



Determinants of Inclusive Pathways to Skilled Deliveries for Women with Disabilities in Rural Northern Ghana

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ABSTRACT

Background: Women with disabilities in Ghana, particularly in the Northern Region, experience multiple forms of discrimination that limit their access to maternal healthcare services. Although Ghana has made progress toward universal health coverage, equitable access to skilled delivery services remains a significant challenge for this population. **Objective:** This study explored the barriers and facilitators influencing the utilization of skilled delivery services among women with disabilities in rural Northern Ghana to inform policies and interventions aimed at promoting equitable maternal healthcare. **Methods:** A mixed-methods study design was employed. Quantitative data were collected from 350 women with disabilities, while qualitative data were obtained through interviews with women with disabilities, family members, healthcare workers, and community health volunteers. Quantitative data were analyzed using descriptive statistics, chi-square tests, and logistic regression, whereas qualitative data were analyzed thematically. **Results:** Overall, 27.4% of participants utilized skilled delivery services. Utilization was significantly lower among women with physical disabilities (22.7%) than among those with sensory (31.6%) and cognitive disabilities (29.4%) ($p < 0.01$). Distance to a health facility was a significant determinant of skilled delivery utilization ($\chi^2 = 15.62$, $p < 0.001$); women residing more than 5 km from a health facility were 2.8 times more likely to deliver at home (OR = 2.8, 95% CI: 1.7–4.6). Educational attainment was also significantly associated with skilled delivery utilization ($\chi^2 = 12.44$, $p = 0.002$), with women without formal education being less likely to access skilled delivery services. Qualitative findings identified transportation challenges (71%), inaccessible health infrastructure (68%), and stigma and discrimination (63%) as the major barriers to accessing skilled delivery care. **Conclusion:** Utilization of skilled delivery services among women with disabilities in rural Northern Ghana remains low due to intersecting socioeconomic, geographical, and health system barriers. Promoting equitable maternal healthcare requires disability-inclusive policies, improved physical accessibility of health facilities, strengthened community support and volunteer networks, accessible transportation, and targeted interventions to reduce stigma and discrimination.

Keywords: Women, disability; Skilled delivery; Maternal health; Rural Ghana; Health system responsiveness; Disability inclusion

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INTRODUCTION

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Women with disabilities are women who have long-term physical, sensory, intellectual, or mental impairments that, in interaction with environmental and attitudinal barriers, may hinder their full and effective participation in society on an equal basis with others (World Health Organization [WHO], 2011). Globally, more than one billion people live with disabilities, nearly half of whom are women. In Ghana, approximately 3% of the population lives with a disability, and women with disabilities experience multiple forms of disadvantage in education, employment, and healthcare due to persistent gender and disability-related inequalities (Ganle et al., 2016). Pregnancy and childbirth present additional challenges for women with disabilities, who often face a greater risk of pregnancy-related complications and poorer maternal health outcomes than women without disabilities.

Improving maternal health remains a major public health priority in Ghana, particularly in the Northern Region, where geographical barriers, poverty, and limited healthcare infrastructure continue to restrict access to essential maternal health services. Skilled birth attendance is one of the most effective interventions for reducing maternal and neonatal morbidity and mortality; however, many women in rural communities continue to give birth at home without the assistance of skilled health professionals (Amoah Adongo et al., 2024). Although Ghana's National Health Insurance Scheme (NHIS) provides free maternal healthcare services, substantial inequities remain in access to and utilization of skilled delivery services, especially among socially disadvantaged populations. Reports indicate that more than one-quarter of deliveries in northern Ghana still occur outside health facilities, highlighting persistent gaps in maternal healthcare coverage despite national policy initiatives (Mohammed et al., 2025).

Previous studies have consistently demonstrated that women with disabilities experience significant barriers to accessing maternal healthcare services. International evidence indicates that inaccessible healthcare infrastructure, inadequate provider training, transportation challenges, communication barriers, and stigma contribute to lower utilization of skilled maternity services among women with disabilities (WHO, 2011; Morrison et al., 2018). Similar challenges have been documented in Ghana, where discrimination by healthcare providers, inaccessible health facilities, financial hardship, and limited transportation restrict access to skilled delivery services (Ganle et al., 2016; Obeng et al., 2024). Rural northern Ghana presents additional challenges because of long travel distances, shortages of health personnel, and limited community resources, further reducing timely access to institutional delivery services (Amoah Adongo et al., 2024; Mohammed et al., 2025). These barriers compromise safe and dignified childbirth and contribute to preventable maternal and neonatal morbidity and mortality.

Despite the growing body of literature on maternal healthcare utilization in Ghana, important knowledge gaps remain. Most previous studies have focused either on maternal health service utilization in the general population or on disability as a broad social issue, with limited attention to the intersection of disability, gender, and rural disadvantage. Furthermore, few studies have specifically examined the factors influencing skilled delivery utilization among women with disabilities in rural northern Ghana or assessed how health system responsiveness shapes their access to maternal healthcare services. Addressing these gaps is essential for designing disability-inclusive maternal health policies and interventions that promote equitable access to skilled delivery services.

The present study was guided by the Social Model of Disability, which conceptualizes disability as arising primarily from environmental, institutional, and societal barriers rather than from an individual's impairment alone (Oliver, 1990). From this perspective, inaccessible health facilities, discriminatory attitudes, transportation constraints, and limited health system responsiveness constitute major determinants of healthcare exclusion among women with disabilities. Applying this framework enabled the study to examine how structural barriers and enabling factors influence access to skilled delivery services in rural northern Ghana.

Accordingly, this study aimed to identify the barriers and facilitators influencing the utilization of skilled delivery services among women with disabilities in rural northern Ghana and to examine the responsiveness of the health system to their maternal healthcare needs. The findings are expected to provide context-specific evidence to inform disability-inclusive maternal health policies and interventions that contribute to equitable access to skilled delivery services and support Ghana's progress toward achieving universal health coverage and reducing maternal mortality.

Conceptual Framework for Maternal Health Access for Women with Disabilities

The diagram illustrates the factors influencing maternal health access for women with disabilities. It is structured as follows:

- BARRIERS** (Red box):
 - Infrastructure
 - Stigma
 - Poverty
- FACILITATORS** (Green box):
 - Family Support
 - Health Worker Sensitivity
 - Policy Initiatives
- HEALTH SYSTEM RESPONSIVENESS** (Blue box):
 - Mediating Factor
 - Exclusion or Inclusion?
- ACCESS TO SKILLED DELIVERY CARE** (Orange box):

Arrows indicate the flow of influence: Red arrows point from the barriers to Health System Responsiveness, and green arrows point from the facilitators to Health System Responsiveness. A large blue arrow points from Health System Responsiveness down to Access to Skilled Delivery Care.

Inclusive Maternal Health Outcomes: Dignity & Equity

MATERIALS AND METHODS

Study Setting: The study was conducted in seven rural districts of northern Ghana: Bongo, Talensi, West Mamprusi, Mamprugu-Moaduri, Kumbungu, Gushegu, and Central Gonja. These districts were purposively selected to represent diverse sociocultural, geographical, and health system contexts within northern Ghana. The study areas are predominantly rural, characterized by dispersed settlements, inadequate transportation networks, limited healthcare infrastructure, and maternal mortality rates that remain higher than the national average (Ghana Statistical Service, 2021). Maternal health services are provided primarily through Community-based Health Planning and Services (CHPS) compounds, health centres, and district hospitals, many of which face challenges related to accessibility, workforce shortages, and limited resources (Amoah Adongo et al., 2024).

Sampling and Participant Recruitment: A multistage sampling strategy was employed. First, seven rural districts were purposively selected based on disability prevalence and maternal health service needs. Within each district, health facilities were stratified into CHPS compounds (60%), health

centres (30%), and district hospitals (10%) to reflect the organization of maternal healthcare services in rural northern Ghana.

Women with disabilities were identified through health facility records, disability associations, and snowball sampling. A total sample of 350 women with disabilities was recruited for the quantitative survey. The sample was proportionally allocated across the selected districts according to the estimated number of eligible women with disabilities using the following formula: $n^d = (N^d / N^T) \times 350$

where n^d represents the sample allocated to each district, N^d is the estimated number of eligible women with disabilities in that district, and N^T is the total eligible population across all study districts.

For the qualitative component, approximately 10–12 in-depth interviews and 2–3 focus group discussions were conducted in each district, resulting in approximately 70–84 interviews and 14–21 focus group discussions overall. Each focus group comprised 6–8 participants, including women with disabilities, family caregivers, community leaders, and healthcare providers. Sampling continued until sufficient depth and diversity of perspectives were achieved.

Data Collection: Quantitative data were collected using a structured interviewer-administered questionnaire that captured socio-demographic characteristics, disability type, obstetric history, utilization of skilled delivery services, accessibility of health facilities, transportation, and maternal healthcare experiences.

Qualitative data were collected through semi-structured in-depth interviews and focus group discussions to explore participants' experiences of pregnancy and childbirth, perceived barriers and facilitators to skilled delivery utilization, discrimination, accessibility of health facilities, and coping strategies. In addition, observational checklists were used to assess the physical accessibility of health facilities in accordance with the World Health Organization's recommendations for disability-inclusive health services (WHO, 2011).

Data Analysis: Quantitative data were entered and analyzed using the Statistical Package for the Social Sciences (SPSS), Version XX. Descriptive statistics were used to summarize participants' characteristics and skilled delivery utilization. Associations between categorical variables were examined using the chi-square test, while binary logistic regression analysis was performed to identify factors independently associated with skilled delivery utilization. Odds ratios (ORs) with 95% confidence intervals (CIs) were reported, and statistical significance was set at $p < 0.05$.

Qualitative interviews were audio-recorded, transcribed verbatim, and analyzed using NVivo software. Data were coded inductively and organized into themes using thematic analysis, with interpretation informed by the Social Model of Disability (Oliver, 1990). Findings from both components were triangulated during interpretation to enhance the credibility, completeness, and validity of the results.

Ethical Considerations: Ethical approval for the study was obtained from the Ghana Health Service Ethical Review Committee (Reference No. GHS-ERC-017/19–25). Written informed consent was obtained from all participants before data collection. To ensure inclusivity, consent procedures and study information were provided in accessible formats, including sign language interpretation for participants with hearing impairments and simplified written materials for participants with limited literacy. Participants' privacy, anonymity, and confidentiality were maintained throughout the study in accordance with international ethical principles for disability research (WHO, 2011).

RESULTS

Socio-demographic Characteristics

A total of 350 women with disabilities participated in the study. The mean age of the participants was 29.4 years (SD = 6.2), with 62% aged between 20 and 35 years. More than half of the participants (58%) had no formal education, while 71% were engaged in subsistence farming or petty trading as their primary source of livelihood. Physical disabilities were the most common disability type (54%), followed by sensory disabilities (28%) and cognitive disabilities (18%). Socioeconomic disadvantage was evident, with 74% of participants living below the

national poverty line. The socio-demographic characteristics of the study participants are presented in Table 1.

Utilization of Skilled Delivery Services

Overall, 27.4% of participants reported utilizing skilled delivery services. Utilization differed significantly by disability type, with women with physical disabilities reporting the lowest utilization (22.7%), compared with women with sensory (31.6%) and cognitive disabilities (29.4%) ($p < 0.001$).

Distance to the nearest health facility was significantly associated with skilled delivery utilization ($\chi^2 = 15.62$, $p < 0.001$). Women residing more than 5 km from a health facility were 2.8 times more likely to deliver at home than those living closer (OR = 2.8, 95% CI: 1.7–4.6). Educational attainment was also significantly associated with skilled delivery utilization ($\chi^2 = 12.44$, $p = 0.002$), with women without formal education being less likely to access skilled delivery services.

The most frequently reported barriers to skilled delivery utilization were transportation challenges (71%), inaccessible health infrastructure (68%), and stigma and discrimination (63%).

The qualitative findings supported these quantitative results. Participants described inaccessible health facilities, poor transportation, and discriminatory attitudes as major barriers to facility-based delivery.

"There are steps; there is no ramp at the clinic. I can't climb with my crutches, so I stayed home when labour began." (29-year-old woman, Bongo District, FGD)

"The road is bad, and no vehicle would take me when I was in labour. I delivered at home because I could not reach the hospital." (34-year-old woman, Gushegu District, FGD)

"The nurse said I was wasting their time because I am disabled. That day, I decided never to go back." (31-year-old woman, Talensi District, KII)

"The nurses look at me as though I cannot be a mother, so I fear going to the clinic." (FGD participant)

"We wanted to take her to the hospital, but there was no transport at night, so she delivered at home." (Family caregiver, FGD)

Facilitators of Skilled Delivery Utilization

Family support was significantly associated with skilled delivery utilization ($\chi^2 = 9.87$, $p = 0.005$). Women who reported strong spousal or family support were nearly twice as likely to deliver in a health facility as those without such support (OR = 1.9, 95% CI: 1.2–3.0). Family support was associated with a 41% increase in skilled delivery utilization ($p = 0.005$). Community health volunteer involvement was also significantly associated with increased utilization ($\chi^2 = 11.23$, $p = 0.001$).

Qualitative findings highlighted the important role of family members, community health volunteers, and supportive healthcare providers in facilitating access to skilled delivery services.

"My husband took me on his motorbike to the health centre. Without him, I would have delivered at home." (26-year-old woman, West Mamprusi District, FGD)

"The volunteer visited my house, encouraged me to attend antenatal care, and even arranged transport when labour started." (30-year-old woman, Kumbungu District, FGD)

"The midwife was kind and helped me onto the bed. I felt respected, and I would return there again." (33-year-old woman, Central Gonja District, KII)

"My husband encouraged me to go to the health centre, and the midwife treated me well." (FGD participant)

Health System Responsiveness

Facility accessibility was significantly associated with skilled delivery utilization ($\chi^2 = 18.34$, $p < 0.001$). Women attending health facilities equipped with ramps and accessible toilets were more than three times as likely to utilize skilled delivery services as those attending less accessible facilities (OR = 3.2, 95% CI: 1.9–5.4). Health workers' attitudes were also significantly associated with utilization ($\chi^2 = 14.76$, $p < 0.001$).

Qualitative findings demonstrated considerable variation in the accessibility and responsiveness of health facilities.

"The hospital has no accessible toilet, so I felt embarrassed and left early." (28-year-old woman, Mamprugu-Moaduri District, FGD)

"They built a ramp last year. Now I can enter without crawling." (35-year-old woman, Talensi District, FGD)

"One nurse was patient and explained everything, but another shouted at me for being slow." (32-year-old woman, Kumbungu District, KII)

DISCUSSION

This study examined the barriers and facilitators influencing the utilization of skilled delivery services among women with disabilities in rural northern Ghana using a mixed-methods approach. The findings demonstrate that access to skilled delivery is shaped by a complex interaction of socioeconomic, geographical, and health system factors. Women with disabilities faced multiple barriers to accessing facility-based childbirth, whereas family support, community engagement, accessible health facilities, and positive interactions with healthcare providers facilitated the utilization of skilled delivery services. By integrating quantitative and qualitative evidence, this study provides a more comprehensive understanding of disability-inclusive maternal healthcare than previous studies conducted in Ghana.

Distance from health facilities and educational attainment emerged as important determinants of skilled delivery utilization. Women residing farther from health facilities and those without formal education were less likely to utilize skilled delivery services. These findings are consistent with previous research from northern Ghana, which identified geographical accessibility and socioeconomic disadvantage as major determinants of institutional delivery (Mohammed et al., 2025). However, unlike earlier studies, the present study disaggregated the findings by disability type, demonstrating that women with physical disabilities experienced the lowest utilization of skilled delivery services. This finding highlights that women with disabilities should not be considered a homogeneous group and that maternal health interventions should be tailored to address the distinct needs of different disability categories.

The study further identified transportation difficulties, inaccessible healthcare infrastructure, and stigma as major barriers to skilled delivery utilization. The qualitative findings illustrated how these barriers operated in everyday life, with women describing inaccessible health facilities, difficulties obtaining transportation during labour, and discriminatory attitudes from healthcare providers. These findings support earlier evidence from Ghana indicating that women with disabilities frequently encounter physical, social, and institutional barriers when accessing maternal healthcare (Ganle et al., 2016). By combining statistical analyses with participants' lived experiences, the present study demonstrates that these barriers are not only perceived challenges but also measurable determinants of inequitable access to skilled delivery services.

Family support and community involvement emerged as important facilitators of skilled delivery utilization. Women who received support from spouses or other family members were more likely to access health facilities for childbirth, while community health volunteers played an important role in promoting antenatal care attendance and facilitating timely transportation during labour. These findings extend previous Ghanaian research by demonstrating that household support systems and community networks complement formal health services in improving maternal healthcare access. Similar observations have been reported in other low-resource settings, including Nepal, where family

and community support have been shown to improve access to maternal healthcare among women with disabilities (Morrison et al., 2018). These findings suggest that strengthening community-based support mechanisms may represent an effective strategy for improving disability-inclusive maternal healthcare.

Health system responsiveness also influenced the utilization of skilled delivery services. Women receiving care in facilities with accessible infrastructure and supportive healthcare providers reported more positive experiences and greater utilization of facility-based childbirth. Nevertheless, qualitative findings indicated considerable variation in accessibility and provider attitudes across health facilities, suggesting that disability inclusion remains inconsistently implemented. While previous studies have largely described discrimination as a widespread barrier (Ganle et al., 2016), the present findings indicate that positive provider attitudes and relatively accessible facilities can substantially improve women's experiences and encourage continued use of maternal health services. These findings underscore the importance of investing in accessible infrastructure alongside disability-sensitive training for healthcare professionals.

The strengths of this study include the use of a mixed-methods design, which enabled triangulation of quantitative and qualitative findings and provided a comprehensive understanding of the experiences of women with disabilities. The inclusion of women with different disability types, together with the perspectives of family caregivers, community members, and healthcare providers, further strengthened the findings by capturing multiple dimensions of maternal healthcare access.

Several limitations should be acknowledged. First, participant recruitment through health facility records, disability associations, and snowball sampling may have resulted in selection bias, as women who were not connected to these networks may have been underrepresented. Second, the cross-sectional design limits causal inference between the identified determinants and skilled delivery utilization. Finally, the study was conducted in selected rural districts of northern Ghana; therefore, the findings should be generalized to other settings with caution. Despite these limitations, the integration of quantitative and qualitative evidence enhances the credibility of the findings and provides robust evidence to inform disability-inclusive maternal health policies and programmes.

Overall, this study demonstrates that improving skilled delivery utilization among women with disabilities requires interventions that address both structural and social barriers. Investments in accessible healthcare infrastructure, reliable transportation systems, disability-sensitive training for healthcare providers, community-based support programmes, and inclusive maternal health policies are essential for reducing inequities in maternal healthcare. Such interventions will contribute to improving access to skilled delivery services and support Ghana's efforts to achieve universal health coverage and reduce preventable maternal and neonatal mortality.

CONCLUSION

This study examined the barriers and facilitators influencing the utilization of skilled delivery services among women with disabilities in rural northern Ghana using a mixed-methods approach. The findings demonstrate that access to skilled delivery is shaped by the interaction of socioeconomic disadvantage, geographical accessibility, health system responsiveness, and disability-related barriers. Women with disabilities, particularly those with physical disabilities, continue to experience substantial challenges in accessing skilled delivery services because of transportation difficulties, inaccessible health facilities, stigma, and discrimination.

The study also identified important enabling factors, including family support, community health volunteer engagement, disability-friendly health facilities, and respectful attitudes among healthcare providers. By integrating quantitative findings with women's lived experiences, this study provides robust evidence that improving skilled delivery utilization requires addressing both structural barriers and social determinants of maternal healthcare. The findings further demonstrate that disability intersects with poverty, gender, and rural disadvantage to influence maternal health outcomes, underscoring the importance of disability-inclusive approaches to maternal healthcare planning and service delivery.

The findings have important implications for policy and practice. Strengthening disability-inclusive maternal healthcare will require investments in accessible health infrastructure, reliable transportation systems, disability-sensitive training for healthcare providers, and stronger community-based support mechanisms involving families, community health volunteers, and disability organizations. National maternal health policies should explicitly incorporate the needs of women with disabilities to ensure equitable access to skilled delivery services, particularly in underserved rural communities. Future research should evaluate the effectiveness of disability-inclusive interventions and implementation strategies aimed at improving maternal healthcare access and reducing inequities among women with disabilities in Ghana.

SOURCE OF FUNDING

Nil.

CONFLICT OF INTEREST

None

REFERENCES

- Adongo, A. A., Dapaah, J. M., Azumah, F. D., & Onzaberigu, J. N. (2024). Maternal and child health care access to skilled delivery services among Ghanaian rural mothers. *Research in Health Services & Regions*, 3(1), 6. <https://doi.org/10.1007/s43999-024-00042-0>.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Thousand Oaks, CA: Sage.
- Ganle, J. K., Otupiri, E., Obeng, B., Edusie, A. K., Ankomah, A., & Adanu, R. (2016). Challenges women with disability face in accessing and using maternal healthcare services in Ghana: a qualitative study. *PloS one*, 11(6), e0158361. <https://doi.org/10.1371/journal.pone.0158361>.
- Ghana Statistical Service. (2021). *2021 Population and Housing Census: General report*. Ghana Statistical Service.
- Mohammed, A. G., Nukpezah, R. N., Bonful, H., Abiwu, H. P. A. K., Noora, C. L., Adams, A. S., Nai-Dowetin, J., & Kenu, E. (2025). Predictors of institutional delivery service utilization among women in the Northern region of Ghana. *PLOS ONE*, 20(3), e0324328. <https://doi.org/10.1371/journal.pone.0324328>
- Morrison, J., Basnet, M., Budhathoki, B., Adhikari, D., Tumbahangphe, K., Manandhar, D., & Costello, A. (2018). Disabled women's maternal and newborn health care in Nepal: A qualitative study. *Midwifery*, 56, 65–71. <https://doi.org/10.1016/j.midw.2017.10.009>
- Obeng, B., Asante, E. A., Agyemang, E., & Aryee, C. (2024). Maternal health care for women with disabilities: Perspectives of health professionals in Ghana. *Discover Health Systems*, 3(22), Article 22. <https://doi.org/10.1007/s44250-024-00022-9>
- Oliver, M. (1990). *The politics of disablement*. London: Macmillan.
- World Health Organization. (2011). *World report on disability*. Geneva: WHO Press.