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SOCIAL, ECONOMIC, AND HEALTH SERVICE QUALITY FACTORS ASSOCIATED WITH MATERNAL DELIVERY SERVICE UTILIZATION AT COMMUNITY HEALTH CENTERS: A NARRATIVE REVIEW

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ABSTRACT
The utilization of maternal delivery services at primary healthcare centers (puskesmas) is important for supporting accessible and safe childbirth. Although puskesmas provides relatively affordable services, some pregnant women choose hospitals or other healthcare facilities for childbirth. This study aimed to identify factors associated with maternal delivery service utilization at puskesmas, focusing on social, economic, and health service quality factors. A narrative review was conducted on 9 relevant articles, comprising 5 studies from Indonesia and 4 international studies published between 2019 and 2025. Articles were identified through Google Scholar, PubMed, and ScienceDirect using predefined inclusion criteria, including publication between 2019 and 2025, Indonesian or English language, full-text availability, and direct relevance to factors associated with maternal delivery service utilization at puskesmas. Evidence synthesis indicated that social factors, particularly education level and family support, were frequently associated with delivery service utilization. Economic factors, including transportation costs and family income, were reported as barriers, while health service quality factors were identified as important considerations in delivery service utilization. Overall, the evidence synthesized from the included studies suggests that social, economic, and health service quality factors are associated with maternal delivery service utilization at puskesmas. Strengthening service accessibility, quality, and social support may support efforts to improve the utilization of maternal delivery services at puskesmas.

Keywords: Social Factors; Economic Factors; Health Service Quality; Puskesmas.

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INTRODUCTION

Deliveries conducted in adequate, safe, and affordable healthcare facilities play a vital role in reducing maternal mortality (MMR) and infant mortality rates (IMR) (Asnake et al., 2025). According to the Indonesian Ministry of Health (2021), the maternal mortality rate reached 305 per 100,000 live births, while the infant mortality rate was recorded at 24 per 1,000 live births (Kemenkes RI, 2023). Despite ongoing efforts to reduce these figures, access to proper delivery services remains a major challenge, particularly in remote and underserved areas.

The utilization of delivery services in primary healthcare facilities such as community health centers (puskesmas) is a key component in improving maternal and child health outcomes in Indonesia. Although the coverage of antenatal care (ANC) is relatively high, the actual utilization of delivery care at community health centers remains low compared to ANC visits, indicating a significant service utilization gap (Leslie et al., 2022). This discrepancy suggests that the availability of facilities does not necessarily guarantee their optimal use.

Social factors play an important role in shaping pregnant women's decisions regarding their preferred place of delivery. Maternal education level, knowledge of the benefits of safe delivery in healthcare facilities, and social support from family and the community significantly influence these decisions (Novelia et al., 2020). Women with higher education levels tend to have better understanding of the advantages of institutional delivery services and are more motivated to use them compared to those with lower educational backgrounds (Aines et al., 2025).

In addition to social influences, economic factors also strongly determine women's choices regarding delivery locations (Idris, 2022). Transportation costs, household economic conditions, and access to the National Health Insurance (JKN) directly affect women's ability to utilize delivery services at community health centers. Economic constraints often lead some pregnant women to avoid using available delivery services at puskesmas, even when the facilities are located relatively close to their homes (Md. N. A. Khan & Yunus, 2022).

The quality of healthcare services at community health centers is another important consideration in maternal delivery service utilization. Previous studies have reported that women's perceptions of service quality, healthcare provider communication and competence, and the availability of adequate facilities and medical equipment are associated with their choice of delivery facility (Nigusie et al., 2022). Negative service experiences, including concerns regarding healthcare provider attitudes and limited facility readiness, have also been reported as barriers to choosing community health centers for childbirth (Nigusie et al., 2022).

Geographical conditions and accessibility additionally contribute to the low utilization of delivery services at puskesmas (Tembo & Mambwe, 2022). In remote areas, poor road infrastructure and limited transportation options cause pregnant women to opt for easily accessible facilities, even when the quality of care is inferior to that of community health centers (Idris, 2022). Understanding these determinants comprehensively is therefore essential for improving maternal health services in Indonesia.

Previous studies have examined social, economic, and health service factors related to maternal delivery service utilization; however, these factors are often discussed separately across different populations and healthcare settings. A comprehensive synthesis integrating these three domains, particularly in the context of delivery services at community health centers, remains limited. Therefore, a narrative review is needed to bring together findings from diverse studies and identify common patterns, differences, and gaps in the existing evidence. This study aims to synthesize evidence on social, economic, and health service quality factors associated with maternal delivery service utilization at community health centers. The findings are expected to provide a broader understanding of the factors identified across previous studies and inform the development of contextually appropriate strategies to improve maternal delivery services.

METHODS

Study Design

This study employed a narrative review design aimed at summarizing, evaluating, and synthesizing existing literature on maternal delivery service utilization at community health centers. A narrative review approach was selected because the available evidence encompasses diverse study designs, populations, and healthcare settings, making it suitable for integrating findings across social, economic, and health service quality domains. This

approach also enables the identification of common patterns, differences, and gaps across the existing literature and provides a broader conceptual understanding of factors associated with maternal delivery service utilization.

Search Strategy and Article Selection Criteria

The literature search was conducted using Google Scholar, PubMed, and ScienceDirect. The search covered articles published between 2019 and 2025 and used combinations of the keywords "*Social Factors*," "*Economic Factors*," "*Quality of Health Services*," "*Utilization of Delivery Services*," *"Primary Health Care*," and "*Puskesmas*." Eligible articles were published in Indonesian or English, available in full text, and directly addressed social, economic, or health service quality factors associated with maternal delivery service utilization at community health centers.

Article selection was conducted in several stages. First, articles identified through the database searches were screened based on their titles and abstracts. Duplicate records were removed before further assessment. The remaining articles were assessed against the predefined inclusion and exclusion criteria, followed by full-text review to determine their relevance to the review objectives. Articles that did not directly address maternal delivery service utilization at community health centers, were unavailable in full text, or did not provide relevant findings were excluded. Following this screening and eligibility assessment, 9 articles were included in the final narrative synthesis.

Data Analysis

The articles that met the inclusion criteria were analyzed using a thematic analysis approach. All selected articles were thoroughly reviewed to understand their context, methodologies, and key findings. Emerging patterns and issues identified from the literature were then organized into the main thematic categories: social factors, economic factors, and health service quality. This analytical approach enabled the researcher to narratively connect findings across multiple studies, providing a deeper understanding of the interrelationships among these factors and how they shape pregnant women's decisions to utilize delivery services at community health centers.

RESULTS

The table below presents a summary of the key findings from the articles included in this review. It provides information on the authors, article titles, country and year of publication, research methods used, and the relevant findings related to social, economic, and health service factors influencing the utilization of delivery services at community health centers.

Table 1. Summary of Reviewed Studies on Social, Economic, and Service-Related Factors Influencing the Utilization of Maternal Delivery Services

Author(s)	Title	Country	Study Design	Sample	Principal Determinants	Key Findings
Rosid et al. (2025)	*Social Capital and Antenatal Care: A Multilevel Analysis of Uptake Among Pregnant Women in Kuningan, West Java*	Indonesia	Quantitative, cross-sectional survey	201 pregnant women using ANC services; rural pregnant women	Maternal education; family support; social capital	Higher maternal education and stronger family support were associated with greater ANC attendance and reported preference for community health centers for delivery. Social support within the household and community was also identified as relevant to maternal decision-making regarding maternal health service utilization.

Rosita et al. (2020)	*Increasing ANC Visits at Community Health Centers as an Effect of Ultrasound Use in Pregnancy Examinations*	Indonesia	Quasi-experimental	3,314 pregnant women visiting community health centers in Bogor	Ultrasound availability; perceived service quality; diagnostic technology	The availability of ultrasound at community health centers was associated with increased maternal trust in services and more frequent ANC visits. The study also reported greater acceptance of facility-based delivery following the availability of ultrasound technology.
Sunarto et al. (2024)	*Knowledge and Attitudes of Pregnant Women Towards Bankjo Lamp Technology*	Indonesia	Observational, cross-sectional	Pregnant women visiting health facilities	Maternal knowledge; health education; attitudes toward digital maternal health tools	Maternal knowledge, exposure to health education, and positive attitudes toward digital maternal health tools were associated with preferences for institutional delivery. Women with better understanding of safe delivery practices showed stronger preferences for facility-based birth.
Herwansyah et al. (2022)	*Exploring the Influence of Sociodemographic Characteristics on the Utilization of Maternal Health Services: A Study on Community Health Centers Setting in Province of Jambi, Indonesia*	Indonesia	Quantitative, cross-sectional	436 women of reproductive age who had given birth at least once and resided in the study area for the previous 12 month	Age; education; ethnicity; parity; distance to CHC; health insurance; household income	Several sociodemographic factors were associated with maternal health service utilization at CHCs, including age, education, ethnicity, parity, distance to health facilities, and health insurance ownership. Delivery at government midwife/CHC facilities was reported by 59 women (13.5%). Distance to CHCs was associated with ANC utilization, while parity was associated with place of delivery.
Saptari et al. (2021)	*Continuity of Maternal Healthcare Services Utilisation in Indonesia*	Indonesia	Cross-sectional survey	15,288 ever-married women aged 15–49 years	Facility availability; trained health workers; geographic access	Lower continuity of maternal healthcare utilization was associated with inadequate facilities, limited availability of trained health workers, and geographic disparities. These findings highlight the relevance of facility readiness and accessibility to maternal service utilization.
Setu et al. (2022)	*Individual and Community-Level Determinants of Institutional Delivery Services*	Bangladesh	Quantitative, cross-sectional	250 Bangladeshi women who delivered in health facilities	Maternal education; community support; awareness of safe delivery practices	Maternal education, community support, and awareness of safe delivery practices were associated with institutional delivery. The findings also highlighted

	Among Women in Bangladesh					the relevance of community-based interventions, health promotion, and accessibility of maternal health services.
Kim & Parish (2020)	*Family-Supportive Workplace Policies and Fertility Intentions in South Korea*	South Korea	Survey and thematic data analysis	30 employed women in South Korea	Family support; workplace support	Family support, including emotional, financial, and logistical assistance, was identified as relevant to women's reproductive decision-making. Supportive workplace environments were also associated with engagement in healthy reproductive behaviors and maternal healthcare seeking.
Khan et al. (2021)	*Factors Influencing Place of Delivery: Evidence from Three South-Asian Countries*	Bangladesh, Nepal, Pakistan	Quantitative, logistic regression	16,429 women from Bangladesh, Nepal, and Pakistan	Economic status; household income; transportation; education; wealth; ANC; media exposure	Economic capacity, transportation, household income, education, wealth, ANC utilization, and media exposure were reported as factors associated with place of delivery. Women with greater socioeconomic resources and higher education were more likely to choose facility-based delivery.
Idris H. (2022)	*Factors Associated with the Choice of Delivery Place: A Cross-Sectional Study in Rural Areas of Indonesia*	Indonesia	Quantitative, cross-sectional	2,389 mothers aged 15–49 years who had given birth and lived in rural areas of Indonesia	Education; economic status; health insurance; employment; region of residence	Sixty-seven percent of mothers delivered in health facilities. Education, economic status, health insurance ownership, employment status, and region of residence were associated with the choice of delivery place. Tertiary education was the strongest factor associated with facility-based delivery.

Social Factors Associated with the Utilization of Delivery Services

Findings from the nine reviewed articles indicate that social factors were frequently reported as relevant factors associated with the utilization of maternal delivery services at community health centers. Studies by Rosid et al. (2025) and Sunarto et al. (2024) reported that maternal education and knowledge were associated with preferences for facility-based maternal care, including delivery services. These findings suggest that women with greater understanding of antenatal care and safe delivery practices may be more likely to consider community health centers as an option for maternal care. Setu et al. (2022) similarly reported that maternal education, community support, and awareness of safe delivery practices were associated with institutional delivery.

In addition, family and social support were identified as relevant factors in maternal healthcare-seeking and delivery-related decision-making. Kim & Parish (2020) highlighted the role of family support, including emotional, financial, and logistical assistance, in women's

reproductive decision-making and maternal healthcare seeking. Rosid et al. (2025) also reported that family and community social support were relevant to maternal decision-making regarding the utilization of maternal health services. Herwansyah et al. (2022) and Idris (2022) further identified sociodemographic characteristics, including parity, education, employment, and region of residence, as factors associated with maternal healthcare utilization or choice of delivery place.

Overall, the reviewed evidence suggests that education, knowledge, family or community support, and selected sociodemographic characteristics are relevant to women's decisions regarding maternal healthcare and delivery service utilization. These findings indicate that efforts to improve the utilization of delivery services may benefit from approaches that strengthen maternal health knowledge and engage families and communities in maternal healthcare decision-making.

Economic Factors Influencing the Utilization of Delivery Services

Economic considerations were also reported as relevant factors associated with maternal delivery service utilization. Herwansyah et al. (2022) identified health insurance ownership, household income, and distance to community health centers as relevant factors in maternal health service utilization. The study reported that distance to health facilities was associated with antenatal care utilization, while parity was associated with place of delivery. These findings suggest that financial protection and geographic accessibility may be relevant considerations in women's decisions regarding maternal healthcare utilization.

Health Service Quality Factors Associated with the Utilization of Delivery Services

The quality of healthcare services at community health centers was also reported as a relevant factor associated with maternal delivery service utilization. Saptari et al. (2021) highlighted the relevance of facility availability, trained health workers, and geographic access to continuity of maternal healthcare utilization. Herwansyah et al. (2022) similarly identified accessibility to community health centers and sociodemographic characteristics as relevant to maternal health service utilization, with distance to health facilities associated with antenatal care utilization.
Similarly, Rosita et al. (2020) reported that the availability of ultrasound technology at community health centers was associated with increased maternal trust in health services and more frequent antenatal care visits. The study also reported greater acceptance of facility-based delivery following the availability of ultrasound technology. These findings suggest that facility readiness, healthcare resources, diagnostic technology, and accessibility may be relevant considerations in women's utilization of maternal health services and delivery-related decisions.

Collectively, the reviewed evidence indicates that health service quality encompasses both structural and service-related aspects, including facility availability, trained healthcare workers, diagnostic technology, and accessibility. Strengthening these aspects may support greater confidence in and utilization of community health center-based maternal services, although the available evidence should be interpreted as associations rather than causal relationships.

Table 2. Synthesis of Factors Associated with Maternal Delivery Service Utilization

Thematic Domain	Factors Identified	Supporting Studies	Overall Synthesis
Social factors	Maternal education, knowledge, family/community support, parity, employment, and sociodemographic characteristics	Rosid et al. (2025); Sunarto et al. (2024); Herwansyah et al. (2022); Setu et al. (2022); Kim & Parish (2020); Idris (2022)	Social characteristics and support systems were frequently reported as relevant to maternal healthcare-seeking and delivery-related decisions. Higher education and knowledge, as well as stronger family or community support, were generally associated with greater engagement with facility-based maternal services.

Economic factors	Household income, economic status, health insurance, and transportation/access	Herwansyah et al. (2022); Khan et al. (2021); Idris (2022)	Economic conditions and financial protection were identified as relevant to delivery service utilization. Greater economic capacity and health insurance coverage were generally associated with greater use of health facilities, while transportation and geographic access could present barriers to facility-based delivery.
Health service quality factors	Facility availability, trained health workers, diagnostic technology, perceived service quality, and accessibility	Rosita et al. (2020); Saptari et al. (2021); Herwansyah et al. (2022)	Health service characteristics, including facility availability, healthcare workforce, diagnostic technology, and accessibility, were reported as relevant to maternal service utilization and delivery-related choices. These findings suggest that perceived and structural aspects of service provision may contribute to women's decisions regarding where to seek maternal care.

DISCUSSION

The findings of this narrative review suggest that maternal delivery service utilization at community health centers is shaped by the interplay of social, economic, and health service quality factors rather than by a single determinant. Across the nine included studies, social characteristics and support, household economic resources and financial protection, and the availability and perceived quality of health services were repeatedly identified as relevant to maternal healthcare utilization and delivery-related decisions. This synthesis indicates that utilization is associated with the extent to which women have the knowledge and social support to seek care, the resources and access needed to reach services, and confidence in the quality and readiness of the available facilities.

Social factors were frequently reported across the included studies, particularly maternal education, knowledge, family or community support, and selected sociodemographic characteristics. Rosid et al. (2025), Sunarto et al. (2024), and Setu et al. (2022) reported education, knowledge, and social support as relevant factors in maternal healthcare-seeking and institutional delivery decisions. Herwansyah et al. (2022) and Idris (2022) further demonstrated that sociodemographic characteristics, including education, parity, employment, and region of residence, were associated with maternal healthcare utilization or choice of delivery place. Taken together, these findings suggest that social resources may shape women's ability to understand available maternal services, evaluate delivery options, and participate in decisions concerning where to seek care. Family and community support may further facilitate these decisions by providing emotional, financial, or logistical assistance.

However, the findings also indicate that the relationship between social factors and delivery service utilization is not necessarily uniform across settings. Higher education was generally associated with greater engagement with facility-based maternal services, but this does not necessarily mean that more educated women consistently prefer community health centers. Differences in facility characteristics, accessibility, socioeconomic circumstances, and local preferences may modify how education translates into delivery-related choices (Howlader et al., 2024). This variation highlights the importance of interpreting education not as an isolated determinant but as a social resource that interacts with other conditions surrounding maternal healthcare access.

Economic factors represented another important dimension of the synthesis. Herwansyah et al. (2022), B. Khan et al. (2021), and Idris (2022) identified economic status, household income, health insurance, transportation, and geographic access as relevant to maternal healthcare utilization and choice of delivery place. Across these studies, greater economic capacity and financial protection were generally associated with greater ability to utilize health

facilities, whereas transportation and geographic barriers could constrain access. These findings suggest that affordability should be understood beyond the direct cost of delivery because women and families may also need to consider transportation and other resources required to reach and use maternal health services.

The interaction between economic and social factors is particularly important. Education and knowledge may increase awareness of the benefits of facility-based delivery, but awareness alone may not result in utilization when women face financial or geographic constraints (Anggraeni et al., 2026). Similarly, health insurance may reduce financial barriers, but its potential benefit depends on women's ability to access facilities and understand how available services can be used (Osman et al., 2026). Thus, the findings across the reviewed studies support a multidimensional interpretation in which social resources and economic capacity jointly shape opportunities for maternal healthcare utilization.

Health service quality provides a further dimension that may determine whether accessible services are acceptable and trusted by women. Saptari et al. (2021) highlighted the relevance of facility availability, trained health workers, and geographic access to continuity of maternal healthcare utilization. Rosita et al. (2020) reported that the availability of ultrasound technology at community health centers was associated with increased maternal trust and ANC utilization, as well as greater acceptance of facility-based delivery. Herwansyah et al. (2022) also identified accessibility to community health centers as relevant to maternal service utilization. Collectively, these findings suggest that service quality involves not only technical resources but also facility readiness, healthcare personnel, diagnostic capacity, and accessibility.

Importantly, the evidence suggests that the three domains operate as interconnected conditions rather than independent pathways. Social factors may influence women's awareness, preferences, and decision-making; economic factors may determine whether the preferred service is practically and financially accessible; and health service quality may shape confidence in and willingness to use that service. For example, a woman may recognize the importance of facility-based delivery because of adequate health knowledge, but transportation costs or geographic barriers may limit access. Conversely, a community health center may be geographically accessible and affordable, but limited facility readiness or perceived quality may reduce women's confidence in using it (Aryanny et al., 2024; Chen et al., 2025).. The utilization of delivery services therefore depends on the alignment of these social, economic, and service-related conditions.

Some differences across the reviewed studies may reflect variation in study populations, geographical settings, and the type of maternal service examined. Several studies focused specifically on community health centers, whereas others examined institutional delivery or broader maternal healthcare utilization. Differences in healthcare systems, socioeconomic conditions, and availability of facilities may therefore contribute to variations in the factors reported across studies (Templeton et al., 2023). These differences also indicate that findings from broader institutional-delivery studies should be interpreted as complementary evidence rather than as direct evidence specific to community health centers.

From a practical perspective, the synthesis indicates that improving maternal delivery service utilization requires coordinated interventions across these domains. Community health centers and health authorities should strengthen facility readiness, availability of trained health workers, diagnostic capacity, and accessibility while simultaneously improving maternal health education and family engagement. Strategies addressing transportation and financial barriers, including effective use of health insurance, may further improve women's ability to access appropriate delivery services. Rather than addressing individual barriers in isolation, maternal health programs should consider how social support, economic resources, and service quality interact within the local context.

CONCLUSION

Based on the findings of this narrative review, social, economic, and health service quality factors were identified as relevant to maternal delivery service utilization at community health centers. Maternal education, knowledge, and family or community support were frequently reported as social factors, while economic status, health insurance, transportation, and geographic accessibility represented important economic considerations. Health service quality factors, including facility availability, trained healthcare workers, diagnostic technology, and accessibility, were also relevant to women's delivery-related decisions.

For nursing practice, these findings highlight the importance of a multidimensional approach to maternal care at community health centers. Nurses and other healthcare providers should strengthen maternal health education, engage families in decision-making, provide effective communication, and contribute to improving access and continuity of maternal services. Collaboration with community health centers and relevant stakeholders is also important in addressing socioeconomic and accessibility barriers.

Further research should examine these factors in specific local contexts using longitudinal and context-specific designs. Future studies should explore how social support, economic constraints, service quality, and cultural or structural factors interact and evaluate interventions aimed at improving the utilization of maternal delivery services at community health centers.

SUGGESTIONS

The findings of this review highlight the need to improve access, service quality, and community engagement to increase the utilization of maternal delivery services at community health centers. For nurses and midwives, practical efforts should include strengthening maternal health education, involving husbands and family members in decision-making, using effective and respectful communication, and identifying accessibility barriers that may affect women's use of delivery services. Nurses and midwives can also contribute to improving service accessibility by strengthening community-based education, facilitating appropriate referrals, and coordinating with community health centers and other relevant stakeholders. At the facility level, attention should be given to service readiness, adequate staffing, essential equipment, and functional referral systems.

At the policy and program level, health authorities should consider strengthening maternal transportation support, optimizing the implementation of national health insurance programs, and improving systems that facilitate access to maternal health services. Community and family education should also be strengthened to create supportive environments for institutional delivery. Future research should use longitudinal and context-specific designs to evaluate interventions in areas with low utilization and to further explore cultural, structural, socioeconomic, and service-related barriers.

LIMITATIONS

This review has several limitations. First, the literature search was conducted using only Google Scholar, PubMed, and ScienceDirect; therefore, relevant studies indexed in other databases may not have been identified. Second, no formal methodological quality appraisal or risk-of-bias assessment was conducted because of the narrative review design. In addition, the included studies varied in study design, population, geographical setting, and the type of maternal healthcare utilization examined. Therefore, the findings should be interpreted as a synthesis of reported associations rather than as evidence of causal relationships.

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DECLARATION OF INTEREST

The authors declare that they have no conflicts of interest related to the conduct, findings, or publication of this study.

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AUTHOR CONTRIBUTION

BZH: Conceptualization, methodology design, literature search, data extraction, analysis, manuscript drafting, and final approval of the version to be published. LS: Validation, critical review of the manuscript, supervision, refinement of analysis and interpretation, and final manuscript editing. BDADM: Contributed to the translation of the manuscript into English and English language editing to improve linguistic clarity, readability, and academic presentation. RIW: Contributed to the statistical analysis and interpretation of the research data, providing analytical input to support the accuracy and interpretation of the research findings.

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