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Original Research Article

Assessment and Management of Vaginal Bleeding during Pregnancy by Healthcare Professionals in a Teaching Hospital in Southeast Nigeria

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Abstract

Vaginal bleeding during pregnancy is a critical obstetric complication that demands prompt and effective management to ensure maternal and fetal health. This study evaluates the knowledge, attitudes, practices, and management strategies of healthcare professionals addressing vaginal bleeding during pregnancy in a teaching hospital in Southeast Nigeria. A descriptive cross-sectional study was conducted at a teaching hospital in Southeast Nigeria, involving 125 healthcare professionals (obstetricians, resident doctors, midwives, and nurses). Stratified random sampling ensured representation across cadres. A structured, validated questionnaire collected data on knowledge, attitudes, practices, and challenges. Data were analyzed using descriptive statistics. Participants demonstrated high awareness of vaginal bleeding causes (e.g., placenta previa: 19.22%, miscarriage: 26.33%). Most (84.80%) were aware of FIGO guidelines. Confidence in managing cases was high (61.60% very confident), with 100% conducting follow-ups for treated patients. Challenges included delays in patient presentation (45.53%) and financial constraints (26.42%). Recommendations for improving care included better diagnostic tools (20.74%) and financial assistance (36.70%). Healthcare professionals showed commendable knowledge and adherence to guidelines but faced systemic challenges. Enhanced training, resource allocation, and updated clinical protocols could improve outcomes. Findings align with previous studies highlighting similar knowledge gaps and systemic challenges in resource-limited settings.

Keywords: Healthcare professionals, Management practices, Maternal care, Obstetric emergencies, Pregnancy complications, Vaginal bleeding

INTRODUCTION

Vaginal bleeding during pregnancy is a significant obstetric concern that impacts maternal and fetal health outcomes. It is a common presentation in emergency obstetrics and can result from various conditions, ranging from implantation bleeding in early pregnancy to placenta previa, placental abruption, or preterm labor in later gestation (Khan et al., 2023). The proper assessment and management of vaginal bleeding by healthcare professionals are critical to mitigating adverse outcomes such as preterm delivery, low birth weight, and maternal morbidity or mortality (World Health Organization (WHO), 2022).

In low-resource settings like Southeast Nigeria, where maternal healthcare challenges persist, vaginal bleeding

poses unique diagnostic and therapeutic challenges. Limited access to diagnostic tools, inadequate staffing, and a high burden of comorbidities such as anemia and infections further complicate effective management (Okafor et al., 2021). Moreover, cultural beliefs and delays in seeking medical attention exacerbate the risks associated with vaginal bleeding, underscoring the importance of equipping healthcare professionals with the skills and resources to manage such cases effectively.

Globally, approximately 15–25% of pregnant women experience some form of vaginal bleeding during the first trimester, with variations in prevalence across regions and healthcare settings (Smith et al., 2023). In sub-Saharan Africa, the rates are higher due to the prevalence of underlying factors such as infections, hypertensive disorders, and inadequate prenatal care (Eze et al., 2022). Risk factors for vaginal bleeding include advanced maternal age, multiple gestations, a history of miscarriages, and uterine abnormalities. Other contributory factors in the Nigerian context include low socioeconomic status, lack of awareness, and limited antenatal care attendance (Onyebuchi et al., 2021).

The clinical assessment of vaginal bleeding in pregnancy involves a multidisciplinary approach, including history-taking, physical examination, laboratory investigations, and ultrasonography. The use of ultrasound has revolutionized the diagnosis of conditions like ectopic pregnancy and placenta previa, allowing for timely interventions (Higgins et al., 2023). However, the availability and utilization of such diagnostic tools remain uneven in Southeast Nigeria, with many healthcare facilities relying on clinical judgment alone due to resource constraints (Okorie et al., 2022).

Management of vaginal bleeding during pregnancy depends on the underlying cause, gestational age, and the severity of bleeding. In the first trimester, treatment often focuses on stabilizing the patient and addressing conditions such as threatened miscarriage or ectopic pregnancy. In the second and third trimesters, emphasis shifts to managing complications such as placenta previa or placental abruption (WHO, 2022). Evidence-based guidelines recommend the use of corticosteroids to improve fetal lung maturity in cases of preterm labor and blood transfusions for severe hemorrhage (Anya et al., 2023). However, adherence to these guidelines varies widely, influenced by the availability of resources, training, and institutional protocols (Adebayo et al., 2021).

The competence of healthcare professionals in managing vaginal bleeding during pregnancy is pivotal to ensuring positive outcomes. Training programs and continuing medical education play crucial roles in equipping clinicians with up-to-date knowledge and skills. In Southeast Nigeria, studies have highlighted gaps in knowledge among healthcare providers, particularly in the recognition and management of high-risk cases (Onwukwe et al., 2022). Addressing these gaps through targeted training and the integration of standardized protocols can enhance the quality of care and reduce maternal and fetal complications.

Cultural perceptions surrounding pregnancy and childbirth significantly influence healthcare-seeking behaviors in Southeast Nigeria. Many women initially consult traditional birth attendants or rely on herbal remedies, leading to delays in accessing professional care (Umeh et al., 2021). Systemic challenges, including inadequate infrastructure, poor referral systems, and limited funding for maternal health services, further compound the problem. Strengthening the healthcare system through policy reforms, increased funding, and community engagement is essential to improving outcomes for women experiencing vaginal bleeding during pregnancy (Okoye et al., 2023).

This study aims to assess the practices and challenges faced by healthcare professionals in managing vaginal bleeding during pregnancy in a teaching hospital in Southeast Nigeria. By identifying gaps in knowledge, skills, and resource availability, the findings will inform the development of targeted interventions to enhance clinical outcomes. Furthermore, the study contributes to the growing body of evidence needed to advocate for improved maternal health policies and investments in the Nigerian healthcare system.

MATERIALS AND METHODS

Study Design

This study employed a descriptive cross-sectional design to assess the knowledge, practices, and management strategies employed by healthcare professionals in addressing vaginal bleeding during pregnancy. The study also evaluated the availability of resources and adherence to clinical guidelines in a teaching hospital in Southeast Nigeria.

Study Area

The research was conducted at a tertiary teaching hospital in Southeast Nigeria, renowned for its comprehensive obstetric and gynecological care. The hospital serves as a referral center for primary and secondary healthcare facilities across the region and caters to a diverse population of patients from urban and rural areas.

Study Population

The study population included healthcare professionals actively involved in the management of obstetric cases, including:

- Obstetricians and gynecologists

- Resident doctors in obstetrics and gynecology
- Midwives
- Nurses working in the antenatal, labor, and emergency units

Inclusion Criteria

1. Healthcare professionals with at least six months of clinical experience in obstetric care.
2. Participants who provided informed consent.

Exclusion Criterion

1. Professionals on extended leave during the study period.

Sampling Technique

Stratified random sampling was used to ensure representation across all relevant cadres of healthcare professionals. Each stratum (e.g., obstetricians, midwives) was proportionately represented based on hospital staff records.

Data Collection Instrument

A structured questionnaire was used as the primary data collection instrument. The questionnaire was developed based on previous studies on vaginal bleeding and modified to suit the study context. It consisted of both open-ended and close-ended questions and be divided into five sections:

- **Section A**: Socio-demographic information.
- **Section B**: Knowledge of Vaginal Bleeding during Pregnancy
- **Section C**: Attitudes toward Management of Vaginal Bleeding
- **Section D**: Management of Vaginal Bleeding in Pregnancy
- **Section E: Challenges and Recommendations**

Validity and Reliability

- **Validity**: Content validity was ensured by consulting obstetricians, gynecologists, and healthcare professionals in maternal care to review the questionnaire for relevance, clarity, and comprehensiveness.
- **Reliability**: A pilot study was conducted with 10% of the total sample size in a non-participating state to assess the internal consistency of the instrument. The Cronbach's alpha coefficient was calculated, with a value of ≥ 0.7 considered acceptable for reliability.

Data Collection Procedure

The researchers administered the questionnaire to the participants. The researchers explained the purpose of the study to participants, obtained informed consent and assisted with clarifying questions when necessary. Data collection spanned over six months to ensure that an adequate number of participants from diverse settings were sampled.

Ethical Considerations

Ethical approval was obtained from the institutional ethics review board of the teaching hospital. Written informed consent was obtained from all participants. Data confidentiality and anonymity were maintained throughout the study.

Statistical Analysis

The collected data was analyzed using the Microsoft Excel (2019 version). Descriptive statistics such as frequencies and percentages were used to summarize the demographic characteristics and management of vaginal bleeding.

RESULTS

The study population predominantly consisted of individuals aged 30–39 years (48.8%), followed by those aged 40–49 years (30.4%). Most participants were female (63.2%) and married (67.2%). A significant proportion were nurses or midwives (55.2%), with 63.2% working in the Obstetrics and Gynecology department. Regarding professional experience, 37.6% had less than five years, while only 15.2% had over 15 years of experience (Table 1).

Participants identified miscarriage (26.33%) and cervical insufficiency (19.57%) as the most common causes of vaginal bleeding during pregnancy. The first trimester was considered the most critical period for evaluation by 78.4% of respondents. Key diagnostic tests included coagulation profiles (34.9%) and speculum examinations (28.19%). Notably, 84.8% were aware of FIGO guidelines for managing vaginal bleeding (Table 2).

Most respondents (65.6%) believed vaginal bleeding during pregnancy required hospitalization. Confidence levels in managing such cases were high, with 61.6% feeling "very confident." All respondents agreed on the necessity of regular training for managing obstetric emergencies. Additionally, 60% acknowledged that cultural beliefs influenced patient reporting (Table 3).

Cases of vaginal bleeding were encountered monthly by 63.2% of participants. Prioritization often depended on

Table 1. Demographic Information

Variable	Frequency (n = 125)	Percentage (%)
Age:		
20–29 years	12	9.60
30–39 years	61	48.80
40–49 years	38	30.40
50 years and above	14	11.20
Gender:		
Male	46	36.80
Female	79	63.20
Marital Status:		
Single	24	19.20
Married	84	67.20
Divorced/Widowed	17	13.60
Professional Role:		
Doctor	49	39.20
Nurse/Midwife	69	55.20
Others	7	5.60
Department:		
Obstetrics and Gynecology	79	63.20
General Practice	08	6.40
Emergency Unit	27	21.60
Others	11	8.80
Years of Professional Experience:		
Less than 5 years	47	37.60
5–10 years	39	31.20
11–15 years	29	23.20
Above 15 years	10	8.00

Table 2. Knowledge of Vaginal Bleeding during Pregnancy

Variable	Frequency (n = 125)	Percentage (%)
***What are the common causes of vaginal bleeding during pregnancy? (Select all that apply) (n = 281)**		
Placenta previa	54	19.22
Abruptio placentae	21	7.47
Ectopic pregnancy	45	16.01
Miscarriage	74	26.33
Cervical insufficiency	55	19.57
Others	32	11.39
At what trimester(s) is vaginal bleeding most critical to evaluate?		0.00
First	98	78.40
Second	21	16.80
Third	00	0.00
All trimesters	06	4.80
***What diagnostic tests do you consider essential for assessing vaginal bleeding? (Select all that apply) (n = 149)**		0.00
Ultrasound	32	21.48
Speculum examination	42	28.19
Complete blood count (CBC)	12	8.05
Coagulation profile	52	34.90

Table 2. Cont.

Others	11	7.38
Are you aware of the FIGO guidelines for managing vaginal bleeding in pregnancy?		0.00
Yes	106	84.80
No	19	15.20

*represents multiple responses

Table 3. Attitudes toward Management of Vaginal Bleeding

Variable	Frequency	Percentage (%)
Do you believe vaginal bleeding during pregnancy always requires hospitalization?		
Yes	82	65.60
No	13	10.40
Sometimes	30	24.00
How confident are you in managing cases of vaginal bleeding?		
Very confident	77	61.60
Moderately confident	37	29.60
Not confident	11	8.80
Do you believe all healthcare providers should receive regular training on managing obstetric emergencies?		
Strongly agree	83	66.40
Agree	42	33.60
Neutral	00	0.00
Disagree	00	0.00
Strongly disagree	00	0.00
Do cultural beliefs affect patient reporting of vaginal bleeding during pregnancy in your experience?		
Yes	75	60.00
No	50	40.00

Table 4. Management of Vaginal Bleeding in Pregnancy

Variable	Frequency (n = 125)	Percentage (%)
How often do you encounter cases of vaginal bleeding during pregnancy in your practice?		
Frequently (weekly)	23	18.40
Occasionally (monthly)	79	63.20
Rarely	23	18.40
How do you prioritize cases of vaginal bleeding during pregnancy?		
Based on the severity of symptoms	35	28.00
Based on gestational age	54	43.20
Based on patient history	32	25.60
Other criteria	04	3.20

Table 4. Cont.

Do you conduct follow-up assessments for patients treated for vaginal bleeding?		
Yes, routinely	125	100.00
Occasionally	00	0.00
No	00	0.00
What is your first line of treatment for mild cases of vaginal bleeding during pregnancy?		
Bed rest	76	60.80
Medications	20	16.00
Observation and monitoring	29	23.20
Others	00	0.00
***What measures do you take for severe cases of vaginal bleeding? (Select all that apply) (n = 199)**		
Immediate hospitalization	88	44.22
Blood transfusion	39	19.60
Surgical intervention (e.g., cesarean section)	18	9.05
Administering medications (e.g., tocolytics, corticosteroids)	54	27.14
Referral to a higher-level facility	00	0.00
How do you involve multidisciplinary teams in managing such cases?		
Always	18	14.40
Occasionally	95	76.00
Rarely	12	9.60
Never	00	0.00

*represents multiple responses

Table 5. Challenges and Recommendations

Variable	Frequency	Percentage (%)
***What challenges do you face in managing cases of vaginal bleeding during pregnancy? (Select all that apply) (n = 246)**		
Limited diagnostic tools	33	13.41
Shortage of staff	23	9.35
Delay in patient presentation	112	45.53
Financial constraints for patients	65	26.42
Others	13	5.28
Are there protocols or guidelines in your institution for managing vaginal bleeding during pregnancy?		0.00
Yes	116	92.80
No	00	0.00
Unsure	09	7.20
If yes, how often are these protocols updated?		0.00
Annually	11	8.80
Every two years	18	14.40

Table 5. Cont.

Rarely	30	24.00
Unsure	66	52.80
Do you receive regular updates or training on obstetric emergencies?		0.00
Yes	98	78.40
No	27	21.60
***What improvements do you suggest for better management of vaginal bleeding during pregnancy in your facility? (Select all that apply) (n = 188)**		0.00
Increased staff training and workshops	11	5.85
Improved diagnostic tools and equipment	39	20.74
Better referral systems	44	23.40
Financial assistance for patients	69	36.70
Development/Update of clinical guidelines	25	13.30
Others	00	0.00
Would you recommend specialized units for managing obstetric emergencies in your facility?		0.00
Yes	32	25.60
No	64	51.20
Maybe	29	23.20

*represents multiple responses

gestational age (43.2%). Bed rest was the first-line treatment for mild cases (60.8%), while immediate hospitalization was the most common measure for severe cases (44.22%). Multidisciplinary teams were occasionally involved in 76% of cases (Table 4).

The main challenge identified was delays in patient presentation (45.53%), followed by financial constraints (26.42%). Most facilities had protocols for managing vaginal bleeding (92.8%), but updates were infrequent, with 52.8% unsure about update frequency. Recommendations included financial assistance for patients (36.7%) and improved referral systems (23.4%) (Table 5).

DISCUSSION

This study assessed the knowledge, attitudes, and practices of healthcare professionals regarding vaginal bleeding during pregnancy in a teaching hospital in Southeast Nigeria. The results reveal valuable insights into the demographic characteristics, knowledge base, attitudes, practices, and challenges faced by these professionals. The majority of respondents (63.20%) were female, which aligns with the findings of Afolabi et al. (2020), who reported similar gender distributions in obstetric and gynecological healthcare settings. Most participants were in the 30–39 age group (48.80%) and had substantial professional experience, with 62.40% having more than five years of experience. This contrasts with findings from Oladapo et al. (2019), where younger professionals with fewer years of experience were more prevalent in urban teaching hospitals. The predominance of nurses/midwives (55.20%) reflects the critical role these professionals play in managing obstetric emergencies, consistent with findings by Kumbani et al. (2021).

Respondents demonstrated substantial awareness of the causes of vaginal bleeding during pregnancy, with miscarriage (26.33%), cervical insufficiency (19.57%), and placenta previa (19.22%) being the most commonly recognized causes. This aligns with WHO (2022) guidelines, which highlight these conditions as leading contributors to vaginal bleeding in pregnancy. A significant majority (78.40%) identified the first trimester as the most critical period for evaluation, mirroring findings by Chukwuma et al. (2021), who emphasized the higher prevalence of pregnancy loss during this period.

The high awareness of FIGO guidelines (84.80%) is encouraging and demonstrates a well-informed professional base. However, knowledge of diagnostic tools showed variability, with ultrasound and coagulation profiles being the most cited, while complete blood count (CBC) was mentioned less frequently. This differs from Oyelese et al. (2018), who reported CBC as a primary diagnostic tool in tertiary healthcare centers.

The majority of respondents (65.60%) believed that vaginal bleeding during pregnancy always requires hospitalization, underscoring a cautious approach to management. This aligns with the recommendations of the Royal College of Obstetricians and Gynaecologists (RCOG, 2022), which advocate for close monitoring and, if necessary, hospitalization for significant bleeding cases. Confidence in managing these cases was high (61.60% very confident), which correlates with findings by Fakeye et al. (2020), who noted that confidence levels are often linked to professional training and experience.

Interestingly, 60% of respondents reported cultural beliefs as barriers to patient reporting, highlighting a socio-cultural dimension that was also noted by Aluko et al. (2019) in rural Nigerian communities.

Most respondents (63.20%) encounter cases of vaginal bleeding occasionally (monthly), emphasizing the relative frequency of these cases in clinical practice. Prioritization based on gestational age (43.20%) was the most common criterion, aligning with standard clinical practices. Bed rest (60.80%) was the first-line treatment for mild cases, consistent with Kuliya-Gwarzo et al. (2021), who emphasized conservative management for non-severe bleeding.

Management of severe cases showed a preference for immediate hospitalization (44.22%) and administering medications (27.14%). These practices align with the recommendations of FIGO (2021) for managing obstetric hemorrhage but deviate slightly from those reported by Eze et al. (2020), who observed higher rates of surgical interventions.

Delayed patient presentation (45.53%) and financial constraints (26.42%) were the most frequently cited challenges, corroborating findings by Adepoju et al. (2021), who identified similar barriers in low-resource settings. The availability of institutional guidelines (92.80%) is promising; however, the lack of regular updates (52.80% unsure) highlights a critical gap, as noted by Odetola et al. (2019). The suggestion for improved referral systems (23.40%) and financial assistance for patients (36.70%) reflects ongoing challenges in resource allocation and access to care.

While this study aligns with many findings from previous research, some discrepancies warrant attention. For instance, the underutilization of CBC as a diagnostic tool contrasts with its frequent use in other studies (Oyelese et al., 2018). Additionally, the absence of referrals to higher-level facilities for severe cases is unusual, as recommended by the Nigerian Obstetric Emergency Guidelines (2020). The high confidence levels and awareness of guidelines suggest that these professionals are well-prepared, yet infrastructural and socio-cultural barriers persist, as highlighted by previous literature.

CONCLUSION

The study underscores the knowledge and proactive attitudes of healthcare professionals regarding the management of vaginal bleeding during pregnancy in Southeast Nigeria. However, challenges such as delayed presentation, financial constraints, and infrastructural deficits remain significant. Addressing these barriers through regular updates to clinical guidelines, enhanced training, and improved resource allocation will likely improve outcomes for affected patients.

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