1). Unplanned pregnancies accounted for 25.8%. Most (78.4%) attended ANC at least once. Of these, 53.2% attended once, 26.0% attended in the first trimester, and most (81.5%) attended services at government facilities (Table 2). The main reasons for not

Table 1. Demographic characteristics of the 310 women who underutilised antenatal care services

| Variable | | n (%) |
|-----------|----------------|------------|
| Age | Up to 24 years | 137 (44.2) |
| | 25 - 34 years | 147 (47.4) |
| | 35 - 44 years | 26 (8.4) |
| Gravidity | ≤ 5 | 278 (89.7) |
| | > 5 | 32 (10.3) |
| Parity | ≤ 5 | 290 (93.5) |
| | > 5 | 20 (6.5) |

| | | |
|--------------------------------|-----------------|------------|
| Number of living children (LC) | ≤ 5 | 298 (96.1) |
| | > 5 | 12 (3.9) |
| Place of residence | Urban | 289 (93.2) |
| | Rural | 21 (6.8) |
| Nationality | National | 303 (97.7) |
| | Foreigner | 7 (2.3) |
| Mother educational level | None | 85 (27.4) |
| | Primary | 108 (34.8) |
| | High school | 86 (27.7) |
| | University | 31 (10.0) |
| Marital status | Single | 51 (16.5) |
| | Married | 252 (81.3) |
| | Divorced | 2 (0.6) |
| | Widowed | 5 (1.6) |
| Religion | Muslim | 22 (7.1) |
| | Catholic | 207 (66.8) |
| | Protestant | 71 (22.9) |
| | Adventist | 7 (2.3) |
| | Jehovah Witness | 3 (1.0) |
| | None | 63 (20.3) |
| Husband education | Primary | 34 (11.0) |
| | High school | 121 (39.0) |
| | University | 67 (21.6) |
| | Others | 25 (8.1) |
| Husband religion | Muslim | 34 (11.0) |
| | Catholic | 207 (66.8) |
| | Protestant | 60 (19.4) |
| | Adventist | 7 (2.3) |
| Family size | Jehovah witness | 2 (0.6) |
| | less than 5 | 70 (22.6) |
| | 5 -10 | 174 (56.1) |
| | More than 10 | 66 (21.3) |

attending ANC services or discontinuing after accessing the services were lack of finance (22.9%), long distance to health facilities (12.9%), high services cost (11.3%), lack of transport (11.0%), and lack of family support (9.4%) (Table 3).

Table 2. Pregnancy-related characteristics of those who underutilised antenatal care (ANC) services

| Variable | | n (%) |
|---|-------------------------------------|------------|
| Whether the pregnancy is planned or not | Planned pregnancy | 230 (74.2) |
| | Unplanned pregnancy | 80 (25.8) |
| Whether the participant attended ANC services or not | Attended | 243 (78.4) |
| | Not attended at all | 67 (21.6) |
| Number of ANC visits (for those who attended) | Once | 165 (67.9) |
| | Twice | 43 (17.7) |
| | Thrice | 35 (14.4) |
| Time of the initial ANC visit (those who attended) | 1st trimester | 63 (26.0) |
| | 2nd trimester | 133 (54.7) |
| | 3rd trimester | 47 (19.3) |
| Type of health Facility first visited for ANC followup | Government facility | 198 (81.5) |
| | Private facility | 31 (12.7) |
| | Charity based facility | 14 (5.8) |
| Whether a participant attended ANC services in the previous pregnancy / pregnancies | Attended | 206 (66.5) |
| | Not attended | 104 (33.5) |
| If attended ANC in previous pregnancy, where? | Within Juba | 118 (57.3) |
| | Within South Sudan but outside Juba | 84 (40.7) |
| | Outside South Sudan | 4 (2.0) |
| Was there health education at the facility (previous pregnancy)? | Yes | 101 (49.0) |
| | No | 73 (35.4) |
| | Not sure | 32 (15.5) |
| | More than 10 | 66 (21.3) |

Table 3. Reasons for discontinuing/not attending ANC services

| Variable | n (%) |
|--------------------------|------------|
| Lack of finance | 191 (61.6) |
| Long distance | 132 (42.6) |
| High services cost | 147 (47.4) |
| Lack of transport | 176 (56.8) |
| Lack of family support | 29 (9.4) |
| Previous bad experience | 24 (7.7) |
| ANC not important | 19 (6.1) |
| Not aware of ANC | 17 (5.5) |
| Not permitted by culture | 14 (4.5) |
| Others | 27 (8.7) |

Discussion

This study shows that utilisation of ANC services among women who came for delivery at Juba Teaching Hospital is good, as only 15.4% attended less than four times or had not utilized any ANC services, as previously recommended by the World Health Organization (WHO).^[9,10] This is less than the findings of a previous study in South Sudan.^[11] If we used the latest WHO recommendation (minimum of eight visits),^[12] the recommended use of ANC services among these women would be lower.

While 67 (21.6%) of the 310 mothers were identified to have had no ANC visit, only 35 (11.3%) of them had three visits. Just over half (53.2%) came once for ANC services. Most attended late in the second trimester or in the third trimester. This is against the recommendation of early initiation of ANC follow-up.^[13]

The main reasons for non-attendance and discontinuation of ANC included financially related issues, namely high service charges (47.4%, n = 147). and long distances to the health facility (42.6%, n=132). Other reasons reported were lack of transport, absence of family support, lack of awareness and poor knowledge about ANC and its importance, and culturally related issues. These factors are similar to the findings in Bangladesh and other 28 developing countries, and in Rumbek, South Sudan.^[11, 14]

Another factor identified in this study is late initiation of an ANC visit. Similar findings were also reported elsewhere in Ethiopia, Kenya and South Africa.^[15, 16, 17]

Most patients who underused ANC services (81.5%, n=198) had initially attended at the government facilities (hospitals and PHCCs). This may explain the high patients flow in the government facilities, making the waiting time longer. Lack of medicines and laboratory tests or staff behaviour towards patients might cause dissatisfaction among these mothers.

Conclusion

Although ANC service utilisation is high in our study, it be would lower if we used the WHO's 2016 recommendation (minimum of eight visits).

We have found from this study that factors including financially related issues, long distances to the health facilities, lack of transport and absence of family support were among the top reasons why these mothers did not attend, or attended late or attended and then discontinued ANC services. We therefore, recommend improvement of ANC services at the government facilities besides implementation of health education programmes through direct health education at the services centres, radio and television talk shows, social media and health education campaigns in the residential areas. We also recommend to the government to increase the number of PHCCs within and outside Juba and create a programme that will support pregnant women with mama kits (clothing for both mother and the baby, diapers, baby blanket, baby soaps, powder and lotion). Further, larger and multicentre studies would add to our understanding of these issues in ANC.

Ethics approval: Permission to carry out this study was granted by the ethical committee, Faculty of Medicine and Health Sciences, Upper Nile University and Juba Teaching Hospital, Department of Obstetrics and Gynaecology.

Availability of data and materials: Data sets used and/or analysed during the current study are available from the corresponding author on request.

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Competing interests: Nil

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