

PERCEIVED CAUSES AND PREVENTION OF POSTPARTUM HEMORRHAGE AMONG NURSING MOTHERS IN OFFA LOCAL GOVERNMENT AREA, KWARA STATE

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Abstract

The risk of maternal death from postpartum haemorrhage (PPH) represents one of the greatest challenges in global health. Assessing the risk factors could help to prevent and control its negative consequences. This study examined the perceived causes and prevention of PPH among nursing mothers in Offa LGA, Kwara State. A descriptive research design of the survey type was adopted. The population of the study comprised nursing mothers in Offa LGA, Kwara State. Three hundred and five (305) respondents were sampled. The instrument used for data collection was a structured, validated and reliable questionnaire. Chi-square statistics were employed for data analysis at 0.05 alpha level. The findings of the study were that prolonged labour ($\chi^2=221.03, P<0.05$) and placenta abnormalities ($\chi^2=257.44, P<0.05$) are perceived causes while accessibility of maternal health services ($\chi^2=312.91, P<0.05$) and adequate training of traditional birth attendants (TBAs) ($\chi^2=333.06, P<0.05$) are perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State. It was recommended that regular and comprehensive antenatal care should be made accessible to all pregnant women as a key strategy to achieve SDG 3 by reducing maternal and neonatal mortality through early detection and management of placental complications.

Keywords: Postpartum Haemorrhage, Nursing Mothers, Causes, Prevention, Maternal Health Services

Introduction

The postpartum period begins approximately one hour after the expulsion of the placenta and extends for 42 days. During this time, postpartum haemorrhage (PPH) remains one of the most significant contributors to maternal morbidity and mortality worldwide. It is associated with severe maternal conditions such as shock, organ dysfunction, and long-term disability (Mohamed & Chandharan, 2025). In African and Asian countries, where most maternal deaths occur, PPH alone accounts for more than 30% of all maternal deaths, with uterine atony, which is failure of the uterus to contract adequately after childbirth, responsible for 60% to 80% of cases (Abdullahi et al., 2022). In Nigeria, hospital-based studies remain the primary source of data due to the lack of reliable national vital statistics (Olamijulo et al., 2023). Evidence shows that PPH accounts for between 8.6% and 35.6% of maternal deaths in Nigeria, where maternal mortality rates have been estimated at 1930 per 100,000 live births (Faduyile et al., 2017). This is in sharp contrast to the United Kingdom, where maternal mortality from PPH is less than 0.5 per 100,000 live births (Fleming et al., 2012).

Primary PPH, the most common form of obstetric haemorrhage, is traditionally

defined as blood loss of 500 ml or more within 24 hours of birth (Kodla, 2015). It is classified as minor (500–1000 ml) or major (>1000 ml), with major PPH further subdivided into moderate (1000–2000 ml) and severe (>2000 ml). Secondary PPH, though less common, occurs between 24 hours and 12 weeks postpartum (Habitamu et al., 2019). Approximately 3% to 5% of obstetric patients experience PPH annually, making it a leading cause of maternal mortality worldwide (Ubom et al., 2025). These preventable events account for nearly one-fourth of maternal deaths globally and 12% of maternal deaths in the United States (Devi et al., 2015). A woman suffering from PPH can die within two hours if immediate medical attention is not provided, and every minute of delay increases the likelihood of fatality. In high-income countries, PPH contributes to more than 50% of severe maternal morbidity (Zwart et al., 2008). Although recent studies have shown an increasing trend in PPH, the precise causes remain uncertain, with obstetric interventions such as induction of labour and oxytocin administration believed to play a role (Ford et al., 2007; Kramer et al., 2013; Aksoy, et al. 2025).

Changes in obstetric practices have also been linked to prolonged labour durations, which may elevate the risk of PPH. A study comparing labour patterns in the 1960s with modern cohorts found that the first stage of labour has become longer, with increased use of interventions such as oxytocin, epidurals, and induction of labour, alongside maternal factors such as older age and higher body mass index (Laughon et al., 2012). Even after adjusting for maternal and pregnancy characteristics, the increase in labour duration persisted, suggesting that changes in obstetric practices may be the primary reason for the rise in PPH. Normal labour has been defined as an infant being born within 12 hours of active labour (Gould, 2002), while the World Health Organization (WHO, 2016a) defines prolonged active labour as painful contractions lasting more than 12 hours after cervical dilation of ≥ 4 cm. Several studies have explored the association between prolonged labour and PPH, with some reporting that a prolonged second stage is linked to increased risk (Janni et al., 2002; Pergialiotis, et al., 2020; Chikkamath et al., 2021), while others found conflicting results regarding the first stage (Cheng et al., 2009; Le Ray et al., 2011; Nyfløt et al., 2017).

Other risk factors for PPH include parity, high offspring birth weight, labour dystocia, and caesarean section (Al-Zirgi et al., 2008; Siggelkow et al., 2008; Sosa et al., 2009; Fenn et al., 2024). Placental complications such as placenta praevia, placental abruption, retained placenta, and pre-eclampsia are also closely associated with excess haemorrhage (Eskild & Vatten, 2009; Lu et al., 2009; Perlman & Carusi, 2019; Young et al., 2023). Larger placental size, which correlates strongly with birthweight, has been linked to increased risk of PPH (Eskild & Vatten, 2010). Deliveries of large babies may impair uterine contractions, leading to prolonged bleeding (Siggelkow et al., 2008). Similarly, labour dystocia can result in impaired uterine contractions after delivery, further increasing the risk of longstanding PPH (Young et al., 2023).

The availability and accessibility of maternal healthcare services play a crucial role in PPH prevention. Skilled birth attendants are essential for early detection and management of PPH, as they are trained to recognize risk factors and administer life-saving interventions such as uterotonics (Akter et al., 2022). Women who deliver without skilled attendants face significantly higher risks due to delayed recognition

and inadequate emergency responses (Campbell et al., 2016). Timely access to emergency obstetric care (EmOC), including blood transfusions and surgical interventions, is pivotal in preventing maternal deaths (Ijadunola et al., 2010). Improving geographical and financial accessibility to EmOC has been shown to significantly reduce maternal mortality related to PPH (Chauke, 2025). However, in low-income countries, barriers such as inadequate transportation, high costs, and poor health infrastructure contribute to delays in care (Moyer & Mustafa, 2013). While the WHO advocated for training traditional birth attendants (TBAs) in the 1970s, subsequent reviews found limited evidence that TBA training alone reduces maternal mortality (Sibley et al., 2012).

In Bangladesh, more than 70% of women deliver at home, with only 32% attended by medically trained providers (National Institute of Population Research and Training (NIPRT), 2022). Despite extensive rural health infrastructure, challenges in making skilled birth attendants available persist (Mridha et al., 2009; Amutah-Onukagha et al., 2017). Government initiatives to train community health workers as SBAs have faced implementation difficulties, with minimal impact on delivery coverage (NIPRT, 2019). Although rates of skilled attendance have increased, most births (63%) remain attended by TBAs, whether trained or untrained (NIPRT, 2022). Qualitative research shows that women often prefer TBAs due to cultural familiarity, especially when SBAs are young, unmarried, or childless (Sarker et al., 2016). TBAs, embedded within community structures, can influence women's choices and coordinate referrals to health facilities (Rutledge et al., 2024). Incorporating TBAs into formal healthcare systems has been shown to increase skilled birth attendance and utilization of services (Kassie et al., 2022).

In Nigeria's Offa Local Government Area, Kwara State, nursing mothers report persistent concerns about excessive bleeding after childbirth, often misinterpreted as normal postpartum discharge. This lack of awareness about PPH and its warning signs delays medical intervention, increasing risks of severe anaemia, infections, or maternal death. Cultural beliefs and limited maternal health education further exacerbate the problem, while the absence of widespread screening and follow-up care leaves many women vulnerable (Opara et al., 2024). The scarcity of localized research addressing perceptions of PPH among nursing mothers in Offa LGA limits the development of targeted interventions. Understanding how women perceive the causes and prevention of PPH is crucial for designing community-based maternal health programs that address cultural practices, improve awareness, and strengthen healthcare delivery systems.

Research Questions

The following questions were answered;

1. Will prolonged labour be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State?
2. Will placenta abnormalities be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State?
3. Will accessibility to maternal health services be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State?
4. Will adequate training of TBAs be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State?

Research Hypotheses

The following hypotheses were tested;

1. Prolonged labour will not significantly be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State.
2. Placenta abnormalities will not significantly be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State.
3. Accessibility of maternal health services will not significantly be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State.
4. Adequate training of TBAs will not significantly be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State.

Methodology

The research design that was used for this study was a descriptive research design of the survey method. The population of this study comprised all nursing mothers in Offa LGA, Kwara State. The population of resident of Offa LGAs is 15,812 (Kwara State Ministry of Health, 2025). A multi-stage sampling procedure was employed in this research. In the first stage, simple random sampling technique using the fishbowl method was used to select 5 out of 12 wards in Offa LGA, Kwara State, the five selected wards are Essa A, Shawo South East, Essa B, Ojomu Central 1 and Shawo South West. In the second stage, a proportionate sampling technique was used to select 4% of nursing mothers from each of the five selected wards. In the final stage, convenience sampling technique was used to select a total of 305 respondents for the study who have a child between the age of 0 and 2years and reside in Offa LGA as at the time of study and were willing and ready to participate in the study.

Table 1: Sample Size of Population

Wards	Nursing Mother Population	Proportionate Sample (4%)	Actual Sample
Essa A	1,652	66.1	66
Shawo South East	2,021	84.1	84
Essa B	1,042	41.7	42
Ojomu Central 1	1,822	72.9	73
Shawo South West	992	39.7	40
Total	7,529	304.5	305

Source: (Kwara State Ministry of Health, 2025). To obtain the perception of nursing mothers on the causes and prevention of PPH, we design a structured questionnaire for data collection. The questionnaire was based on four-point Likert format of rating scale of Strongly Agreed (SA), Agreed (A), Strongly Disagreed (SD) and Disagreed (D). To ascertain the validity of the instrument, the questionnaire was validated by three (3) experts in regards to the face and content validity of the instrument. To determine the reliability of the instrument, the researcher adopted the test re-test method whereby the questionnaire was administered on a group of respondents two times within an interval of two (2) weeks in an area that is not part of the study area (Oyun LGA). The results obtained from the two tests were compared using the Pearson Product Moment Correlation (PPMC) and coefficient of 0.80 was obtained which showed that the instrument was reliable enough for the study. During the data collection, the rights and dignity of participants and their privacy were considered. The researchers sought the informed consent of all those who participated in the study.

When approaching an individual and group, their consent to participate in the study was requested for. The data gathered after the administration of the questionnaires was analysed using the descriptive statistics of percentage to answer the research questions while inferential statistics of Chi-square was used to test the postulated hypotheses at 0.05 alpha level.

Results

Answer to Research Questions

Research Question 1: Will prolonged labour be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State?

Table 2: Percentage Analysis of Prolonged Labor as a Perceived Cause of PPH

S/ N	ITEMS	SA	A	Positive Response	D	SD	Negative Response
1	Prolonged labour significantly increases the risk of PPH among pregnant women.	145 (47.5%)	100 (32.8%)	245 (80.3%)	35 (11.5%)	25 (8.2%)	60 (19.7%)
2	Women who experience prolonged labour are more likely to suffer excessive bleeding after delivery.	130 (42.6%)	95 (31.1%)	225 (73.8%)	45 (14.8%)	35 (11.5%)	80 (26.2%)
3	The duration of labour has no impact on the likelihood of PPH.	40 (13.1%)	30 (9.8%)	70 (23.0%)	110 (36.1%)	125 (41.0%)	235 (77.0%)
4	Proper medical intervention during prolonged labour can effectively reduce the risk of PPH.	125 (41.0%)	105 (34.4%)	230 (75.4%)	45 (14.8%)	30 (9.8%)	75 (24.6%)
Mean				193 (63.3%)	113 (36.7%)		

Table 2 shows that the mean of positive responses by the respondents to the items is 193 (63.3%), which is significantly higher than the mean of negative responses of 113 (36.7%). This shows that prolonged labour is a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State.

Research Question 2: Will placenta abnormalities be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State?

Table 3: Percentage Analysis of Placenta Abnormalities as a Perceived Cause of PPH

S/N	ITEMS	SA	A	Positive Response	D	SD	Negative Response
1	Placenta abnormalities, such as placenta previa and placenta accreta, significantly increase the risk of PPH.	125 (41.0%)	90 (29.5%)	215 (70.5%)	50 (16.4%)	40 (13.1%)	90 (29.5%)
2	Failure of the placenta to detach properly after delivery is a major cause of PPH.	140 (45.9%)	100 (32.8%)	240 (78.7%)	40 (13.1%)	25 (8.2%)	65 (21.3%)
3	Placental abnormalities have little or no impact on the occurrence of PPH.	30 (9.8%)	25 (8.2%)	55 (18.0%)	115 (37.7%)	135 (44.3%)	250 (82.0%)
4	Early detection and management of placental abnormalities can help prevent PPH.	135 (44.3%)	95 (31.1%)	230 (75.4%)	45 (14.8%)	30 (9.8%)	75 (24.6%)
Mean				185 (60.7%)	120 (39.3%)		

Table 3 shows that the mean of positive responses by the respondents to the items is 185 (60.7%), which are significantly higher than the mean of negative responses of 120 (39.3%). This shows that placenta abnormality is a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State.

Research Question 3: Will accessibility to maternal health services be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State?

Table 4: Percentage Analysis of Accessibility to Maternal Health Services as a Perceived Prevention of PPH

S/N	ITEMS	SA	A	Positive Response	D	SD	Negative Response
1	Easy access to quality maternal health services significantly reduces the risk of PPH.	165 (54.1%)	130 (42.6%)	295 (96.7%)	6 (2.0%)	4 (1.3%)	10 (3.3%)
2	Limited access to maternal healthcare services increases the likelihood of PPH complications.	150 (49.2%)	135 (44.3%)	285 (93.4%)	8 (2.6%)	12 (3.9%)	20 (6.6%)
3	The availability of skilled birth attendants and emergency obstetric care has no effect on preventing PPH.	25 (8.2%)	20 (6.6%)	45 (14.8%)	130 (42.6%)	130 (42.6%)	260 (85.2%)
4	Improving maternal health services in rural and underserved areas can help prevent PPH-related deaths.	145 (47.5%)	125 (41.0%)	270 (88.5%)	20 (6.6%)	15 (4.9%)	35 (11.5%)
Mean				224 (73.4%)			81 (26.6%)

Table 4 shows that the means positive response by the respondents to the items is 224 (73.4%), which is significantly higher than the mean negative responses of 81 (26.6%). This shows that accessibility to maternal health services is a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State.

Research Question 4: Will adequate training of TBAs be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State?

Table 5: Percentage Analysis of Adequate Training of TBAs as a Perceived Prevention of PPH

S/N	ITEMS	SA	A	Positive Response	D	SD	Negative Response
1	Adequate training of TBAs improves their ability to prevent PPH.	160 (52.5%)	130 (42.6%)	290 (95.1%)	10 (3.3%)	5 (1.6%)	15 (4.9%)
2	Lack of proper training among TBAs increases the risk of PPH complications.	150 (49.2%)	125 (41.0%)	275 (90.2%)	20 (6.6%)	10 (3.3%)	30 (9.8%)
3	Providing TBAs with skills in managing PPH has no significant impact on maternal health outcomes.	30 (9.8%)	20 (6.6%)	50 (16.4%)	120 (39.3%)	135 (44.3%)	255 (83.6%)
4	Continuous education and supervision of TBAs by healthcare professionals can enhance the prevention of PPH.	145 (47.5%)	125 (41.0%)	270 (88.5%)	20 (6.6%)	15 (4.9%)	35 (11.5%)
Mean				221 (72.5%)			84 (27.5%)

Table 5 shows that the mean of positive responses by the respondents to the items is 221 (72.5%), which are significantly higher than the mean of negative responses of 84 (27.5%). This shows that adequate training of TBAs is a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State.

Test of Hypotheses

H0₁: Prolonged labour will not significantly be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State.

Table 6: Chi-Square Analysis of Prolonged Labor as a Perceived Cause of PPH

Variable	N	df	Cal. χ^2 value	Crit. χ^2 value	P value	Remark
Prolonged Labour as a Perceived Cause of PPH	305	9	221.03	16.92	0.000	H0 ₁ Rejected

Table 6 shows that the calculated chi-square value of 221.03 is greater than the critical chi-square value of 16.92 with a degree of freedom of 9 at 0.05 alpha level. Since the calculated χ^2 value is greater than the critical value, the null hypothesis which stated that prolonged labour will not significantly be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State was rejected. This implies that prolonged labour is significantly perceived as a cause of PPH among nursing mothers in Offa LGA, Kwara State.

H0₂: Placenta abnormalities will not significantly be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State.

Table 7: Chi-Square Analysis of Placenta Abnormalities as a Perceived Cause of PPH

Variable	N	df	Cal. χ^2 value	Crit. χ^2 value	P value	Remark
Placenta Abnormalities as a Perceived Cause of PPH	305	9	257.44	16.92	0.000	H0 ₂ Rejected

Table 7 shows that the calculated chi-square value of 257.44 is greater than the critical chi-square value of 16.92 with a degree of freedom of 9 at 0.05 alpha level. Since the calculated χ^2 value is greater than the critical value, the null hypothesis which stated that placenta abnormalities will not significantly be a perceived cause of PPH among nursing mothers in Offa LGA, Kwara State was rejected. This implies that placenta abnormalities are significantly perceived as a cause of PPH among nursing mothers in Offa LGA, Kwara State.

H0₃: Accessibility of maternal health services will not significantly be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State.

Table 8: Chi-Square Analysis of Accessibility to Maternal Health Services as a Perceived Prevention of PPH

Variable	N	df	Cal. χ^2 value	Crit. χ^2 value	P value	Remark
Accessibility to Maternal Health Services as a Perceived Prevention of PPH	305	9	312.91	16.92	0.000	H0 ₃ Rejected

Table 8 shows that the calculated chi-square value of 312.91 is greater than the critical chi-square value of 16.92 with a degree of freedom of 9 at 0.05 alpha level. Since the calculated χ^2 value is greater than the critical value, the null hypothesis which stated that accessibility of maternal health services will not significantly be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State was rejected. This implies that accessibility of maternal health services is significantly

perceived as a prevention of PPH among nursing mothers in Offa LGA, Kwara State. **H04:** Adequate training of TBAs will not significantly be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State.

Table 9: Chi-Square Analysis of Adequate Training of TBAs as a Perceived Prevention of PPH

Variable	N	df	Cal. χ^2 value	Crit. χ^2 value	P value	Remark
Adequate Training of TBAs as a Perceived Prevention of PPH	305	9	333.06	16.92	0.000	H0 ₄ Rejected

Table 9 shows that the calculated chi-square value of 333.06 is greater than the critical chi-square value of 16.92 with a degree of freedom of 9 at 0.05 alpha level. Since the calculated χ^2 value is greater than the critical value, the null hypothesis which stated that adequate training of TBAs will not significantly be a perceived prevention of PPH among nursing mothers in Offa LGA, Kwara State was rejected. This implies that adequate training of TBAs is significantly perceived as a prevention of PPH among nursing mothers in Offa LGA, Kwara State.

Discussion of Findings

The study revealed that prolonged labour is a major cause of PPH among nursing mothers in Offa LGA, Kwara State. This finding aligns with the findings of several studies which demonstrated that an extended second stage of labour is significantly correlated with an increased risk of PPH, with proposed mechanisms including uterine exhaustion, heightened rates of instrumental delivery, and greater soft tissue trauma (Janni et al., 2002; Pergialiotis et al., 2020; Chikkamath et al., 2021). Conversely, research examining the first stage of labour has produced conflicting findings, with some studies failing to establish a consistent relationship between its duration and PPH incidence (Cheng et al., 2009; Le Ray et al., 2011; Nyfløt et al., 2017). These discrepancies may be attributable to methodological heterogeneity, variations in study populations, and differing definitions of prolonged labour across investigations. Taken together, the literature suggests that while prolonged labour, particularly during the second stage, may represent a contributory factor to PPH, the condition is likely multifactorial in origin, necessitating consideration of maternal characteristics, obstetric practices, and clinical management strategies in evaluating risk.

Additionally, a placenta abnormality is significantly perceived as a cause of PPH among respondents nursing mothers in Offa LGA, Kwara State. This finding is in line with the findings of previous studies which noted that complications that are closely linked to the placenta, including placenta praevia, placental abruption, as well as a retained placenta and pre-eclampsia, have been related to excess PPH (Eskild & Vatten, 2009; Lu et al., 2009; Young et al., 2023). A large placenta will typically have a large surface area attached to the uterine wall, and it is therefore conceivable that large placental size is associated with an increased risk of excess PPH. Such an association may partly explain why women who deliver large babies are at higher risk of PPH (Siggelkow et al., 2008), because birthweight and placental weight are strongly correlated (Eskild & Vatten, 2010). Also, in pregnancies with labour dystocia, uterine contractions after delivery may be impaired (Young et al., 2023).

Moreover, accessibility of maternal health services was found to be significantly perceived as a prevention of PPH among nursing mothers in Offa LGA, Kwara State. The result of this finding is in accordance with the report of Chauke (2025) emphasizes that improving the geographical and financial accessibility to EmOC significantly reduces maternal mortality related to PPH. However, in low-income countries, barriers such as inadequate transportation, high costs, and poor health infrastructure contribute to delays in receiving appropriate care (Moyer & Mustafa, 2013). Antenatal care is a preventive strategy that identifies and mitigates risk factors for PPH. Regular ANC visits enable early detection of conditions such as anaemia, hypertensive disorders, and placental abnormalities, which increase the risk of PPH (WHO, 2016b). A study by Hodgins et al. (2016) found that comprehensive ANC, including education on danger signs and birth preparedness, is associated with better maternal outcomes. Furthermore, the WHO (2016b) recommends at least eight ANC visits to ensure adequate monitoring and prevention strategies for maternal complications.

Another finding of the study is that adequate training of TBAs is significantly perceived as a prevention of PPH among nursing mothers in Offa LGA, Kwara State. This finding is in agreement with the finding of previous work has shown that incorporating TBAs into the formal healthcare system can increase skilled birth attendance and utilisation of services (Kassie et al., 2022). Additionally, researchers working in Zimbabwe determined that TBAs serve as a bridge between biomedical and traditional medicine, providing women with greater reassurance of positive outcomes than what is available to them in standard ANC (Mathole et al., 2005). With better coordination, TBA integration could leverage TBAs' unique position within the community to link women with the formal healthcare system (Bell et al., 2014).

Conclusion

Based on the findings of the study, it was concluded that prolonged labour is perceived by nursing mothers in Offa LGA, Kwara State, as a major cause of PPH. The respondents recognised that extended duration of labour often results in excessive bleeding after childbirth, posing a significant risk to maternal health. Similarly, placenta abnormalities were identified as another perceived cause of PPH, as improper separation or retention of products of placenta can lead to severe blood loss following delivery. In terms of prevention, the study revealed that accessibility to maternal health services is viewed as an essential factor in reducing the incidence of PPH. Nursing mothers believed that regular antenatal attendance, timely medical interventions, and delivery under skilled supervision can prevent complications during and after childbirth. Furthermore, the study also concluded that adequate training of TBAs is perceived as a vital preventive measure. Properly trained TBAs are expected to recognize danger signs, manage delivery safely, and promptly refer complicated cases to health facilities. Collectively, these perceptions highlight the importance of both medical and community-based interventions in addressing PPH among nursing mothers in the study area.

Recommendations

Based on the conclusion, the following recommendation were drawn:

1. Healthcare providers should organise community sensitization programmes and antenatal education sessions to inform pregnant women about the dangers

- of delayed labour and the importance of early hospital presentation.
2. Health workers should encourage and made accessible to all pregnant women regular and comprehensive antenatal care to enable early detection and management of placental issues.
 3. Government and stakeholders should improve the availability, affordability, and quality of maternal healthcare facilities, especially in areas such as Offa LGA.
 4. Government and health sector should implement periodic capacity-building workshops and certification programmes to equip TBAs with updated skills on safe delivery practices and management of postpartum complications like haemorrhage.

References

- Abdullahi, H. M., Aliyu, L. D., Yusuf, M., & Miko, M. A. (2022). Obstetric hemorrhage: effective methods for addressing the menace in Sub-Saharan Africa. *Journal of Perinatal Medicine*, 50(9), 1157-1162. <https://doi.org/10.1515/jpm-2022-0054>
- Aksoy, S. D., Yel, S. Y., & Akyildiz, D. (2025). The Effect of Maternal Oxytocin Induction during Birth on Early Neonatal Pain and Stress: A Quasi-Experimental Study. *Biological research for nursing*, 27(1), 101–108. <https://doi.org/10.1177/10998004241289896>
- Akter, S., Forbes, G., Miller, S., Galadanci, H., Qureshi, Z., Fawcus, S., Justus Hofmeyr, G., Moran, N., Singata-Madliki, M., Amole, T. G., Gwako, G., Osoti, A., Thomas, E., Gallos, I., Mammoliti, K. M., Coomarasamy, A., Althabe, F., Lorencatto, F., & Bohren, M. A. (2022). Detection and management of postpartum haemorrhage: Qualitative evidence on healthcare providers' knowledge and practices in Kenya, Nigeria, and South Africa. *Frontiers in global women's health*, 3, 1020163. <https://doi.org/10.3389/fgwh.2022.1020163>
- Al-Zirqi, I., Vangen, S., Forsen, L., & Stray-Pedersen, B. (2008). Prevalence and risk factors of severe obstetric haemorrhage. *BJOG: an international journal of obstetrics and gynaecology*, 115(10), 1265–1272. <https://doi.org/10.1111/j.1471-0528.2008.01859.x>
- Amutah-Onukagha, N., Rodriguez, M., Opara, I., Gardner, M., Assan, M. A., Hammond, R., Plata, J., Pierre, K., & Farag, E. (2017). Progresses and challenges of utilizing traditional birth attendants in maternal and child health in Nigeria. *International journal of MCH and AIDS*, 6(2), 130–138. <https://doi.org/10.21106/ijma.204>
- Bell, S., Passano, P., Bohl, D. D., Islam, A., & Prata, N. (2014). Training traditional birth attendants on the use of misoprostol and a blood measurement tool to prevent postpartum haemorrhage: lessons learnt from Bangladesh. *Journal of health, population, and nutrition*, 32(1), 118–129. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4089080/>
- Campbell, O. M., Calvert, C., Testa, A., Strehlow, M., Benova, L., Keyes, E., Donnay, F., Macleod, D., Gabrysch, S., Rong, L., Ronsmans, C., Sadruddin, S., Koblinsky, M., & Bailey, P. (2016). The scale, scope, coverage, and capability of childbirth care. *Lancet (London, England)*, 388(10056), 2193–2208. [https://doi.org/10.1016/S0140-6736\(16\)31528-8](https://doi.org/10.1016/S0140-6736(16)31528-8)

- Chauke, L. (2025). Improving access to emergency obstetric care in low-and middle-income countries. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 98, 102572. <https://doi.org/10.1016/j.bpobgyn.2024.102572>
- Cheng, Y. W., Delaney, S. S., Hopkins, L. M., & Caughey, A. B. (2009). The association between the length of first stage of labor, mode of delivery, and perinatal outcomes in women undergoing induction of labor. *American journal of obstetrics and gynecology*, 201(5), 477.e1–477.e4777. <https://doi.org/10.1016/j.ajog.2009.05.024>
- Chikkamath, S. B., Katageri, G. M., Mallapur, A. A., Vernekar, S. S., Somannavar, M. S., Piaggio, G., Carroli, G., de Carvalho, J. F., Althabe, F., Hofmeyr, G. J., Widmer, M., Gulmezoglu, A. M., & Goudar, S. S. (2021). Duration of third stage labour and postpartum blood loss: a secondary analysis of the WHO CHAMPION trial data. *Reproductive health*, 18(1), 230. <https://doi.org/10.1186/s12978-021-01284-8>
- Devi, K. P., Singh, L. R., Singh, L. B., Singh, M. R., & Singh, N. N. (2015). Postpartum hemorrhage and maternal deaths in North East India. *Open Journal of Obstetrics and Gynecology*, 5(11), 635. <http://dx.doi.org/10.4236/ojog.2015.511089>
- Eskild, A., & Vatten, L. J. (2009). Abnormal bleeding associated with preeclampsia: a population study of 315,085 pregnancies. *Acta obstetrica et gynecologica Scandinavica*, 88(2), 154–158. <https://doi.org/10.1080/00016340802613242>
- Eskild, A., & Vatten, L. J. (2010). Do pregnancies with pre-eclampsia have smaller placentas? A population study of 317 688 pregnancies with and without growth restriction in the offspring. *BJOG: an international journal of obstetrics and gynaecology*, 117(12), 1521–1526. <https://doi.org/10.1111/j.1471-0528.2010.02701.x>
- Faduyile, F. A., Soyemi, S. S., Emiogun, F. E., & Obafunwa, J. O. (2017). A 10 years autopsy-based study of maternal mortality in Lagos State University Teaching Hospital, Lagos, Nigeria. *Nigerian journal of clinical practice*, 20(2), 131–135. <https://doi.org/10.4103/1119-3077.180076>
- Fenn, M. G., Al Falahi, M., Al Hannai, T., Al Shukaili, L., & Al Riyami, N. (2024). Postpartum hemorrhage following vaginal and cesarean section deliveries at a single tertiary hospital: A five-year cross-sectional study. *Oman medical journal*, 39(6), e695. <https://doi.org/10.5001/omj.2024.116>
- Fleming, D., Gangopadhyay, R., Karoshi, M., & Arulkumaran, S. (2012). Maternal deaths from major obstetric hemorrhage in the UK: changing evidence from the confidential enquiries (1985–2011). In Arulkumaran S, Karoshi M, Keith LG, Lalonde AB, B-Lynch C. (Eds.) *A comprehensive textbook of postpartum hemorrhage, An essential clinical reference for effective management*. 2nd edition. London: Sapiens Publishing, 162-8. https://www.glowm.com/pdf/PPH_2nd_edn_Chap-20.pdf
- Ford, J. B., Roberts, C. L., Simpson, J. M., Vaughan, J., & Cameron, C. A. (2007). Increased postpartum hemorrhage rates in Australia. *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, 98(3), 237–243. <https://doi.org/10.1016/j.ijgo.2007.03.011>

- Gould, D. (2000). Normal labour: a concept analysis. *Journal of advanced nursing*, 31(2), 418–427. <https://doi.org/10.1046/j.1365-2648.2000.01281.x>
- Habitamu, D., Goshu, Y. A., & Zeleke, L. B. (2019). The magnitude and associated factors of postpartum hemorrhage among mothers who delivered at Debre Tabor general hospital 2018. *BMC research notes*, 12(1), 618. <https://doi.org/10.1186/s13104-019-4646-9>
- Hodgins, S., Tielsch, J., Rankin, K., Robinson, A., Kearns, A., & Caglia, J. (2016). A New Look at Care in Pregnancy: Simple, Effective Interventions for Neglected Populations. *PloS one*, 11(8), e0160562. <https://doi.org/10.1371/journal.pone.0160562>
- Ijadunola, K. T., Ijadunola, M. Y., Esimai, O. A., & Abiona, T. C. (2010). New paradigm old thinking: The case for emergency obstetric care in the prevention of maternal mortality in Nigeria. *BMC women's health*, 10, 6. <https://doi.org/10.1186/1472-6874-10-6>
- Janni, W., Schiessl, B., Peschers, U., Huber, S., Strobl, B., Hantschmann, P., Uhlmann, N., Dimpfl, T., Rammel, G., & Kainer, F. (2002). The prognostic impact of a prolonged second stage of labor on maternal and fetal outcome. *Acta obstetrica et gynecologica Scandinavica*, 81(3), 214–221. <https://doi.org/10.1034/j.1600-0412.2002.810305.x>
- Kassie, A., Wale, A., Girma, D., Amsalu, H., & Yechale, M. (2022). The role of traditional birth attendants and problem of integration with health facilities in remote rural community of West Omo Zone 2021: exploratory qualitative study. *BMC pregnancy and childbirth*, 22(1), 425. <https://doi.org/10.1186/s12884-022-04753-5>
- Kodla, C. S. (2015). A study of prevalence, causes, risk factors, and outcome of severe obstetric hemorrhage. *Journal of Scientific Innovation and Research*, 4(2), 83-87. Retrieved from https://www.jsirjournal.com/Vol4_Issue2_07.pdf
- Kramer, M. S., Berg, C., Abenhaim, H., Dahhou, M., Rouleau, J., Mehrabadi, A., & Joseph, K. S. (2013). Incidence, risk factors, and temporal trends in severe postpartum hemorrhage. *American journal of obstetrics and gynecology*, 209(5), 449.e1–449.e4497. <https://doi.org/10.1016/j.ajog.2013.07.007>
- Laughon, S. K., Branch, D. W., Beaver, J., & Zhang, J. (2012). Changes in labor patterns over 50 years. *American journal of obstetrics and gynecology*, 206(5), 419.e1–419.e4199. <https://doi.org/10.1016/j.ajog.2012.03.003>
- Le Ray, C., Fraser, W., Rozenberg, P., Langer, B., Subtil, D., Goffinet, F., & PREMODA Study Group (2011). Duration of passive and active phases of the second stage of labour and risk of severe postpartum haemorrhage in low-risk nulliparous women. *European journal of obstetrics, gynecology, and reproductive biology*, 158(2), 167–172. <https://doi.org/10.1016/j.ejogrb.2011.04.035>
- Lu, M. C., Korst, L. M., Fridman, M., Muthengi, E., & Gregory, K. D. (2009). Identifying women most likely to benefit from prevention strategies for postpartum hemorrhage. *Journal of perinatology: official journal of the California Perinatal Association*, 29(6), 422–427. <https://doi.org/10.1038/jp.2009.2>

- Mathole, T., Lindmark, G., & Ahlberg, B. M. (2005). Competing knowledge claims in the provision of antenatal care: a qualitative study of traditional birth attendants in rural Zimbabwe. *Health care for women international*, 26(10), 937–956. <https://doi.org/10.1080/07399330500301796>
- Mohamed, T. A. E. H., & Chandrabaran, E. (2025). Recognition and management of postpartum hemorrhage. *Maternal-Fetal Medicine*, 7(1), 29–37. <https://doi.org/10.1097/FM9.0000000000000256>
- Moyer, C. A., & Mustafa, A. (2013). Drivers and deterrents of facility delivery in sub-Saharan Africa: a systematic review. *Reproductive health*, 10, 40. <https://doi.org/10.1186/1742-4755-10-40>
- Mridha, M. K., Anwar, I., & Koblinsky, M. (2009). Public-sector maternal health programmes and services for rural Bangladesh. *Journal of health, population, and nutrition*, 27(2), 124–138. <https://doi.org/10.3329/jhpn.v27i2.3326>
- National Institute of Population Research and Training. (2019). *Bangladesh demographic and health survey*. Dhaka: National Institute of Population Research and Training.
- National Institute of Population Research and Training. (2022). *Bangladesh demographic and health survey: Preliminary report*. Dhaka: National Institute of Population Research and Training.
- Nyfløt, L. T., Stray-Pedersen, B., Forsén, L., & Vangen, S. (2017). Duration of labor and the risk of severe postpartum hemorrhage: A case-control study. *PloS one*, 12(4), e0175306. <https://doi.org/10.1371/journal.pone.0175306>
- Olamijulo, J. A., Olorunfemi, G., Osman, H. A., Ugwu, A. O., & Omole-Mathew, J. (2023). 44-Year temporal trends and causes of maternal mortality at the Lagos University teaching hospital, LUTH, Lagos, Nigeria (1976-2019). *Nigerian Journal of Clinical Practice*, 26(9), 1273-1282. <https://journals.lww.com/njcp/toc/2023/09000>
- Opara, U. C., Iheanacho, P. N., & Petrucka, P. (2024). Cultural and religious structures influencing the use of maternal health services in Nigeria: a focused ethnographic research. *Reproductive health*, 21(1), 188. <https://doi.org/10.1186/s12978-024-01933-8>
- Pergialiotis, V., Bellos, I., Antsaklis, A., Papapanagiotou, A., Loutradis, D., & Daskalakis, G. (2020). Maternal and neonatal outcomes following a prolonged second stage of labor: A meta-analysis of observational studies. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 252, 62-69. <https://doi.org/10.1016/j.ejogrb.2020.06.018>
- Perlman, N. C., & Carusi, D. A. (2019). Retained placenta after vaginal delivery: risk factors and management. *International journal of women's health*, 11, 527–534. <https://doi.org/10.2147/IJWH.S218933>
- Rutledge, J. D., Kiyanda, A., Jean-Louis, C., Raskin, E., Gaillard, J., Maxwell, M., Smith, T., Kershaw, T., & Abrams, J. (2024). Recommendations for Integrating Traditional Birth Attendants to Improve Maternal Health Outcomes in Low- and Middle-Income Countries. *International journal of MCH and AIDS*, 13, e019. https://doi.org/10.25259/IJMA_16_2024
- Sarker, B. K., Rahman, M., Rahman, T., Hossain, J., Reichenbach, L., & Mitra, D. K. (2016). Reasons for preference of home delivery with traditional birth attendants (TBAs) in rural Bangladesh: a qualitative exploration. *PloS one*, 11(1), e0146161. <https://doi.org/10.1371/journal.pone.0146161>

- Sibley, L. M., Sipe, T. A., & Barry, D. (2012). Traditional birth attendant training for improving health behaviours and pregnancy outcomes. *The Cochrane database of systematic reviews*, 2012(8), CD005460. <https://doi.org/10.1002/14651858.CD005460.pub3>
- Siggelkow, W., Boehm, D., Skala, C., Grosslercher, M., Schmidt, M., & Koelbl, H. (2008). The influence of macrosomia on the duration of labor, the mode of delivery and intrapartum complications. *Archives of gynecology and obstetrics*, 278(6), 547–553. <https://doi.org/10.1007/s00404-008-0630-7>
- Sosa, C. G., Althabe, F., Belizán, J. M., & Buekens, P. (2009). Risk factors for postpartum hemorrhage in vaginal deliveries in a Latin-American population. *Obstetrics and gynecology*, 113(6), 1313–1319. <https://doi.org/10.1097/AOG.0b013e3181a66b05>
- Ubom, A. E., Muslim, Z., Beyeza-Kashesya, J., Schlembach, D., Malel, Z. J., Begum, F., Nunes, I., Wright, A., & FIGO Childbirth and PPH Committee (2025). Postpartum hemorrhage: Findings of a global survey by the World Association of Trainees in Obstetrics and Gynecology (WATOG). *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, 171(2), 593–600. <https://doi.org/10.1002/ijgo.70512>.
- World Health Organization. (2016a). *Managing prolonged and obstructed labour*. Geneva: Department of Making Pregnancy Safer, Family and Community Health, WHO.
- World Health Organization. (2016b). *WHO recommendations on antenatal care for a positive pregnancy experience*. World Health Organization. <https://www.who.int>
- Young, C., Bhattacharya, S., Woolner, A., Ingram, A., Smith, N., Raja, E. A., & Black, M. (2023). Maternal and perinatal outcomes of prolonged second stage of labour: a historical cohort study of over 51,000 women. *BMC pregnancy and childbirth*, 23(1), 467. <https://doi.org/10.1186/s12884-023-05733-z>
- Zwart, J. J., Richters, J. M., Ory, F., de Vries, J. I., Bloemenkamp, K. W., & van Roosmalen, J. (2008). Severe maternal morbidity during pregnancy, delivery and puerperium in the Netherlands: a nationwide population-based study of 371,000 pregnancies. *BJOG: an international journal of obstetrics and gynaecology*, 115(7), 842–850. <https://doi.org/10.1111/j.1471-0528.2008.01713.x>