

Original Article

Maternal perception, family support, and economic status are associated with the selection of birth attendants

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Abstract:

Skilled birth attendance is essential for preventing maternal and neonatal complications, yet some mothers in rural communities continue to choose non-health workers during childbirth. Maternal decisions may be influenced by perception, family support, and household economic capacity. This study examined the relationship between maternal perception, family support, economic status, and the selection of birth attendants among mothers in the working area of Momalia Public Health Center, South Bolaang Mongondow, Indonesia. This analytical observational study used a cross-sectional design in 2025. A total of 76 mothers were selected through total sampling. Data were collected using structured questionnaires and analyzed using univariate statistics and Chi-square tests. Odds ratios were calculated to estimate the strength of associations. Most respondents selected health workers as birth attendants (57.9%), had positive perceptions (52.6%), reported good family support (50.0%), and belonged to the lower economic group (56.6%). Birth attendant selection was significantly associated with maternal perception ($p = 0.003$; OR = 4.714; 95% CI = 1.769-12.566), family support ($p < 0.001$; OR = 6.429; 95% CI = 2.316-17.848), and economic status ($p = 0.021$). Positive perception, adequate family support, and better economic status were associated with skilled birth attendant selection. Strengthening respectful communication, family involvement, and financial access is recommended.

Keywords:

birth attendants, economic status, family support, maternal perception, skilled birth attendance

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INTRODUCTION

Maternal and neonatal health remains one of the most important public health priorities in low- and middle-income countries. Although many maternal and newborn deaths are preventable, they continue to occur because women do not always receive timely, respectful, and clinically competent care during pregnancy, childbirth, and the postpartum period. International evidence shows that access to skilled birth attendance and quality emergency obstetric care are critical for reducing preventable complications such as hemorrhage, sepsis, obstructed labor, hypertensive disorders, birth asphyxia, and neonatal infection (Campbell et al., 2006; Kruk et al., 2018; World Health

Organization [WHO], 2023). The WHO also emphasizes that traditional birth attendants, whether trained or untrained, are not considered skilled attendants at delivery because skilled attendance requires formal professional training, competence in normal childbirth management, and the ability to detect and respond to complications (WHO, 2024).

Indonesia has made important progress in expanding maternal health services through antenatal care, institutional delivery, the National Health Insurance program, and community-based maternal and child health initiatives. However, inequities persist between urban and rural areas, across socioeconomic groups, and among communities with strong local birth traditions. In several communities, women continue to choose non-health workers, including traditional birth attendants, because they are perceived as familiar, culturally acceptable, easily accessible, affordable, and emotionally supportive (Ministry of Health of the Republic of Indonesia, 2023; Rose, 2017). This situation does not necessarily mean that mothers reject biomedical care; rather, it reflects a complex decision-making process in which trust, cost, distance, family influence, previous experience, and perceived quality of care interact (Gabrysch & Campbell, 2009; Putri, 2020).

The selection of a birth attendant is an important behavioral outcome because it determines whether mothers are connected to a system capable of preventing, detecting, and managing complications. Professional midwives and other skilled health personnel can provide evidence-based intrapartum monitoring, active management of the third stage of labor, infection prevention, newborn assessment, early referral, and emergency stabilization. In contrast, non-health workers often lack the clinical training, equipment, and legal authority required to manage obstetric emergencies. Nevertheless, the continued use of non-health workers should be understood within the local social context. In many rural areas, traditional birth attendants are trusted figures who provide emotional, cultural, and household-level support before and after childbirth. Therefore, improving skilled birth attendance requires not only increasing the number of health professionals but also improving communication, respectful care, community trust, family engagement, and financial accessibility (Bohren et al., 2015; UNFPA et al., 2021).

Maternal perception is a key determinant of birth attendant selection. Perception includes how mothers interpret the competence, friendliness, availability, cost, safety, and cultural sensitivity of health services. When mothers perceive health facilities as unfriendly, expensive, distant, or lacking privacy, they may prefer home delivery or traditional assistance. Conversely, positive perceptions of midwives and public health centers may increase confidence in the use of skilled birth attendance. Recent studies emphasize that women value respectful communication, clear health information, emotional support, and being heard during maternity care (Bohren et al., 2019; Dewi et al., 2026; Gao et al., 2025). Information, education, and communication delivered by health workers can also strengthen maternal knowledge and compliance with recommended care (Islami & Maulina, 2026). Thus, perception is not a static attitude; it can be improved through consistent, respectful, and community-sensitive engagement.

Family support also has a major influence on maternal decisions. In many Indonesian households, decisions related to pregnancy and childbirth are not made by women alone. Husbands, parents, parents-in-law, and older family members often contribute to decisions about where to give birth, who should assist delivery, and how costs will be managed. Support may be emotional, informational, instrumental, or financial. Husband involvement and birth companion readiness have been associated with improved preparedness for childbirth and better utilization of maternal health

services (Audet et al., 2023; Determinants of husbands' readiness to provide birth support during childbirth in maternal care settings, 2026; Morgan et al., 2022). Evidence from global maternal health also suggests that birth companionship can improve women's childbirth experience and reduce anxiety when implemented respectfully and safely (Bocoum et al., 2023; Evans et al., 2023; Hameed et al., 2025).

Economic status is another important determinant. Direct costs, transportation expenses, informal payments, lost work time, and the perceived affordability of services may shape the mother's choice of birth attendant. Although health insurance reduces some financial barriers, low-income families may still face indirect costs that make access to skilled care difficult. Household poverty and service-readiness constraints may also influence whether maternal health programs translate into actual use of facility delivery and skilled attendance (Shah et al., 2025; Wungo & Sugiatini, 2022). The Health Belief Model and the social determinants of health framework are useful for explaining this phenomenon: mothers are more likely to use professional care when they perceive the benefits outweigh the barriers and when social and economic conditions enable access (Marmot et al., 2008; Rosenstock, 1974).

At Momalia Public Health Center in South Bolaang Mongondow, skilled delivery coverage fluctuated from 82.0% in 2021 to 84.5% in 2022, then decreased to 81.7% in 2023, indicating that approximately 18.3% of deliveries were still not assisted by skilled health workers. This local pattern highlights the need to identify behavioral and socioeconomic factors associated with the selection of birth attendants. Therefore, this study aimed to analyze the relationships between maternal perception, family support, economic status, and the selection of birth attendants among mothers in the working area of Momalia Public Health Center, South Bolaang Mongondow, Indonesia.

METHOD

This study used an analytical observational design with a cross-sectional approach. The cross-sectional design was selected because the independent variables (maternal perception, family support, and economic status) and the dependent variable (selection of a birth attendant) were measured at a single point in time. This design is appropriate for identifying associations between maternal, family, and socioeconomic characteristics and health-service utilization behavior. The study was conducted in the working area of the Momalia Public Health Center in South Bolaang Mongondow, Indonesia, in 2025.

The study population consisted of all mothers who met the study criteria in the working area during the data collection period. A total sampling technique was used, yielding 76 respondents. Total sampling was used because the accessible population was relatively small and all eligible respondents could be included. Respondents were eligible if they were mothers with experience or a plan related to delivery assistance selection, were registered in the public health center's working area, were able to communicate with the research team, and agreed to participate. Mothers who were seriously ill or unable to complete the questionnaire were excluded.

The dependent variable was the selection of birth attendants, categorized into non-health workers and health workers. Health workers included midwives, nurses, doctors, or other formally

trained health professionals authorized to provide delivery assistance. Non-health workers referred to traditional birth attendants or other non-professional attendants. The independent variables were maternal perception, family support, and economic status. Maternal perception was categorized as positive or negative based on the questionnaire score. Family support was categorized as good or less, reflecting emotional, informational, instrumental, and decision-making support. Economic status was categorized into lower, middle, and upper economic groups based on household economic indicators used in the source data.

Data were collected using structured questionnaires prepared by the researchers, based on relevant concepts in maternal health, family support, and health service utilization. The questionnaire included respondent characteristics, perception items, family support items, economic status indicators, and birth attendant selection. Prior to data collection, respondents received an explanation regarding the objectives, procedures, voluntary participation, confidentiality, and the right to withdraw. Written or verbal informed consent was obtained in accordance with field conditions. Data collectors ensured that respondents completed the questionnaire independently or with neutral assistance when clarification was needed.

Data were checked for completeness before analysis. Univariate analysis was performed to describe the frequency and percentage distribution of each variable. Bivariate analysis was conducted using the Chi-square test to examine the relationship between each independent variable and birth attendant selection. Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated for variables with two-category exposure groups to estimate the strength and direction of association. A p-value of < 0.05 was considered statistically significant. For economic status, which had three categories, the Chi-square p-value was used to determine the overall association with birth attendant selection.

This study was conducted in accordance with the basic ethical principles for human subjects research, including respect for persons, beneficence, non-maleficence, confidentiality, and justice. Respondent identities were anonymized in data processing and reporting. No personal identifiers were presented in the manuscript. The original source document did not state a formal ethical approval number; therefore, the ethics approval number should be inserted before journal submission if required by the target journal.

RESULT

A total of 76 respondents were included in the study. The distribution of birth attendant selection, maternal perception, family support, and economic status is presented in Table 1. Table 1 shows that among the 76 respondents, most selected health workers as birth attendants (57.9%), while 42.1% selected non-health workers. More than half of respondents had a positive perception of motherhood (52.6%). Family support was equally distributed between less and good support (50.0% each). Regarding economic status, most respondents were in the lower economic status category (56.6%), followed by the middle (28.9%) and upper (14.5%) categories.

Table 1. Distribution of respondents by birth attendant selection, maternal perception, family support, and economic status (n = 76)

Variable	Category	Frequency (f)	Percentage (%)
Birth attendant selection	Non-health workers	32	42.1
	Health workers	44	57.9
Maternal perception	Negative	36	47.4
	Positive	40	52.6
Family support	Less	38	50.0
	Good	38	50.0
Economic status	Lower	43	56.6
	Middle	22	28.9
	Upper	11	14.5

Table 2. Relationship between Maternal Perception, Family Support, Economic Status, and Birth Attendant Selection (N = 76)

Variable	Category	Non-health Workers, n (%)	Health Workers, n (%)	Total, n (%)	p-value	OR (95% CI)
Maternal perception	Negative	22 (61.1)	14 (38.9)	36 (100.0)	0.003	4.714 (1.769–12.566)
	Positive	10 (25.0)	30 (75.0)	40 (100.0)		
Family support	Less	24 (63.2)	14 (36.8)	38 (100.0)	<0.001	6.429 (2.316–17.848)
	Good	8 (21.1)	30 (78.9)	38 (100.0)		
Economic status	Lower	24 (55.8)	19 (44.2)	43 (100.0)	0.021	—
	Middle	5 (22.7)	17 (77.3)	22 (100.0)		
	Upper	3 (27.3)	8 (72.7)	11 (100.0)		

Table 2 shows that the intervention group showed an increase in mean breast milk volume from 26.94 ml before intervention to 37.94 ml after intervention. The mean increase was 11.00 ml. The Wilcoxon test showed a p-value of 0.000, indicating a statistically significant increase in breast milk volume after the intervention. The control group also showed an increase from 27.94 ml to 31.33 ml, with a mean increase of 3.39 ml. This increase was consistent with the physiological rise in milk production during the early postpartum period. Among the 76 respondents, 57.9% selected health workers as birth attendants, while 42.1% selected non-health workers. Maternal perception, family support, and economic status were significantly associated with the selection of birth attendants. Respondents with a negative maternal perception were more likely to select non-health workers, with 61.1% choosing non-health workers compared with 38.9% choosing health workers. This association was statistically significant ($p = .003$; OR = 4.714, 95% CI: 1.769–12.566), indicating that respondents with negative perceptions had approximately 4.7 times higher odds of selecting non-health workers.

Similarly, family support was significantly associated with birth attendant selection ($p < .001$; OR = 6.429, 95% CI: 2.316–17.848). Among respondents with less family support, 63.2% selected non-health workers, whereas 78.9% of those with good family support selected health workers. Respondents with less family support had approximately 6.4 times higher odds of selecting non-health workers. Economic status was also significantly associated with birth attendant selection ($p = .021$). Non-health workers were selected by 55.8% of respondents with lower economic status, compared with 22.7% and 27.3% among those with middle and upper economic status, respectively.

Conversely, health workers were more frequently selected among respondents with middle (77.3%) and upper (72.7%) economic status. Overall, the findings indicate that maternal perception, family support, and economic status were significantly related to the choice of birth attendant, with family support showing the strongest reported association, as indicated by the odds ratio.

DISCUSSION

This study found that maternal perception, family support, and economic status were significantly associated with mothers' selection of birth attendants in the working area of the Momalia Public Health Center. Although more than half of the respondents selected health workers, the proportion choosing non-health workers remained substantial. This finding suggests that the decision to use skilled birth attendance is not determined solely by the existence of public health services. Rather, it reflects a combination of individual beliefs, interpersonal influence, affordability, and local sociocultural norms.

Maternal perception was significantly associated with birth attendant selection. Mothers with positive perceptions were more likely to choose health workers than those with negative perceptions. This result is consistent with the Health Belief Model, which explains that individuals are more likely to adopt a health behavior when they perceive the condition as serious, believe the recommended action is beneficial, and judge that barriers can be managed (Rosenstock, 1974). In this study, positive perceptions may reflect confidence in midwives' competence, trust in the safety of health facilities, and awareness of childbirth risks. Conversely, negative perceptions may be shaped by prior dissatisfaction, fear of mistreatment, concern about cost, perceived distance, or a strong attachment to familiar traditional attendants.

Quality of care is central to perception. Women may avoid facility-based childbirth if they expect disrespectful communication, lack of privacy, long waiting time, poor responsiveness, or inadequate attention. Evidence shows that respectful maternity care and the perceived quality of provider communication are essential for improving maternal satisfaction and willingness to use maternal health services (Bohren et al., 2019; Dewi et al., 2026; Gao et al., 2025). The result, therefore, indicates that public health centers must not only promote skilled birth attendance but also ensure that mothers experience care as safe, respectful, empathetic, and culturally sensitive. Health workers who provide clear explanations, listen to maternal concerns, and engage families can strengthen positive perceptions and reduce reliance on non-health workers.

Family support was the strongest factor associated with birth attendant selection. Mothers who received good family support were more than six times more likely to select health workers. This finding reflects the collective nature of childbirth decision-making in many Indonesian communities. Decisions about delivery assistance often involve husbands, mothers, mothers-in-law, and other influential relatives. Family members may determine financial preparation, transportation, permission to seek care, and the preferred attendant. When families understand danger signs and support skilled delivery, mothers are more likely to choose health workers. When families prioritize tradition, cost savings, or prior home-delivery experience, mothers may be encouraged to select non-health workers.

The importance of family support has been confirmed by studies on husband involvement and birth preparedness. Male partner engagement can improve readiness for childbirth, facilitate transport and financing, and support timely care-seeking (Audet et al., 2023; Morgan et al., 2022). A recent study also reported that knowledge, perception, economic status, and physical readiness were significantly associated with the readiness of childbirth companions, emphasizing the role of husbands as key actors in maternal care decisions (Determinants of husbands' readiness to provide birth support during childbirth in maternal care settings, 2026). In practice, maternal education should therefore be directed not only to pregnant women but also to husbands and family decision-makers. Antenatal classes, home visits, and community meetings can include structured discussion on delivery planning, danger signs, referral readiness, and the limitations of non-professional delivery assistance (Adisti et al., 2024; Islami & Maulina, 2026).

Economic status was also significantly associated with the selection of birth attendants. Mothers from lower economic groups had a higher proportion of non-health-worker selection. This finding is consistent with the social determinants of health framework, which explains that income, education, occupation, transportation, and household resources shape access to health care. Even when delivery services are subsidized or covered by insurance, indirect costs such as transportation, food, accommodation, lost wages, medicines, and companion expenses can remain substantial barriers. In rural settings, the perceived affordability and availability of traditional birth attendants may make them more attractive to families with limited resources.

Economic barriers must be addressed through both financing and service-access strategies. Strengthening JKN coverage, ensuring that mothers understand their benefit entitlements, reducing informal costs, and improving referral transport can support safer delivery decisions. In addition, village-level birth preparedness plans should identify transport options, emergency contacts, blood donor readiness, and savings arrangements before labor begins. Evidence from health-system research suggests that improving service readiness and reducing household barriers can increase the use of skilled care, particularly among economically vulnerable groups (Kruk et al., 2018; Linasari et al., 2025; Shah et al., 2025).

The persistence of non-health-worker selection should not be interpreted as a simple failure of mothers to understand risk. It may also indicate that formal health services have not fully met social, emotional, cultural, or logistical expectations. Traditional birth attendants often remain trusted because they are close to the community, available at home, and perceived as providing continuous emotional support. Rather than excluding them entirely from community health strategies, local programs may consider culturally appropriate collaboration in which traditional attendants are encouraged to refer mothers to skilled workers, support antenatal attendance, recognize danger signs, and accompany families to health facilities without conducting unsafe delivery procedures. Such collaboration should be clearly regulated and supervised by health authorities.

The findings have several implications for public health practice. First, public health centers should strengthen respectful, culturally sensitive communication to improve maternal perceptions of professional care. Second, family-centered antenatal education should be expanded, especially involving husbands and older family members. Third, economic barriers should be reduced through effective insurance counseling, transport planning, and community emergency funds. Fourth, community health workers and cadres can help bridge communication between health facilities and

families by reinforcing key messages during home visits. Fifth, monitoring should focus not only on coverage indicators but also on the reasons mothers continue to choose non-health workers.

This study has limitations. The cross-sectional design can identify associations but cannot establish causality. Data were obtained through questionnaires, which may be subject to recall bias and social desirability bias. The study was conducted in a single public health center area, so generalizations to other regions should be made with caution. The study also did not include multivariable logistic regression; therefore, potential confounding by perception, family support, and economic status could not be fully controlled for. Future studies should use larger samples, mixed-methods designs, and multivariable analyses to explore how cultural beliefs, distance, prior childbirth experience, insurance status, and perceived quality of care interact to shape birth attendant selection.

CONCLUSION

This study concluded that maternal perception, family support, and economic status were significantly associated with mothers' selection of birth attendants in the working area of the Momalia Public Health Center, South Bolaang Mongondow. Mothers with positive perceptions and good family support were more likely to select health workers as birth attendants, while lower economic status was associated with greater use of non-health workers. The findings highlight the need for respectful maternal health communication, family-centered birth preparedness, improved financial access, and community-based education to increase skilled birth attendance and reduce preventable maternal and neonatal risks.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

AI USE DECLARATION

Artificial intelligence tools were used only to assist with language refinement, grammar checking, and improving the manuscript's clarity. The authors remain fully responsible for the content, analysis, interpretation, and final version of the article.

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