***Original Research Article***

**Factors influencing Home deliveries among reproductive women and their impact on Maternal and Child Health in Tano North Municipality, Ghana**

**ABSTRACT**

**Background**: Home deliveries remain a major contributor to maternal and neonatal morbidity and mortality in Ghana, particularly in rural areas. Understanding the socio-cultural, economic, and systemic barriers to skilled birth attendance is critical for effective maternal health interventions.

**Objective**: This study investigated the factors accounting for home deliveries and their associated impacts among women in Tano North Municipality.

**Methods**: A descriptive cross-sectional design was employed. Using a structured questionnaire, data were collected from a purposively selected 300 women of reproductive age who had recently given birth at home within the past year. Convenience sampling was used and the data were analyzed using SPSS version 25, and descriptive statistics were presented in frequency tables.

**Results**: The majority of respondents disagreed that poor health service quality or negative staff attitudes influenced home deliveries. However, long distances to health facilities (66.7%) and high delivery costs (21.6%) were cited as major reasons for choosing home delivery. Key barriers to skilled birth attendance included cultural practices (53.3%), poor road conditions, and instances of neglect and verbal abuse by healthcare workers. Health outcomes linked to home delivery included increased risks of infection (94.3%), obstetric complications (94.3%), maternal death (80.7%), and neonatal death (77.9%).

**Conclusion**: Structural, cultural, and interpersonal barriers significantly influence delivery location in Tano North Municipality. Community-based interventions, infrastructure development, and respectful maternity care initiatives are essential.

**Keywords**: *Home delivery, maternal health, skilled birth attendance, barriers, Ghana*

1. **INTRODUCTION**

Pregnancy is usually a period in a woman’s life that is an exciting and satisfying time for her, both as a person and as a member of the society. Pregnancy however, can also be a time of so much pain and agony if it is unplanned, unexpected, or if there are conditions that endanger the pregnancy, cause postpartum complications or lead to the death of the child or mother (Kumar et al., 2022).

Globally, maternal mortality remains a pressing public health challenge, particularly in low- and middle-income countries (Sarikhani et al., 2024). Despite efforts to improve access to skilled birth attendants, many women continue to deliver at home under the care of traditional birth attendants (TBAs), who often lack the necessary training to handle obstetric emergencies (Agwu et al., 2025).

On a daily basis, pregnancy and childbirth related complications contributes to approximately 830 maternal deaths worldwide (Alkema et al., 2016; Waiswa et al., 2010). The World Health Organization (WHO) reported that around 260,000 women lost their lives due to pregnancy or childbirth-related complications in 2023. This equates to an average of 712 maternal deaths per day, or one every two minutes. Although there has been a decline in maternal mortality rates since 2000, wide gaps persist across different regions and countries, with the highest number of deaths occurring in low- and lower-middle-income nations (Cresswell et al., 2025). Calvert et al., (2021) indicated that developing countries across the world recorded approximately 302,000 (99.0% of mothers who died during pregnancy and childbirth), of which 201,000 (56.0%) were in Sub-Saharan Africa while the remaining 66,000 which is 19.0% were recorded in Southern Asia.

In Ghana, the maternal mortality ratio is estimated at 319 deaths per 100,000 live births, significantly higher than the Sustainable Development Goal target of fewer than 70 deaths per 100,000 live births.(Der et al., 2013). The maternal mortality ratio remains high and requires strenuous efforts if Ghana has to achieve the sustainable development goal target of 70 per 100,000 live births in 2030. Most maternal deaths occur in the rural areas as compared to urban areas. This has largely been attributed to the high prevalence of skilled birth attendance of 74% in urban areas as compared to 43% in the rural areas (Atuoye et al., 2015). Home deliveries contribute significantly to this burden, especially in rural communities like Tano North Municipality, where infrastructural and cultural barriers persist (Yarney, 2019). While antenatal care (ANC) coverage is high, this does not always translate to facility-based deliveries. Numerous factors, including socio-cultural beliefs, limited access to transportation, financial constraints, and negative perceptions of healthcare providers, continue to drive home deliveries. This study aims to explore these factors in depth and assess the associated health implications for mothers and their newborns.

**2. METHODOLOGY**

**2.1 Study Design**

This study adopted a descriptive cross-sectional survey design conducted in Tano North. The research design used for the study is a descriptive cross-sectional survey. Cross sectional involves the collection of data at one point in time, which are easy to do and relatively economical (Wang & Cheng, 2020). According to Capili, (2021), cross-sectional studies are carried out one time or over a short period. They are usually conducted to estimate the prevalence of the outcome of interest for a given population, commonly for the purposes of public health planning. Data can also be collected on individual characteristics, including exposure to risk factors, alongside information about the outcome. In this way, cross-sectional studies provide a ‘snapshot’ of the outcome associated with it, at a specific point in time.

**2.2 Study Setting**

 The Tano North District, located in Ghana’s Ahafo Region, was established in 2004 with Duayaw-Nkwanta as its capital. It shares boundaries with districts in both the Ashanti and Bono Regions and covers an area of 837.4 km², representing 1.8% of the Ahafo Region's land area. According to the 2021 Population and Housing Census, the district had a female population of 47,191, with a nearly equal gender distribution and a majority from the Akan ethnic group. Out of the total population of women, those in their reproductive age are about 1200. The municipality includes both rural and peri-urban communities, with varying access to healthcare facilities. The district has 72 basic schools, four senior high schools, one technical/vocational institution, and two health training schools. St. John of God Hospital is the main healthcare facility, supported by several health centers across the district.

**2.3 Sampling and sample size determination**: A sample of 300 women who were purposively selected because they fall under the criteria (had delivered at home within the past year) were selected. Inclusion criteria included being of reproductive age (15-49 years), residing in the municipality, and having experienced a home delivery. Exclusion criteria includes those women who has never given birth at home within the past one year and those participants who refuse to participate in the study. The sample size was determined using Yamane's formula (Yamane 1967):

n = N/1 + N (e2),

Where n = sample size,

N = population size,

e = margin of error (5%),

Substituting,

$n=\frac{1200}{1+1200 (0.05)(0.05)}$ **= 300**

**2.4 Data Collection**

A structured, self-developed questionnaire was used, comprising both closed and open-ended questions. Sections included demographic characteristics, factors influencing home delivery, barriers to skilled attendance, and health consequences for home deliveries.

**2.5 Data Analysis**

 Data were coded and analyzed using SPSS version 25. Descriptive statistics including frequencies, percentages, were used to summarize the data. Results were presented in tables and charts for clarity.

**2.6 Ethical Considerations**

 Ethical approval was obtained from the relevant local authorities. Participants provided verbal informed consent. Anonymity and confidentiality were assured, with no personal identifiers collected.

**3.0 RESULTS**

**3.1 Socio-demographic characteristics**

The majority of respondents (40%) were aged 26–30 years. Most were married (66.6%) and Christians (66.4%). Educational attainment varied, with 50% having no formal education.

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent (%) |
|  |  |  |
| Age |  |  |
| 21-25 | 80 | 26.60 |
| 26-30 | 120 | 40 |
| 31-35 | 60 | 20 |
| 36-40 | 40 | 13.3 |
| Marital status |  |  |
| Single | 100 | 33.40 |
| Married  | 200 | 66.6 |
| Religion |  |  |
| Christian | 200 | 66.6 |
| Islam | 100 | 33.4 |
| Level of Education |  |  |
| No formal education  | 15050 | 50 |
| JHS/SHS  | 16.6 |
| Vocational training | 50 | 16.6 |
| Tertiary | 50 | 16.6 |
|  |  |  |

Table 1: Demographic characteristics

Source: Authors Field work (2025)

**3.2 Factors Accounting for Home Deliveries**

While most respondents rejected poor service quality or negative attitudes as reasons for avoiding health facilities, 15 % (strongly agreed) and 66.7% (agreed) indicated that long distances from health centers were a significant barrier. Financial constraints were also cited, with 21.6% agreeing that the high cost of delivery services influenced their choice. Cultural beliefs and reliance on TBAs were prominent among older respondents.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Strongly Agree (SA) | Agree (A) | Undecided (U) | Disagree (D) | Strongly Disagree (SD) |
|  | FREQ | % | FREQ | % | FREQ | % | FREQ | % | FREQ | % |
| The poor attitude of health workers. | 0 | 0 | 0 | 0 | 25 | 8.3 | 90 | 30 | 185 | 61.7 |
| The high cost of delivery in health facilities. | 25 | 8.3 | 40 | 13.3 | 20 | 6.7 | 85 | 28.3 | 130 | 43.3 |
| waiting for long time before getting attended to by a midwife. | 0 | 0 | 0 | 0 | 15 | 5.0 | 95 | 31.7 | 190 | 63.3 |
| The poor quality in health service. | 5 | 1.7 | 5 | 1.7 | 45 | 15 | 200 | 66.7 | 45 | 15 |
| Long distance from your home. | 45 | 15 | 200 | 66.7 | 45 | 15 | 5 | 1.7 | 5 | 1.7 |

Table 2 Factors Accounting for Home Deliveries

Source: Authors Field work (2025)

**3.3 Barriers to Skilled Attendance:**

Respondents highlighted several barriers, including cultural practices (80 %), lack of transport (53%), poor road infrastructure (68%), and the inability of family members, especially husbands (61.6%) to accompany them. Verbal abuse, neglect, and unsympathetic attitudes from healthcare providers were also noted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Strongly Agree (SA) | Agree (A) | Undecided (U) | Disagree (D) | Strongly Disagree (SD) |
|  | FREQ | % | FREQ |  % | FREQ |  % | FREQ | % | FREQ | % |
| My cultural and traditional practices. | 80 | 26.7 | 160 | 53.3 | 60 | 20 | 0 | 0 | 0 | 0 |
| The distance of my house from the health facility. | 75 | 25 | 85 | 28.3 | 110 | 36.7 | 25 | 8.3 | 5 | 1.7 |
| The attitude of nurses and poor quality of care. | 45 | 15 | 130 | 43.3 | 115 | 38.3 | 10 | 3.3 | 0 | 0 |
| The inability of family, especially husbands to be by their wives. | 40 | 13.3 | 145 | 48.3 | 110 | 36.7 | 5 | 1.7 | 0 | 0 |
| The poor road conditions and lack of transportation to the health facility. | 60 | 20 | 145 | 48.3 | 70 | 23.3 | 25 | 8.3 | 0 | 0 |
| Neglect by nurses. | 55 | 18.3 | 80 | 26.7 | 150 | 50 | 0 | 0 | 15 | 5.0 |
| Verbal violence by nurses, including, threats, scolding, shouting, and intentional humiliation. | 105 | 35.0 | 145 | 48.3 | 40 | 13.3 | 5 | 1.7 | 5 | 1.7 |
| Physical violence by nurses, including denial of pain-relief when technically indicated | 60 | 20 | 145 | 48.3 | 70 | 23.3 | 25 | 8.3 | 0 | 0 |
| The unsympathetic and uncaring midwives. | 105 | 35.0 | 145 | 48.3 | 40 | 13.3 | 5 | 1.7 | 5 | 1.7 |

Table 3: Barriers to the Use of Skilled Birth Attendant

Source: Authors Field work (2025)

**3.4 Health Impacts**

The study found a strong association between home delivery and adverse health outcomes. Infections (95 %), obstetric complications like postpartum hemorrhage (97 %), maternal mortality (67 %), and neonatal death (80 %) were among the most reported outcomes. These findings underscore the risks associated with unskilled birth attendance.

|  |  |  |
| --- | --- | --- |
| Statements | Yes | No |
| Freq (%) | Freq (%) |
| 1. Infections (HIV)
 | 285 (95) | 15 (5)  |
| 1. Obstetric Complication
 | 290 (97) | 10 (3) |
| 1. Maternal death
 | 200 (67) | 100 (33) |
| 1. Child death
 | 240 (80) | 60 (20) |
| 1. Disability to child
 | 190 (77) | 110 (33) |

Table 4: Impact of Home Deliveries on Child and Mother

Source: Authors Field work (2025)

**4. 0 DISCUSSION**

The findings of this study affirm the complex interplay of socio-cultural, structural, and interpersonal factors influencing women's choice of delivery location in Tano North Municipality. This aligns with a growing body of research across sub-Saharan Africa, which emphasizes that maternal health service utilization is shaped not only by availability but also by accessibility, affordability, acceptability, and perceived quality (Atuoye et al., 2015; Awoonor-Williams et al., 2016; Der et al., 2013). Interestingly, contrary to some literature, the majority of participants did not cite poor healthcare quality as a deterrent; a deviation possibly attributable to improvements in service delivery in some facilities or variations in individual experiences(Ganle et al., 2014; Tabong et al., 2021)

One of the most significant findings was that long distance to health facilities (82 %) emerged as a key determinant of home delivery. This mirrors conclusions from Atuoye et al. (2015), who noted that physical distance, compounded by poor road conditions and inadequate transport infrastructure, serves as a formidable barrier to facility-based care in rural Ghana. A study by Asirifi et al., (2025) in seeking to find out what influences reproductive women choice of delivery, long distance from the health facility was a determining factor. The World Health Organization (WHO) corroborates this, citing geographical accessibility as a core determinant of maternal health outcomes, especially in LMICs (Dotse-Gborgbortsi et al., 2022).

Cultural beliefs and traditional practices, reported by over half the respondents (80 %), also play a decisive role. In many rural communities, childbirth is considered a natural process best managed within the home by traditional birth attendants (TBAs). Although TBAs offer culturally familiar care, their lack of formal training poses risks. Studies from Ghana, Zambia, and Tanzania have emphasized that TBAs, while accessible, often lack the skills to manage complications or make timely referrals (MacDonald, 2022; Sialubanje et al., 2015; Shimpuku et al., 2021). The study also highlighted the gendered dimension of maternal healthcare, with many women citing the absence of male support as a barrier to skilled delivery. This aligns with Kpodotsi et al. (2021), who found that patriarchal norms and household decision-making dynamics can inhibit women’s autonomy in accessing care. Effective maternal health strategies must therefore incorporate gender-sensitive approaches that engage men and promote shared decision-making.

Interestingly, negative staff attitudes, often highlighted in literature as a major deterrent to facility use, were not significantly cited by most participants in this study. This may indicate localized improvements in health worker behavior or underreporting due to social desirability bias. Nonetheless, reports of verbal abuse (48.3%), neglect (26.7%), and denial of pain relief (20%) suggest that disrespectful care remains a significant issue. This supports findings by Ghazanfari et al. (2017) and Dessalegn et al. (2022), who documented the prevalence of disrespect and abuse in maternity settings, which discourages facility utilization.

Assessing the health consequences, the high prevalence of adverse outcomes; infections (95 %), obstetric complications (97 %), maternal deaths (67 %), and neonatal deaths (80 %); reaffirms global evidence linking unskilled delivery to preventable morbidity and mortality. According to the WHO, more than 70% of maternal deaths in sub-Saharan Africa are attributable to delays in care, inadequate emergency obstetric services, and reliance on untrained birth attendants (WHO, 2023). Furthermore, studies of Dantas et al., (2020)highlighted the risks associated with traditional birth attendants (TBAs), such as poor delivery skills and delayed emergency referrals. Also, while some studies (Alaro, 2018; MacDonald, 2022; Shimpuku et al., 2021; Sialubanje et al., 2015)acknowledge the potential benefits of trained TBAs in improving access to care, they also emphasize that in areas with limited health services, unskilled home deliveries remain a significant threat to maternal and child health. The WHO's "three delays model": delay in deciding to seek care, delay in reaching a facility, and delay in receiving appropriate care: is particularly relevant to Tano North Municipality.

Interventions aimed at improving skilled delivery uptake must therefore address not only physical and economic barriers but also sociocultural and relational aspects of care. Training in respectful maternity care and community-level education campaigns could shift perceptions and behaviors positively.

To mitigate these challenges, evidence-based solutions include expanding the Community-Based Health Planning and Services (CHPS) model in rural Ghana, improving road networks, and increasing health financing for maternal health. The Ghana Health Service (2022) recommends strengthening CHPS compounds as a decentralization strategy for promoting skilled birth attendance.

Moreover, health worker training in Respectful Maternity Care (RMC) is crucial. The WHO and UNICEF have developed RMC guidelines to ensure dignity, privacy, and non-abuse in maternity care. Integrating these protocols into Ghana’s midwifery and nursing curricula could address some of the abuse and neglect reported in this study.

* 1. **CONCLUSION**

This study concludes that home deliveries in Tano North Municipality are influenced by a complex interplay of structural, cultural, and interpersonal factors. Long distances to health facilities, financial barriers, entrenched cultural beliefs, and negative experiences with healthcare workers deter women from seeking skilled care. The consequences are dire, with increased risks of maternal and neonatal morbidity and mortality. Key recommendations are to construct more Community-Based Health Planning and Services (CHPS) compounds in hard-to-reach areas, organize community education programs to address cultural misconceptions and promote the benefits of skilled delivery and provide affordable or subsidized transport for pregnant women, particularly in rural settings. Most important is train health professionals in respectful and culturally sensitive maternity care practices whiles engaging men and community leaders to support women’s access to skilled delivery services.

Consent for publication

Not applicable

Data Availability

Data used to support this study are available from the corresponding author upon request.

Disclaimer (Artificial intelligence)

Authors at this moment declare that generative AI (ChatGPT) has been used during the editing of manuscripts.

REFERENCE

Agwu, P., Poitier, F., Mbachu, C., & Onwujekwe, O. (2025). Solving delayed referrals of childbirth cases from unskilled to skilled birth attendants in Nigerian urban communities: A case study exploration of new frontiers. *Midwifery*, *146*. https://doi.org/10.1016/j.midw.2025.104397

Alaro, N. L. (2018). Analaysis of the Changing Role of Traditional Birth Attendants in Yirol West County, South Sudan. *Texila International Journal of Nursing*, *4*(2), 15–30. https://doi.org/10.21522/tijnr.2015.04.02.art002

Alkema, L., Chou, D., Hogan, D., Zhang, S., Moller, A. B., Gemmill, A., Fat, D. M., Boerma, T., Temmerman, M., Mathers, C., & Say, L. (2016). Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: A systematic analysis by the un Maternal Mortality Estimation Inter-Agency Group. *The Lancet*, *387*(10017), 462–474. https://doi.org/10.1016/S0140-6736(15)00838-7

Asirifi, S. K. A., Kolbilla, D. Z., Boateng, K.-H. T., Prince, N., Dammigu, K. E., & Yumann, K. J. (2025). Factors Influencing the Choice of Delivery Places by Pregnant Women in Selected Health Facilities in the Sagnarigu Municipality. *Asian Journal of Pregnancy and Childbirth*, *8*(1), 133–149. https://doi.org/10.9734/ajpcb/2025/v8i1154

Atuoye, K. N., Dixon, J., Rishworth, A., Galaa, S. Z., Boamah, S. A., & Luginaah, I. (2015). Can she make it? Transportation barriers to accessing maternal and child health care services in rural Ghana. *BMC Health Services Research*, *15*(1). https://doi.org/10.1186/S12913-015-1005-Y

Awoonor-Williams, J. K., Tindana, P., Dalinjong, P. A., Nartey, H., & Akazili, J. (2016). Does the operations of the National Health Insurance Scheme (NHIS) in Ghana align with the goals of Primary Health Care? Perspectives of key stakeholders in northern Ghana. *BMC International Health and Human Rights*, *16*(1). https://doi.org/10.1186/S12914-016-0096-9

Calvert, C., John, J., Nzvere, F. P., Cresswell, J. A., Fawcus, S., Fottrell, E., Say, L., & Graham, W. J. (2021). Maternal mortality in the covid-19 pandemic: findings from a rapid systematic review. *Global Health Action*, *14*(sup1). https://doi.org/10.1080/16549716.2021.1974677

Capili, B. (2021). Overview: Cross-Sectional Studies. *The American Journal of Nursing*, *121*(10), 59. https://doi.org/10.1097/01.NAJ.0000794280.73744.FE

Cresswell, J. A., Alexander, M., Chong, M. Y. C., Link, H. M., Pejchinovska, M., Gazeley, U., Ahmed, S. M. A., Chou, D., Moller, A.-B., Simpson, D., Alkema, L., Villanueva, G., Sguassero, Y., Tunçalp, Ö., Long, Q., Xiao, S., & Say, L. (2025). Global and regional causes of maternal deaths 2009-20: a WHO systematic analysis. *The Lancet. Global Health*. https://doi.org/10.1016/S2214-109X(24)00560-6

Dantas, J. A. R., Singh, D., & Lample, M. (2020). Factors affecting utilization of health facilities for labour and childbirth: a case study from rural Uganda. *BMC Pregnancy and Childbirth*, *20*(1), 39. https://doi.org/10.1186/S12884-019-2674-Z

Der, E. M., Moyer, C., Gyasi, R. K., Akosa, A. B., Tettey, Y., Akakpo, P. K., Blankson, A., & Anim, J. T. (2013). Pregnancy related causes of deaths in Ghana: a 5-year retrospective study. *Pmc.Ncbi.Nlm.Nih.GovEM Der, C Moyer, RK Gyasi, AB Akosa, Y Tettey, PK Akakpo, A Blankson, JT AnimGhana Medical Journal, 2013•pmc.Ncbi.Nlm.Nih.Gov*, *47*. https://pmc.ncbi.nlm.nih.gov/articles/PMC3961851/

Dotse-Gborgbortsi, W., Nilsen, K., Ofosu, A., Matthews, Z., Tejedor-Garavito, N., Wright, J., & Tatem, A. J. (2022). Distance is “a big problem”: a geographic analysis of reported and modelled proximity to maternal health services in Ghana. *BMC Pregnancy and Childbirth*, *22*(1). https://doi.org/10.1186/S12884-022-04998-0

Ganle, J. K., Parker, M., Fitzpatrick, R., & Otupiri, E. (2014). Inequities in accessibility to and utilisation of maternal health services in Ghana after user-fee exemption: A descriptive study. *International Journal for Equity in Health*, *13*(1), 1–19. https://doi.org/10.1186/S12939-014-0089-Z/TABLES/10

Kumar, M., Saadaoui, M., & Al Khodor, S. (2022). Infections and pregnancy: effects on maternal and child health. *Frontiersin.Org*, *12*. https://doi.org/10.3389/FCIMB.2022.873253/FULL

MacDonald, M. E. (2022). *The Place of Traditional Birth Attendants in Global Maternal Health: Policy Retreat, Ambivalence and Return*. 95–115. https://doi.org/10.1007/978-3-030-84514-8\_6

Sarikhani, Y., Najibi, S. M., & Razavi, Z. (2024). Key barriers to the provision and utilization of maternal health services in low-and lower-middle-income countries; a scoping review. *Springer*, *24*(1). https://doi.org/10.1186/S12905-024-03177-X

Shimpuku, Y., Madeni, F. E., Shimoda, K., Miura, S., & Mwilike, B. (2021). Perceived differences on the role of traditional birth attendants in rural Tanzania: a qualitative study. *BMC Pregnancy and Childbirth*, *21*(1). https://doi.org/10.1186/S12884-021-03611-0

Sialubanje, C., Massar, K., Hamer, D. H., & Ruiter, R. A. C. (2015). Reasons for home delivery and use of traditional birth attendants in rural Zambia: A qualitative study. *BMC Pregnancy and Childbirth*, *15*(1). https://doi.org/10.1186/S12884-015-0652-7

Tabong, P. T. N., Kyilleh, J. M., & Amoah, W. W. (2021). Reasons for the utilization of the services of traditional birth attendants during childbirth: A qualitative study in Northern Ghana. *Women’s Health*, *17*. https://doi.org/10.1177/17455065211002483

Waiswa, P., Kallander, K., Peterson, S., Tomson, G., & Pariyo, G. W. (2010). Using the three delays model to understand why newborn babies die in eastern Uganda. *Tropical Medicine and International Health*, *15*(8), 964–972. https://doi.org/10.1111/J.1365-3156.2010.02557.X

Wang, X., & Cheng, Z. (2020). Cross-Sectional Studies: Strengths, Weaknesses, and Recommendations. In *Chest* (Vol. 158, Issue 1, pp. S65–S71). Elsevier Inc. https://doi.org/10.1016/j.chest.2020.03.012

Yarney, L. (2019). Does knowledge on socio-cultural factors associated with maternal mortality affect maternal health decisions? A cross-sectional study of the Greater Accra region of Ghana. *BMC Pregnancy and Childbirth*, *19*(1). https://doi.org/10.1186/S12884-019-2197-7