

Structural and Socioeconomic Barriers to Maternal Healthcare Access in an Underserved Coastal Community in the Philippines

Jessel Joy Llamera Diaz

Student, AGO Medical and Educational Center Graduate School of Health

Abstract— Maternal healthcare access remains challenging in geographically isolated and underserved communities where structural and socioeconomic disadvantages can delay timely use of essential services. This study examined the barriers affecting maternal healthcare access among women in Barangay Buenavista, an underserved coastal community in Castilla, Sorsogon, Philippines. A quantitative descriptive cross-sectional and correlational design was employed among 68 purposively selected respondents comprising pregnant women and mothers who had given birth within the previous two to three years. Data were collected using a researcher-developed questionnaire and analyzed through frequencies, percentages, weighted means, and Spearman's rank-order correlation. The findings showed that accessibility and socioeconomic constraints were the most prominent barriers to maternal healthcare. Geographic isolation, transportation difficulty, distance from health facilities, out-of-pocket expenses, household responsibilities, employment insecurity, and limited financial capacity reduced women's ability to obtain timely care. Educational attainment and monthly family income were negatively associated with perceived barriers, while the number of children was positively associated with greater access difficulties. These findings indicate that maternal healthcare inequities in coastal communities are driven largely by system-level and socioeconomic conditions rather than individual choice. Integrated interventions involving emergency transportation, strengthened referral systems, barangay-level maternal services, financial protection, and targeted support for low-income, low-education, and high-parity mothers are recommended to improve equitable access to maternal healthcare.

Keywords— maternal healthcare access; structural barriers; socioeconomic barriers; coastal communities; health equity.

I. INTRODUCTION

Maternal healthcare access is a fundamental component of safe motherhood and an essential indicator of health-system equity. Timely access to antenatal care, skilled birth attendance, emergency obstetric services, and postnatal care can prevent complications and improve outcomes for women and newborns. However, the availability of maternal health services does not necessarily guarantee their effective use. Women may remain unable to obtain care because of geographic isolation, transportation limitations, direct and indirect expenses, household responsibilities, insecure employment, inadequate information, and weaknesses in referral and service-delivery systems. These barriers are especially pronounced in rural, geographically isolated, and underserved communities, where delays in seeking, reaching, and receiving appropriate care can transform

manageable pregnancy-related conditions into life-threatening emergencies.

Maternal health inequities are closely linked to the social and structural conditions in which women live. Poverty, limited education, unstable livelihoods, high fertility, and restricted access to transport can affect whether a woman recognizes the need for care, decides to seek assistance, reaches an appropriate facility, and completes the recommended continuum of maternal services. Access must therefore be understood as more than the physical presence of a health facility. It also involves affordability, geographic reach, acceptability, service readiness, continuity, and the ability of women and their households to mobilize the resources needed to use care. The thesis literature notes that travel distance, cost, road access, waiting time, household duties, and the availability and quality of health

services influence the use of antenatal, facility-based delivery, and postnatal care.

Structural barriers are particularly important in coastal and geographically isolated communities. Geographic location can determine the time, cost, safety, and reliability of travel to healthcare facilities. Mothers who depend on boats, motorcycles, irregular public transportation, or multiple modes of travel may be unable to reach services during severe weather, nighttime emergencies, or periods of limited transport availability. Janerol et al. (2024), as reviewed in the thesis, found that mothers in geographically isolated and disadvantaged areas encountered substantial transportation barriers that impeded timely access to facilities. The study also identified reliance on untrained traditional birth attendants as an additional source of maternal risk. Collado (2024) similarly emphasized that physical inaccessibility contributes to unequal healthcare access and influences health-seeking behavior in disadvantaged Philippine communities.

Transportation constraints are not isolated logistical problems; they are embedded within broader infrastructure and health-system conditions. Poor road connectivity, limited maritime transport, inadequate emergency vehicles, weak communication systems, and fragmented referral arrangements can prolong the time required to obtain definitive care. Arcilla (2026) described transportation as a critical factor in emergency obstetric access in geographically isolated Philippine communities, where distance and inadequate infrastructure may interact with sociocultural and health-system constraints to increase preventable delays. Maternal waiting or halfway homes have been proposed as one response for women living far from delivery facilities, particularly during the final weeks of pregnancy. Such arrangements reduce the distance between women and skilled care when labor begins, although they require adequate funding, local coordination, and community acceptance.

Socioeconomic disadvantage further intensifies structural barriers. Even where public maternal services are nominally free, women and their families

may still incur transportation expenses, medicine and laboratory costs, food and accommodation expenses, childcare costs, and lost income. For households dependent on informal or daily-wage employment, attending a health appointment can mean forfeiting earnings needed for basic necessities. Household responsibilities may also prevent women from leaving home, especially when alternative childcare or domestic support is unavailable. Financial barriers therefore operate through both direct payments and opportunity costs.

The relationship between poverty and maternal health access is multidimensional. Bancoro and Bancoro (2025) described a reciprocal relationship between financial capacity and maternal health literacy: limited resources can restrict access to information and services, while inadequate health knowledge may contribute to delayed care and increased economic burden. Education may influence women's ability to recognize pregnancy danger signs, understand referral instructions, navigate health insurance and assistance programs, communicate with providers, and participate in household healthcare decisions. Women with higher education and stronger financial resources may therefore be better positioned to obtain comprehensive antenatal, delivery, and postnatal care.

Evidence from other low-resource settings supports the importance of these social determinants. Adhikari et al. reported that planned pregnancy, higher educational attainment, and greater proximity to healthcare facilities were associated with more comprehensive maternal service use. Persistent barriers included poverty, transport limitations, distance, lack of information, staff unavailability, insecurity, and concerns regarding the quality of maternity care. Najibi et al. (2024) grouped barriers to maternal health service utilization in low- and lower-middle-income countries into knowledge-related barriers; beliefs, attitudes, and preferences; access constraints; and family structure and power. These categories demonstrate that maternal healthcare utilization is shaped by interacting individual, household, community, and system-level conditions rather than by a single factor.

The maternity continuum of care can be disrupted at several points. Women may delay antenatal visits because they do not perceive an immediate need, cannot afford transport, are occupied with household work, or live far from facilities. Facility delivery may be affected by unpredictable labor, unavailable transportation, insufficient birth preparedness, or concerns about treatment at the facility. Postnatal care may be neglected when mothers deliver at home, lack information about recommended schedules, or face the same financial and geographic barriers that affected antenatal attendance. Yoseph et al. (2024) identified distance, costs, poor road access, long waiting times, household duties, limited awareness, and negative interactions with service providers as barriers across maternal health services. These findings underscore the need to view maternal care as a continuous pathway rather than as a series of unrelated contacts.

Two complementary frameworks help explain these barriers. The Three Delays Model categorizes breakdowns in maternal care into delays in deciding to seek care, reaching an appropriate facility, and receiving adequate care after arrival. Structural and transportation barriers are particularly relevant to the second delay, while financial limitations, health literacy, stigma, and household decision-making may contribute to the first. Staffing, service availability, referral efficiency, and facility responsiveness influence the third delay. Andersen's Behavioral Model of Health Services Use further explains utilization through predisposing, enabling, and need factors. Predisposing factors include demographic and social characteristics; enabling factors include income, insurance, transport, and available health services; and need factors refer to perceived or evaluated requirements for care. Together, the models provide a useful basis for examining how maternal characteristics interact with structural and socioeconomic conditions.

In the Philippines, Universal Health Care seeks to ensure equitable access to essential services, yet implementation remains difficult in geographically isolated and underserved areas. National policies may not fully address the practical realities of communities where mothers must cross bodies of water, depend on

irregular transport, or travel considerable distances to reach functioning health facilities. Local evidence is therefore necessary to identify which barriers are most influential and which groups face the greatest disadvantage. Barangay-level studies can support context-specific planning by local governments, rural health units, midwives, barangay health workers, and community organizations. The thesis recognizes that localized evidence can help assess the effectiveness of Universal Health Care strategies in remote coastal communities and inform more equitable program implementation.

Barangay Buenavista in Castilla, Sorsogon provides a relevant setting for such an investigation. The community is classified as an unserved and underserved coastal area. Reaching the nearest functional health facility reportedly requires approximately 30 minutes of land travel and an additional 15 minutes by motorized boat. This combined journey may become more difficult during poor weather, transport shortages, or maternal emergencies. The manuscript further associates the community's isolation with transportation constraints, limited awareness of standard maternal health practices, and continued reliance on traditional home-birth practices. These conditions illustrate how geographic isolation can interact with limited household resources and local health-system capacity.

Despite the broader literature on maternal healthcare barriers, evidence from small coastal communities remains limited and highly context-dependent. Findings from urban settings or land-based rural areas may not fully represent communities that depend on maritime transport and face distinctive referral and infrastructure challenges.

Moreover, barriers may not be experienced equally by all mothers. Educational attainment, household income, civil status, age at pregnancy, family size, and pregnancy spacing may influence women's capacity to overcome geographic and financial constraints. Examining these relationships is essential for moving beyond generalized interventions and directing resources toward mothers who are most vulnerable.

Accordingly, this study examined structural and socioeconomic barriers affecting maternal healthcare access among women in an underserved coastal community in the Philippines. Specifically, it described the mothers' sociodemographic characteristics in terms of age at first pregnancy, civil status, educational attainment, monthly family income, number of children, and pregnancy interval; assessed structural barriers associated with transportation, geographic isolation, distance from health facilities, service availability, and healthcare delivery; determined socioeconomic barriers involving out-of-pocket costs, household responsibilities, employment constraints, income limitations, and related financial burdens; and examined the relationships between maternal sociodemographic characteristics and the identified structural and socioeconomic barriers.

II. METHODOLOGY

This study employed a quantitative, descriptive cross-sectional, and correlational research design to examine structural and socioeconomic barriers affecting maternal healthcare access in an underserved coastal community in the Philippines.

The descriptive component was used to summarize the respondents' sociodemographic characteristics and assess the extent of perceived barriers, while the correlational component was used to determine whether maternal characteristics were significantly associated with structural accessibility and socioeconomic constraints. The study was conducted in Barangay Buenavista, Castilla, Sorsogon, a coastal community classified as an unserved and underserved area.

The respondents consisted of 68 purposively selected women identified from the local Target Client List covering 2022–2025. Of these, 52 had given birth within the previous two to three years and had experienced the maternal continuum of care, while 16 were pregnant at the time of data collection.

Eligible participants were bona fide residents of Barangay Buenavista who had lived in the area for at least one year. Women younger than 18 years and

residents from other barangays or municipalities were excluded. Data were collected using a researcher-developed, Filipino-translated questionnaire containing sections on sociodemographic characteristics and perceived barriers to maternal healthcare. Barrier items were rated using a five-point Likert scale ranging from 1, strongly disagree, to 5, strongly agree.

Data collection was conducted from December 2025 to February 2026 following institutional and local government approval.

The researcher personally distributed and retrieved the questionnaires, explained the instructions, and clarified responses when necessary.

Frequencies and percentages were used to summarize the respondents' sociodemographic characteristics, while weighted means were calculated to determine the level of perceived barriers.

Spearman's rank-order correlation was used to examine associations between maternal characteristics and the identified barrier domains. Participants received information about the study and provided informed consent. Confidentiality, anonymity, and secure handling of personal information were maintained in accordance with the Philippine Data Privacy Act.

III. RESULTS

Sociodemographic characteristics of mothers in an underserved coastal community

Table 1 shows that most respondents entered pregnancy at a relatively young age, were married, had attained high school education, and belonged to low-to middle-income households. Nearly half reported monthly family incomes between ₱5,000 and ₱10,000, while a substantial proportion had four or more children.

Pregnancy intervals were also generally short, with most respondents reporting spacing of one to four years. These characteristics indicate a population facing sustained maternal healthcare needs within a resource-constrained environment.

Table 1. Sociodemographic characteristics of mothers in the underserved coastal community (N = 68)

Characteristic	Category	Frequency, n	Percentage, %
Age at first pregnancy	18–22 years	23	34.0
	23–27 years	23	34.0
	28–32 years	18	26.0
	33–37 years	4	6.0
Civil status	Single	18	26.0
	Married	50	74.0
Educational attainment	No formal schooling	4	6.0
	Elementary level	18	26.0
	High school level	33	49.0
	College level	13	19.0
Monthly family income	Below ₱5,000	18	26.0
	₱5,000–₱10,000	33	49.0
	Above ₱10,000	13	19.0
	Not reported	4	6.0
Number of children	1–3 children	33	49.0
	4–6 children	28	41.0
	7 or more children	7	10.0
Pregnancy interval	1–2 years	33	48.5
	3–4 years	33	48.5
	5–6 years	2	3.0

The concentration of respondents in lower-income categories suggests that economic capacity may directly influence their ability to pay for transportation, medicines, laboratory procedures, and other indirect costs associated with maternal care.

Although public maternal healthcare services may be available, access can still be restricted when households must prioritize food, employment, childcare, and other essential expenses. The combination of limited income, relatively high parity, and short pregnancy intervals may further increase the frequency and cumulative cost of healthcare utilization.

Educational attainment is also important because it may influence health literacy, awareness of pregnancy risks, familiarity with available services, and confidence in navigating the healthcare system.

The manuscript notes that maternal age, income, education, and parity are relevant determinants of maternal health vulnerability. It also cites evidence showing that younger mothers and women with higher

parity may experience increased maternal risks, particularly in low-resource communities.

These findings indicate that the respondents should not be treated as a homogeneous group.

Mothers with lower education, limited income, and larger families may require more targeted support, including simplified health information, transport assistance, financial protection, and proactive follow-up by barangay health workers.

Structural barriers to maternal healthcare access

Table 2 indicates that structural barriers are central to maternal healthcare access in Barangay Buenavista.

The community's coastal location requires mothers to travel approximately 30 minutes by land and an additional 15 minutes by motorized boat to reach the nearest functional health facility.

This journey becomes more difficult during emergencies, unfavorable weather, limited boat availability, or nighttime travel.

Table 2. Structural barriers affecting maternal healthcare access

Structural barrier	Findings	Implication for access
Geographic isolation	Barangay Buenavista is classified as an unserved and underserved coastal area.	Geographic separation limits timely access to routine and emergency maternal healthcare.
Travel requirements	Access to the nearest functional health facility requires approximately 30 minutes by land and an additional 15 minutes by motorized boat.	Mothers depend on multiple transport modes, increasing travel difficulty and potential delay.
Transportation constraints	Transportation difficulty was identified as a highly rated accessibility concern.	Limited or unreliable transport may delay antenatal consultations, facility delivery, and emergency referral.
Distance from health facilities	Distance was identified as an important accessibility barrier.	Greater travel burden can discourage regular service utilization and delay emergency obstetric care.
Service delivery limitations	The study identified concerns involving service delivery, staffing, and health-facility responsiveness.	System limitations can reduce the availability and continuity of maternal healthcare.
Overall accessibility barrier	Overall weighted mean reported as 3.78, interpreted as a significant barrier.	Structural accessibility constraints were among the most prominent barriers in the community.

The reported accessibility weighted mean of 3.78 suggests that respondents generally regarded structural access problems as important barriers. Transportation difficulty, geographic distance, limited infrastructure, and service delivery constraints may delay routine antenatal care, facility-based delivery, postnatal care, and emergency obstetric referral.

These findings are consistent with the Three Delays Model used in the thesis. Geographic isolation and transportation limitations correspond primarily to the second delay: the delay in reaching an appropriate healthcare facility. However, structural barriers may also contribute to the first delay because women who anticipate difficult, costly, or unsafe travel may postpone the decision to seek care.

The manuscript relates these findings to Arcilla, who identified transportation constraints as a major contributor to delays in emergency obstetric care in geographically isolated Philippine communities. It also cites Collado, who emphasized that geographic inaccessibility contributes to healthcare inequality and

affects health-seeking behavior in geographically disadvantaged areas.

The findings therefore suggest that maternal healthcare access cannot be improved through health education alone. Even well-informed mothers may be unable to use services when transport is unavailable, travel is unsafe, referral arrangements are weak, or health facilities are too distant. Structural interventions such as emergency transport systems, barangay-level maternal care points, mobile services, maternal waiting facilities, and strengthened referral networks are necessary to reduce these barriers.

Socioeconomic barriers affecting maternal healthcare access

Table 3 shows that socioeconomic barriers were also strongly perceived by the respondents, with an overall weighted mean of 3.54. The highest-rated barrier was stigma, shame, or embarrassment among young and unmarried mothers, followed by household responsibilities, insecure employment, inflexible work schedules, and out-of-pocket healthcare costs.

Table 3. Socioeconomic barriers affecting maternal healthcare access (reported N = 65)

Socioeconomic indicator	Weighted mean	Interpretation	Rank
Stigma, shame, or embarrassment among young and unmarried mothers	4.06	Agree	1
Household responsibilities prioritized over healthcare visits	4.01	Agree	2
Insecure employment and inflexible work hours	3.72	Agree	3
Out-of-pocket cost of maternal health services	3.69	Agree	4
Low awareness of pregnancy danger signs	2.22	Disagree	5
Overall weighted mean	3.54	Agree	—

The prominence of household responsibilities suggests that maternal healthcare utilization competes with domestic work, childcare, income-generating activities, and family obligations. Women may postpone or miss appointments when no other household member is available to care for children or perform essential tasks. This demonstrates that access is influenced not only by the availability of healthcare services but also by women's social and economic roles within the household.

Employment insecurity and inflexible working hours further constrain service utilization. Mothers engaged in informal, temporary, or daily-wage work may lose income when attending antenatal appointments or seeking care. The opportunity cost of healthcare therefore becomes an important barrier, particularly among low-income households. Out-of-pocket expenses compound this problem because transport, medicines, diagnostic procedures, food, and accommodation may still require payment even when consultation services are subsidized.

The high rating for stigma among young and unmarried mothers suggests that social vulnerability may intersect with financial and structural disadvantage. Fear of judgment or embarrassment may discourage early consultation, disclosure of pregnancy, or continued engagement with maternal health services. This barrier may be particularly

relevant where maternal care is delivered in highly visible community settings with limited privacy.

The manuscript connects these findings with evidence that poverty and low health literacy can reinforce each other. Limited financial resources restrict access to services and information, while inadequate knowledge may lead to delayed care and greater healthcare costs. It also notes that economic restrictions and maternal health literacy are closely related to reduced service utilization.

These findings support the need for combined interventions rather than isolated programs. Transport subsidies, PhilHealth enrollment support, livelihood linkages, flexible clinic schedules, childcare assistance, and confidential adolescent- and youth-friendly services may be more effective when implemented together.

Relationship between maternal sociodemographic characteristics and the identified structural and socioeconomic barriers to maternal healthcare access

Table 4 demonstrates that age at pregnancy, civil status, educational attainment, monthly family income, and number of children were significantly associated with structural accessibility barriers. Pregnancy interval was the only variable that was not significantly related to this barrier domain.

Table 4. Association of maternal characteristics with structural accessibility barriers

Maternal characteristic	Spearman's r	p-value	Strength and direction	Interpretation
Age at pregnancy	0.312	< .05	Weak positive	Significant
Civil status	0.276	< .05	Weak positive	Significant
Educational attainment	−0.412	< .01	Moderate negative	Significant

Monthly family income	-0.389	< .01	Weak negative	Significant
Number of children	0.334	< .01	Weak positive	Significant
Pregnancy interval	0.215	> .05	Weak positive	Not significant

Educational attainment showed a moderate negative relationship with structural barriers. This indicates that women with higher educational attainment generally reported fewer accessibility difficulties. Education may improve awareness of services, confidence in communicating with providers, ability to plan transportation, and familiarity with referral procedures. Conversely, women with limited education may experience greater difficulty obtaining information, arranging care, or navigating the health system.

Monthly family income was also negatively associated with structural barriers. Mothers from households with higher incomes may be better able to pay for boat travel, private transportation, medicines, meals, and other costs incurred while accessing care. In contrast, lower-income mothers may delay healthcare visits because of limited cash, competing household expenses, or dependence on irregular transport.

The positive relationship between number of children and structural barriers suggests that women with larger families experience greater access difficulties. Higher parity may increase childcare responsibilities, transportation costs, and the logistical burden of leaving the household to seek care. It may also indicate

repeated exposure to the same structural limitations over several pregnancies.

Age at pregnancy and civil status were weakly but significantly related to structural barriers. These associations may reflect differences in financial independence, household support, mobility, and decision-making capacity. However, because the correlations were weak, these factors should not be interpreted as strong predictors on their own.

The manuscript similarly concludes that education, income, and number of children are consistently related to maternal healthcare barriers. Higher education and income were associated with fewer perceived barriers, while higher parity was associated with greater exposure to access constraints.

The findings support an equity-oriented approach in which assistance is prioritized for low-income mothers, women with limited education, younger mothers, and those with larger families.

Table 5 shows that civil status, educational attainment, monthly family income, and number of children were significantly associated with socioeconomic barriers. Age at pregnancy and pregnancy interval were not significantly related to this domain.

Table 5. Association of maternal characteristics with socioeconomic barriers

Maternal characteristic	Spearman's r	p-value	Strength and direction	Interpretation
Age at pregnancy	0.221	> .05	Weak positive	Not significant
Civil status	0.341	< .01	Weak positive	Significant
Educational attainment	-0.365	< .01	Weak negative	Significant
Monthly family income	-0.445	< .01	Moderate negative	Significant
Number of children	0.298	< .05	Weak positive	Significant
Pregnancy interval	0.198	> .05	Very weak positive	Not significant

Monthly family income had the strongest observed relationship with socioeconomic barriers and showed a moderate negative correlation. This result is expected because households with greater financial resources are generally better able to absorb the direct

and indirect costs of maternal healthcare. Lower-income households, on the other hand, may experience greater difficulty paying for transportation, medicines, diagnostic tests, food, and lost wages.

Educational attainment was also negatively associated with socioeconomic barriers. Education may increase access to employment, improve household decision-making, enhance health literacy, and strengthen awareness of public benefits and financial assistance programs. Women with limited education may have fewer employment opportunities and may be more economically dependent on partners or relatives.

The positive relationship between number of children and socioeconomic barriers indicates that larger families may face greater competition for limited household resources. Repeated pregnancies may also increase cumulative healthcare costs and reduce the mother's ability to participate in paid employment.

Civil status was significantly related to socioeconomic barriers, although the relationship was weak. Married women may benefit from partner support, but they may also face larger household obligations and limited autonomy over family resources. Single mothers may experience fewer sources of financial and emotional support and may be more vulnerable to stigma. Because the coding method for civil status is not fully described in the thesis, the direction of this relationship should be interpreted cautiously.

The absence of a significant relationship for pregnancy interval suggests that economic barriers were broadly experienced regardless of spacing between pregnancies. Similarly, age at pregnancy alone did not significantly explain socioeconomic constraints.

Overall, these findings reinforce the conclusion that maternal healthcare inequalities are shaped by social determinants rather than by individual choice alone. The thesis argues that structural and socioeconomic factors are more influential than cultural resistance and recommends multisectoral strategies focused on infrastructure, financial protection, and stronger healthcare systems.

IV. CONCLUSION & RECOMMENDATION

The study concludes that access to maternal healthcare in the underserved coastal community of Barangay Buenavista is constrained primarily by structural and socioeconomic conditions. Geographic isolation, dependence on combined land-and-sea transportation,

distance from functional health facilities, limited household income, out-of-pocket expenses, employment insecurity, and competing household responsibilities collectively reduce women's ability to obtain timely and continuous maternal care. Educational attainment, monthly family income, civil status, age at pregnancy, and number of children were significantly associated with selected barrier domains, with lower education and income generally linked to greater perceived barriers and higher parity associated with increased access difficulties. These findings indicate that maternal healthcare inequities in the community are driven less by individual choice and more by systemic disadvantage, resource limitations, and unequal capacity to reach and use available services.

A coordinated, community-based maternal health program should be implemented to address both structural and socioeconomic barriers. Priority measures should include a reliable emergency transport and referral system, barangay-level maternal care points, scheduled outreach or mobile health services, transport subsidies, PhilHealth enrollment and benefit assistance, and financial support for low-income households. Service schedules should be made more flexible for working mothers, while confidential and nonjudgmental services should be strengthened for young and unmarried women. Barangay health workers should provide proactive follow-up and simplified maternal health education, particularly for mothers with limited education, low household income, and high parity. Local government, rural health units, community leaders, and social welfare agencies should jointly monitor these interventions to ensure that maternal healthcare becomes more accessible, equitable, responsive, and sustainable in accordance with Universal Health Care principles.

REFERENCES

- [1] Adhikari, M., Rajbanshi, M., Karki, A., Aryal, R., & Choulagai, B. P. (2025). Assessment of maternal healthcare services among women of reproductive age in a rural municipality of Nepal: A cross-sectional study. *BMJ Public Health*, 3(1), Article e000916. <https://doi.org/10.1136/bmjph-2024-000916>

- [2] Alcock, S., Leal, M., Beukes, J., Nyati, L. H., Thompson, U., & Norris, S. A. (2025). Maternal age and parity influences on health outcomes: A multivariable regression analysis of mothers and infants. *BMC Pregnancy and Childbirth*, 25(1), Article 1094. <https://doi.org/10.1186/s12884-025-08194-8>
- [3] Arcilla, Q. E. (2026). Healthcare access and maternal mortality: Transportation as a critical factor in emergency obstetric care. *International Journal of Research and Innovation in Social Science*, 10(2), 387. <https://doi.org/10.47772/IJRISS.2026.10200387>
- [4] Bancoro, J. C. M., & Bancoro, J. M. (2025). Exploring the intersection of financial and maternal health literacy among women. *Journal of Interdisciplinary Perspectives*, 3(7), 166–173. <https://doi.org/10.69569/jip.2025.319>
- [5] Birye, D. M., Vasilevski, V., Bali, A. G., & Sweet, L. (2026). Barriers and facilitators to engaging with the maternity continuum of care in northwest Ethiopia: A qualitative descriptive study. *Sexual & Reproductive Healthcare*, 47, Article 101187. <https://doi.org/10.1016/j.srhc.2026.101187>
- [6] Cagayan, M. S., Nisperos, G. A., Facun, G. M., Cagayan, B. S., Castro, M. C., & Silverio, C. E. (2022). Mothers' perspectives on the utilization of maternal health services in rural health units in Luzon: A qualitative study. *Acta Medica Philippina*, 56(13). <https://doi.org/10.47895/amp.v56i13.2392>
- [7] Celedeña, M. F. (2026, May 15). No mother left behind: Butuan's halfway houses strengthen maternal healthcare. [Publisher information and direct URL to be verified].
- [8] Collado, Z. C. (2024). The right to healthcare must include the right to ease of physical access: Exploring the geography–health nexus in GIDA communities in the Philippines. *International Journal of Social Determinants of Health and Health Services*, 54(4), 436–440. <https://doi.org/10.1177/27551938241265673>
- [9] Grand-Guillaume-Perrenoud, J. A., Origlia, P., & Cignacco, E. (2022). Barriers and facilitators of maternal healthcare utilisation in the perinatal period among women with social disadvantage: A theory-guided systematic review. *Midwifery*, 105, Article 103237. <https://doi.org/10.1016/j.midw.2021.103237>
- [10] International Confederation of Midwives. (2026, May 13). When care is out of reach: What maternity deserts in the United States reveal for the world. [Direct webpage URL to be verified].
- [11] Janerol, B. G., Jr., Aclaro, I. F. L., Apego, N. M. M., Casil, D. L. B., Lisbos, K. G. B., Samson, G. C., & Carin, D. J. C. (2024). Unveiling the invisible: Mothers' journey in birthing facilities of geographically isolated and disadvantaged areas in Butuan City. *International Journal of Research and Scientific Innovation*, 11(12), 7–15. <https://doi.org/10.51244/IJRSI.2024.11120007>
- [12] Kisiangani, I., Elmi, M., Bakibinga, P., Mohamed, S., Kisia, L., Kibe, P., Otieno, P., Afeich, N., Abdullahi, A., Njoroge, N., Noor, R., & Ziraba, A. (2020). Persistent barriers to the use of maternal, newborn, and child health services in Garissa Sub-County, Kenya: A qualitative study. *BMC Pregnancy and Childbirth*, 20, Article 295. <https://doi.org/10.1186/s12884-020-02955-3>
- [13] Sarikhani, Y., Najibi, S., & Razavi, Z. (2024). Key barriers to the provision and utilization of maternal health services in low- and lower-middle-income countries: A scoping review. *BMC Women's Health*, 24, Article 310. <https://doi.org/10.1186/s12905-024-03157-7>
- [14] United Nations Population Fund Philippines. (2025). Maternal health. <https://philippines.unfpa.org/en/topics/maternal-health>
- [15] World Health Organization. (2026). Maternal health. <https://www.who.int/health-topics/maternal-health>