

**DETERMINANTS OF SKILLED BIRTH ATTENDANT SERVICE UTILIZATION:  
AN ANALYSIS OF SERVICE PROVIDER FACTORS AT KAPSABET COUNTY  
REFERRAL HOSPITAL, NANDI COUNTY, KENYA**

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**Abstract**

A Skilled Birth Attendant (SBA) is an accredited health professional, such as a nurse or midwife, trained and equipped to manage normal pregnancies, childbirth, the immediate post-natal period, and the referral of complications in women and newborns. The quality of services provided by SBAs aims to ensure sufficient and safe care during childbirth. This study employed a descriptive survey design to identify service provider factors influencing the utilization of SBA services among women at Kapsabet County Referral Hospital, Nandi County. A sample of 377 women of reproductive age was randomly selected from a catchment population of 13,638 women. Of the participants, 187 were seeking antenatal care services, and 190 sought post-natal services. Additionally, 23 nurses providing maternal health care services in the facility were purposively selected for the study. Quantitative data were collected using structured questionnaires and analyzed using descriptive statistics, with findings presented in tables, pie charts, and graphs. The study results showed that the service providers' attributes, such as knowledge and skills in maternal services, competencies, attitudes, motivation levels, conduct, and experience, significantly influenced the utilization of SBA services among women of reproductive age in the health facility. It is recommended that the Department of Health, Nandi County, address issues related to service provider welfare, specialized training, and the employment of adequate personnel to improve the quality of maternal health care services and promote customer satisfaction. Further research is recommended to establish effective strategies to enhance and sustain the utilization of SBA services among women at Kapsabet County Referral Hospital for better health outcomes during pregnancy, labor, and childbirth.

**Key words:** Nurses, Antenatal, postnatal, utilization

## Introduction

A Skilled Birth Attendant (SBA) is an accredited health professional, such as a nurse, midwife, or doctor, who has been educated, trained, and equipped with the necessary skills to manage normal (uncomplicated) pregnancies, childbirth, and the immediate postnatal period. SBAs are also trained in the identification, management, and referral of complications in women and newborns (WHO, 2024). The presence of an SBA at birth serves as a proxy indicator for access to health care services and maternal care and is included in the WHO's global reference list of 100 core health indicators (WHO, 2018). According to WHO (2024), skilled care at delivery is usually provided in health facilities; however, births can also take place in other appropriate locations, such as homes or tertiary referral centres, depending on availability and need. Home delivery may be appropriate for normal births if the person attending is suitably trained and equipped as a midwife, and referral to a higher level of care is available when necessary. Births attended by an SBA are recorded as such.

The central premise of maternal health programming is that deliveries by a skilled attendant, coupled with ready access to Basic Emergency Obstetric Care (BEOC) or Comprehensive Emergency Obstetric Care (CEOC) facilities, are fundamental to reducing maternal deaths (WHO, 2017). Evidence shows that skilled birth attendance is one of the simplest and effective interventions that can reduce maternal and neonatal deaths in developing countries, where resources are scarce. The proportion of births attended by a skilled health worker is used as a proxy measure to monitor progress toward reducing maternal

mortality (WHO, 2014, 2017). A positive correlation has been demonstrated between the proportion of deliveries attended by an SBA and a reduction in maternal deaths (WHO, 2023).

Globally, maternal mortality remains unacceptably high. In 2020, approximately 287,000 women died during and following pregnancy and childbirth, with almost 95% of these deaths occurring in low- and lower-middle-income countries. Most of these deaths could have been prevented. The high number of maternal deaths in some regions reflects inequalities in access to quality health services by skilled birth attendants and highlights the gap between rich and poor. In 2020, the maternal mortality rate in low-income countries was 430 per 100,000 live births, compared to 13 per 100,000 live births in high-income countries (WHO, 2022).

The estimated coverage of births attended by skilled health personnel between 2012-2017 shows significant inequality between WHO regions. In some regions, over 68% to 99% of all births were attended by skilled health personnel, whereas in sub-Saharan Africa, where maternal mortality is highest, only 59% of births were attended by skilled health personnel (WHO, 2018). Health facilities, therefore, need well-trained and motivated staff consistently available to provide care. All labour and childbirth areas in health facilities should have competent, well-trained staff and SBAs available 24 hours a day in sufficient numbers to handle the expected workload (WHO, 2023).

According to Turkmani et al. (2013), women were more likely to use maternal and child health services in communities where friendly and motivated midwives were deployed. This increased the utilization of maternal health care

services and positively changed community perceptions of women's education and the professional independence of midwives. The deployment of nearly 3,000 community midwives within a strengthened health care system significantly contributed to reduced maternal and newborn mortalities.

The WHO advocates for skilled care at every birth to ensure quality maternity care services that can save the lives of women and new-borns. To ensure effective and high-quality maternal care, emphasis should be placed on competence—possessing skills and knowledge sufficient to meet predefined clinical standards, as measured against WHO's Integrated Management of Pregnancy and Childbirth (IMPAC) guidelines. These guidelines include providing women and their families/partners with appropriate information and advice for a healthy pregnancy, childbirth, and post-natal recovery; care for the new-born; promoting early exclusive breastfeeding; and assisting with decisions regarding future pregnancies to improve outcomes. Quality of care must be maintained (Harvey S. et al., 2012; WHO, 2017).

Ueno et al. (2015) identified a gap between the expected performance of Emergency Obstetric Care (EmOC) signal functions by SBAs, as set by the Ministry of Health and Social Welfare (MOHSW), and actual performance at health facilities. Providing competency-based in-service training for providers in EmOC and creating an enabling environment could improve the performance of EmOC in maternal health service delivery.

Many countries encourage women to deliver at health facilities, implying that these facilities are well-equipped and staffed with skilled health

personnel. However, not all staff categorized as SBAs are capable of providing the full range of emergency obstetric care needed to prevent maternal and newborn mortality and morbidity. This situation underscores the need for the right mix of skills within the health care setup (Adetoro, 2012).

To promote the utilization of quality health care services, the WHO recommends that health professionals be motivated, located in the right place at the right time, supported by appropriate policies and essential supplies, including medicines, and operating under suitable regulatory frameworks (WHO, 2017). However, the unfriendly attitudes of some health service providers have been shown to lower the utilization of maternal and new-born health care services among women. As a result, many women in low- and middle-income countries receive delivery care from traditional birth attendants (TBAs) due to their positive attitudes, love, and care, even though TBAs are often unqualified or lay practitioners (MOH, 2012; Reeve M. et al., 2016). Successful collaborative models in other settings have focused on changing SBA attitudes towards TBAs (Adjei, 2015).

The Kenya National Reproductive Health Policy prioritizes increasing the health workforce trained in maternal health services and boosting the proportion of deliveries conducted by skilled attendants (MOH, 2012). Despite government efforts to promote skilled birth attendance, TBAs remain the predominant providers of maternal health care in rural communities. This situation requires collaboration between SBAs and TBAs and a change in attitude among service providers. Given the pain associated with childbirth,

women naturally prefer birth attendants who demonstrate empathy. Negative attitudes from healthcare service providers, poor relationships with patients, and unfriendly behaviour by nurses have been identified as significant determinants of women's preference for alternative delivery locations (KDHS, 2014; Adjei, 2015; Effiong J.O. et al., 2020).

**Objective:** To assess the Skilled Birth Attendant factors that influenced the utilization of Skilled Birth Attendant services among women at Kapsabet County Referral Hospital.

### Methodology

The study adopted descriptive survey study design where quantitative data was collected using a structured self-administered questionnaire. The study population consisted of approximately 13,638 women of reproductive age, projected from the national census of 2019, who sought maternal health care services at Kapsabet County Referral Hospital and the nurses who provided maternal health care services at the facility. Simple random sampling technique was used to select 187 and 190 women who sought antenatal and postnatal care services respectively, and purposive sampling method was used to select 23 nurses who provided maternal services in the facility and were on duty during the period of study.

The inclusion/ exclusion criteria guided the process; **Inclusion criteria** – the study subjects were women of reproductive age with normal pregnancy, those who went through normal labour and delivery and consented to participate in the study and nurses who provided maternal health care services during the time of study; **Exclusion criteria** – the study excluded women of reproductive age who had complications

during pregnancy, labour and child birth and nurses who provided nursing care services in other departments in the hospital.

The data collection tool was presented to the experts for advice and validation and pretested to assess and established its reliability using Cronbach's alpha coefficient which yielded 0.779 (reliable) prior to data collection. Data analysis was done using descriptive statistics to determine the influence of service provider variables on the utilization of skilled birth attendant services and the study findings were presented in tables, pie charts and graphs.

### Study findings

#### Demographic profile of the Service Providers (nurses)

The demographic profile for the service providers indicated that Majority (78%) of the service providers were aged between 20 and 40 years, 65% had diploma in nursing/ midwifery, 17.4% had higher diploma, 8.7% had bachelor degree in nursing and certificate in nursing each as their professional qualification. This finding complied with the MOH (2012) on the National Reproductive Health (RH) training plan to ensure that health personnel have the knowledge and technical skills to handle reproductive health issues within a comprehensive and integrated system. Among the 23 subjects, 26.1% provided maternal health care services in MCH/FP while 73.9% provided maternal services in maternity and majority (63.9%) had over 3 years of experience in providing maternal care services. This finding therefore, agrees with WHO (2017) that the health facilities need well-trained and experienced staff consistently available to provide quality health care services

to the community, though the number of nurses working in the departments was inadequate.

### Service provider factors that influenced the utilization of Skilled Birth Attendant services among women attending Kapsabet County Referral Hospital

The study participants involved women who sought antenatal and postnatal care, and service providers (nurse) who provided maternal health care services during the study period. Each group of participants gave their responses on the influence of service provider factors on utilization of SBA services in the health facility.

*Table 1: Responses of women seeking antenatal services on the service provider factors*

	Agree	Tend to Agree	Tend to Disagree	Disagree
The nurse/midwives have maternal health care skills and understands their work well	58 (31.0%)	120 (64.2%)	9 (4.8%)	0 (0.0%)
The Service Providers are friendly at all times	19 (10.2%)	99 (52.9%)	60 (32.1%)	9 (4.8%)
The nurses/midwives providing maternal health care services seem to enjoy their work	29 (15.5%)	120 (64.2%)	38 (20.3%)	0 (0.0%)
The nurses/midwives providing maternal health care services have good relationship with their clients	16 (8.6%)	114 (61.0%)	56 (29.9%)	1 (0.5%)
The nurses/midwives providing maternal health care services looks motivated and happy with their work	15 (8.0%)	81 (43.3%)	83 (44.4%)	8 (4.3%)
The nurses/midwives are deployed to their work stations due to their skills in maternal health care services	66 (35.3%)	104 (55.6%)	17 (9.1%)	0 (0.0%)
The nurses/midwives display good working relationships with other health care team members/community	25 (13.4%)	117 (62.6%)	44 (23.5%)	1 (0.5%)
Health education on maternal health care related issues is given regularly	117 (62.6%)	66 (35.3%)	4 (2.1%)	0 (0.0%)
It takes less than 30 minutes waiting to receive maternal health care services in the facility	6 (3.2%)	33 (17.6%)	94 (50.3%)	54 (28.9%)

The variables of concern were of the service providers' attributes, such as knowledge and skills in maternal services, competencies, attitudes, motivation levels, conduct and experience including the quality of services they provided.

### Responses of women who sought antenatal care

A total of 187 women who sought antenatal services gave their responses regarding the influence of service provider factors on the utilization of SBA services in the facility. The findings are presented in Table 1.



The maternal health care services offered at the facility are satisfactory	18 (9.6%)	129 (69.0%)	40 (21.4%)	0 (0.0%)
I will recommend the members of the community to seek maternal health care services in the facility	38 (20.3%)	128 (68.4%)	21 (11.2%)	0 (0.00%)

## Interpretation and discussion of results

Table 1 shows the statistical analysis of data on women utilizing antenatal services regarding the service provider factors influencing the utilization of skilled birth attendance (SBA) services. The findings reveal that 31% of the respondents agreed, while 64.2% tended to agree, that service providers possessed the appropriate skills for maternal service delivery. However, only 52.9% agreed that the service providers were friendly at all times, with just 10% rating them as consistently friendly. This aligns with the findings of Reeve et al. (2016), which suggest that an unfriendly attitude among health workers reduces the utilization of maternal and newborn health care services.<sup>7</sup>

Additionally, 61% of the women appeared to agree that the service providers had good relationships with their clients, while 20.3% tended to disagree with this statement. Further, 44.4% rated the service providers as lacking motivation, whereas only 8% felt they were motivated to provide maternal health care services. Regarding the deployment of service providers, 35.3% felt that the providers were deployed based on their skills, and 55.6% tended to agree with this perception. This finding supports the study by Turkmani et al. (2013), which indicated that women were more likely to use maternal and child health services in settings where skilled midwives had been deployed, thus

increasing maternal health care service utilization.

In terms of health education, 62.6% agreed that they received regular education about pregnancy, while 35.3% tended to agree, with none disagreeing. This suggests that health education is a regular activity at the service delivery point. Concerning waiting time, more than 50% of respondents reported waiting over 30 minutes before receiving maternal services, while only 3.2% reported receiving these services within 30 minutes. This suggests that service providers may be overwhelmed by the high number of clients, preventing the health facility from meeting the World Health Organization (WHO) recommendation that competent, well-trained staff and skilled birth attendants be available 24 hours a day in sufficient numbers to handle the expected workload (WHO, 2023).

In regard to service satisfaction, 69.8% of respondents appeared to be satisfied with the services, while 9.8% expressed satisfaction with the maternal services offered at the facility.

Additionally, 20.3% reported that they would recommend the services to other community members, and 68.4% tended to agree with recommending the services. This finding is consistent with Adjei (2015), who noted that women tend to prefer birth attendants who demonstrate empathy and a positive attitude,

such as traditional birth attendants, over those perceived to be unfriendly.

### Responses of women who sought postnatal care

A total of 190 women who sought postnatal services gave their responses regarding the influence of service provider factors on the utilization of SBA services in the facility. The study findings are presented in Table 2.

*Table 2: Responses of women seeking postnatal services on the service provider factors*

	Agree	Tend to Agree	Tend to Disagree	Disagree
The nurse/midwives have maternal health care skills and understands their work well	107 (56.3%)	81 (42.6%)	0 (0.0%)	2 (1.1%)
The Service Providers are friendly at all times	9 (4.7%)	75 (39.5%)	66 (34.7%)	40 (21.1%)
The nurses/midwives providing maternal health care services seem to enjoy their work	59 (31.1%)	120 (63.2%)	11 (5.8%)	0 (0.0%)
The nurses/midwives providing maternal health care services have good relationship with their clients	23 (12.1%)	119 (62.6%)	48 (25.3%)	0 (0.0%)
The nurses/midwives providing maternal health care services look motivated and happy with their work	9 (4.7%)	68 (35.8%)	100 (52.6%)	13 (6.8%)
The nurses/midwives are deployed to their work stations due to their skills in maternal health care services	135 (71.1%)	54 (28.4%)	1 (0.5%)	0 (0.0%)
The nurses/midwives display good working relationships with other health care team members/community	27 (14.2%)	140 (73.7%)	22 (11.6%)	1 (0.5%)
Health education on maternal health care related issues is given regularly	14 (7.4%)	97 (51.1%)	71 (37.4%)	8 (4.2%)
It takes less than 30 minutes waiting to receive maternal health care services in the facility	2 (1.1%)	41 (21.6%)	98 (51.6%)	49 (25.8%)
The maternal health care services offered at the facility was satisfactory	3 (1.6%)	153 (80.5%)	34 (17.9%)	0 (0.0%)
I will recommend the members of the community to seek maternal health care services in the facility	54 (28.4%)	120 (63.2%)	16 (8.4%)	0 (0.00%)

### Interpretation and discussion of results

Table 2 presents the findings on the influence of service provider factors on the utilization of Skilled Birth Attendant services at KCRH. Out of 190 participants of the study, 56.3% agreed that the nurses/midwives had maternal health care skills and understood their work well, while 42.6% tended to agree, none tended to disagree with the statement while 1.1% of the participants disagree. This finding concurs with the WHO (2023) recommendation that the health facility should have competent, well-trained staff and skilled birth attendants' present 24-hours a day in sufficient numbers to cope with the expected workload. Though only 4.7% agreed, 39.5% tended to agree, while 34.7% tended to disagree that the providers were friendly at all times, implying that most of the time the service providers interacted with their clients looked unfriendly. This finding is in line with that of Reeve M.et. al. (2016) that the unfriendly attitude by health workers had been shown to lower utilization of maternal and new born health care services. Though, 62.6% of women seemed to agree that the service providers had good relationship with their clients, 25.3% tended to disagree with the statement while 12.1% reported that the service providers showed good relationship with their clients.

Regarding the service provider motivation, 52.6% of women tend to disagree that the service providers were motivated with their work while only 4.7% felt the service providers were motivated to provide maternal health care services. The finding on their deployment showed that most of the postnatal women (71.1% felt that the service providers were deployed to their service delivery points based on their skills while 28.4% seemed to agree that

they were deployed based on their skills in delivery of maternal health care services.

Regarding the provision of health education to women, 7.4% of the respondents agreed that they receive health education regularly while 51.1% tended to agree and 37.4% tended to disagree with the statement. On the waiting time, most respondent (more than 50%) reported that they waited for more than 30 minutes before they received maternal health care services while only 1.1% reported that they received maternal health care services within 30 minutes. In regard to service satisfaction, 80.5% seemed to be satisfied with the services. However, only 28.4% reported that they would recommend other members of the community for the services while 63.2% tended to agree on recommending other community members to utilize the services in the health facility. This is an indication that the services were not satisfactory to the women.

Therefore, this finding agrees to that of Adjei C. A. (2015) that the quality of service in health facilities is important to change the perception of women that equate institutional delivery services by SBAs to home deliveries by TBAs. From these findings it was interpreted that the service providers seemed knowledgeable on their work, friendly and portrait good relationship with their clients and colleagues, motivated as they were deployed based on their skills. Though most women waited for more than 30 minutes to receive services, they seemed to be satisfied with the services and would recommend others for maternal services in the facility. Therefore, the service providers' knowledge, skills, attitude, competence ad their experiences influenced the utilization of skilled birth attendant services.



### Responses of service providers (nurses)

The service providers (23) who participated in the study gave their responses regarding the

factors that influenced the utilization of SBA services among women seeking services in the facility. The findings are presented in Table 3.

*Table 3: Nurses' responses on factors that influenced the utilization of SBA services among women at KCRH*

	Agree	Tend to Agree	Tend to Disagree	Disagree
I have been trained on BEmOC/CEmOC	12 (52.2%)	0 (0.0%)	0 (0.0%)	11 (47.8%)
I underwent maternal health care in service training in the past six months	5 (21.7%)	0 (0.0%)	0 (0.0%)	18 (78.3%)
My deployment to work in my current department is my choice	4 (17.4%)	9 (39.1%)	6 (26.1%)	4 (17.4%)
I enjoy providing maternal health care service to my clients	14 (60.9%)	8 (34.8%)	1 (4.3%)	0 (0.0%)
The number of nurses/midwives working in my department is adequate	0 (0.0%)	5 (21.7%)	7 (30.4%)	11 (47.8%)
Health education on maternal health care related issues is given regularly	6 (26.1%)	1 (4.3%)	12 (52.2%)	4 (17.4%)
The maternal health care services offered at the facility is satisfactory	6 (26.1%)	16 (69.6%)	1 (4.3%)	0 (0.0%)
BEmOC/CEmOC training has contributed to quality of maternal health care services delivery	18 (78.3%)	5 (21.7%)	0 (0.0%)	0 (0.0%)
I would recommend a friend/relative to seek maternal health care services in the facility	3 (13.0%)	20 (87.0%)	0 (0.0%)	0 (0.00%)

### Interpretation and discussion of results

The study findings shown in Table 3 suggested that while a slight majority (52.2%) of service providers had received training on Basic Emergency Obstetric Care (BEmOC) or Comprehensive Emergency Obstetric Care (CEmOC), a significant gap remains in training,

which aligns with the findings of Ueno et al. (2015), indicating ongoing deficits in the training of service providers to enhance maternal service delivery. Only a minimal proportion (1.7%) had received maternal healthcare in-service training in the six months preceding the data collection. Concerning

deployment, 17.4% of service providers reported that their deployment was by choice, while over half felt the decision was made by hospital management without their consent. Despite these circumstances, 60.9% of the service providers expressed satisfaction in providing maternal healthcare services, even if the department was not their initial choice.

In terms of staffing, nearly half (47.8%) of respondents felt that there were insufficient nurses in their departments compared to the workload, with no respondents considering staffing levels to be adequate. This indicates that the facility does not meet the WHO (2017) recommendation for having adequate and competent skilled birth attendants. Additionally, the majority (52.2%) of respondents disagreed with the statement that the provision of basic health education to women of reproductive age was adequate, a perspective likely influenced by the high workload and insufficient staff.

The findings on service satisfaction indicated that 69.6% of respondents believed the services they provided were satisfactory, while only 26% were confident that the facility's services met the necessary standards. This reflects uncertainty among service providers regarding the quality of the services offered, likely due to staff shortages. Despite this, most providers (78.3%) believed that BEmOC/CEmOC training improved the quality of maternal healthcare services, and a high proportion (87%) would recommend the facility for maternal health services to friends or relatives.

## Conclusions

The study concluded that most service providers were adequately trained, knowledgeable, and skilled in delivering maternal healthcare services, and generally enjoyed their work. Over 50% had received BEmOC/CEmOC training and were deployed based on professional qualifications, although many felt demotivated and unfriendly toward clients. It was also noted that while maternal services were perceived as satisfactory by most women, there was reluctance to recommend the facility due to perceived provider attitudes and unfriendliness, consistent with findings from other studies (Reeve et al., 2016; Effiong et al., 2020).

The study emphasizes that provider attributes—such as knowledge, skills, competencies, attitude, motivation, conduct, and experience—significantly impact the utilization of skilled birth attendant services, as also highlighted by Effiong et al. (2020). Additionally, WHO (2017) recommends that service providers be motivated, friendly, and correctly deployed to offer individualized care.

## Recommendations

1. The department of health, Nandi County need to address the issues surrounding service provider welfare, specializes trainings and employment of adequate personnel to improve the quality of maternal health care services in the facility and promote customer satisfaction
2. Further research be conduct to establish the best strategies that can promote and sustain the utilization of Skilled Birth Attendant's services
- 3.

among women at Kapsabet County Referral Hospital, for better health outcome during pregnancy, labour and childbirth.

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