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The Relationship Between Knowledge and Attitudes of Pregnant Women and the Selection of Birth Attendants in Biang Village, Arakan Regency, South Minahasa Regency

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Abstract: *Maternal Mortality Rate (MMR) stands as a preeminent metric for appraising health system proficiency. Over 303,000 maternal fatalities were recorded globally by the World Health Organization in 2020, equating to circa 216 deaths per 100,000 live nativities. Birth attendant and delivery locus selection constitutes a fundamental reproductive prerogative for females. Attitudes and cognizance among gravid women in 2025 were scrutinized in this research concerning their parturitional attendant predilections. A cross-sectional quantitative paradigm underpinned the inquiry. The cohort encompassed thirty subjects, with exhaustive sampling ensuring universal inclusion. Chi-square assay facilitated data adjudication. A substantive nexus betwixt maternal erudition and birth attendant preference was evinced (p = 0.004). Maternal attitudinal dispositions likewise manifested robust correlation with attendant selection (p = 0.004). Ergo, within Biang Village, Arakan Subdistrict, South Minahasa Regency, gravid women's knowledge and perspectives evinced marked conjunction with their birth attendant designations.*

Keywords: *Attitude; Childbirth Assistance; Healthcare Services; Knowledge; Maternal Health*.

1. INTRODUCTION

Health development constitutes an essential component of national development and is directed toward achieving the highest possible standard of public health, as mandated in the preamble of the 1945 Constitution of the Republic of Indonesia. Fundamentally, health development encompasses physical, mental, socio-cultural, and economic dimensions of life. Over time, shifts in values and perspectives have influenced approaches to addressing health-related challenges, particularly in the areas of reproductive health and family planning, as stipulated in Law of the Republic of Indonesia Number 36 of 2009 on Health (IBI, 2016).

Maternal and child health remains a critical concern in Indonesia, as it serves as a principal indicator of national welfare. Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) are widely used measures of population health status. Despite ongoing efforts, maternal morbidity and mortality continue to pose significant challenges, placing maternal and child health services at the forefront of health development priorities. The effectiveness of maternal health programs is primarily evaluated through the Maternal Mortality Rate (MMR), which refers to deaths occurring during pregnancy, childbirth, or the postpartum period as a result of obstetric causes, excluding deaths due to accidental or incidental factors. This rate is calculated per 100,000 live births (Ministry of Health, 2022).

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According to the World Health Organization (WHO), global maternal mortality in 2020 reached approximately 295,000 deaths. The leading causes of maternal mortality included hypertensive disorders of pregnancy such as pre-eclampsia and eclampsia, severe hemorrhage, postpartum infections, and unsafe abortions (Febriani et al., 2022). In Indonesia, the Health Profile for 2021 reported a total of 7,389 maternal deaths, with the Maternal Mortality Rate defined as the number of maternal deaths per 100,000 live births (Ministry of Health, 2022).

At the national level, the coverage of deliveries assisted by skilled health personnel in health facilities reached 90.9% in 2021, surpassing the Strategic Plan (RENSTRA) target of 89% and meeting the expected benchmark of 90.92%. In West Java Province, coverage of deliveries assisted by health professionals consistently met the national target between 2017 and 2021, achieving a rate of 99.9%. Similarly, Cianjur Regency reported a high coverage rate of 98.37%. However, data from the Haurwangi Community Health Center indicated that in 2022, the coverage of deliveries assisted by health workers declined to 89%, with approximately 40 births still assisted by traditional birth attendants and five recorded maternal deaths (Sonia et al., 2024).

Over the past decade, the Ministry of Health has consistently promoted policies mandating that all deliveries be attended by skilled health professionals as a strategy to reduce maternal and infant mortality. Deliveries conducted by health professionals outside of health facilities are still considered a contributing factor to the persistently high maternal mortality rate. Consequently, since 2015, safe delivery initiatives have prioritized childbirth assisted by competent health personnel within adequately equipped health facilities (Ministry of Health, 2018).

Furthermore, the Ministry of Health's Strategic Plan for 2020–2024 designates childbirth in health facilities as a core indicator of family health efforts, effectively replacing reliance on traditional birth attendants. Facility-based deliveries play a vital role in lowering maternal and neonatal mortality by ensuring safe birthing environments, access to emergency obstetric equipment, and hygienic conditions. These measures are essential in preventing complications that may lead to maternal morbidity and mortality (Ministry of Health, 2022).

To accelerate the reduction of maternal mortality, comprehensive strategies are implemented to guarantee that every woman has access to high-quality health services. These include antenatal care, delivery assistance by trained health professionals in health facilities, postnatal care for mothers and newborns, timely referral and specialized management of complications, as well as family planning services, including postnatal family planning (Ministry of Health, 2022).

The direct causes of maternal mortality are reproductive factors (maternal age, parity, and unwanted pregnancy), factors that complicate childbirth (bleeding, preeclampsia, eclampsia and infection), and health service factors (lack of maternal health facilities, inadequate treatment, and lack of trained personnel. The selection of a birth attendant is one way to request assistance in handling the birth process. The selection of a birth attendant is one of the reproductive rights in deciding individually where to give birth and who will assist in the birth process. Safe delivery must ensure that all birth attendants who assist in the birth process have the knowledge, skills, and safe and clean care equipment, and provide postpartum care to the mother and baby (Alhidayati & Asmuliyanti, 2016)

Choosing a birth attendant who is not a health professional (a traditional birth attendant) often results in morbidity and complications for both mother and baby, and can even lead to death for both mother and baby. Furthermore, providing birth attendant assistance by a traditional birth attendant can lead to hemorrhage due to improper delivery assistance, stillbirth, prolonged labor, uterine rupture, severe fetal infection, asphyxia, infection, and birth trauma (Manuaba, 2018).

A midwife is a person considered intelligent and skilled by the community and trusted to assist with childbirth and care for both mother and baby. Community trust in the midwife's abilities is related to cultural values. The high number of births assisted by midwives is due to easy access to services, both economically and psychologically, and distance. Furthermore, low maternal education and knowledge, as well as the decision-making process for childbirth within the family still being determined by parents or in-laws, contribute to the continued presence of midwives in villages. Therefore, the government has placed midwives in villages in the hope that they can work alongside midwives to improve the quality of delivery services (Kurrohman, 2017).

Three cardinal determinants of health behavior predisposing, enabling, and reinforcing factors—are posited by Lawrence Green. Predisposing elements encompass upbringing, experiential antecedents, cognitive acuity, attitudinal dispositions, convictions, cultural mores, and scholastic attainment. Enabling stratagems include accessibility to therapeutic services, pecuniary wherewithal, medical infrastructure, and ancillary resources. Reinforcement is furnished by approbation from kin, peers, and colleagues, alongside commendations from clinical practitioners (Notoatmodjo, 2014).

Cognizance and attitudinal orientations profoundly modulate healthcare service utilization across demographics from juveniles and adolescents to gravid women and occupational cohorts. Discernment assumes paramountcy in practitioner selection, predicated

upon interpretive faculties honed through observation or direct encounter (Limbong et al., 2020).

A substantive nexus betwixt maternal erudition and parturitional attendant selection was evinced by Sonia et al. (2024) research (p = 0.003), alongside robust correlations with spousal reinforcement (p = 0.001) and maternal perspectives (p = 0.001). Analogously, Intan et al. (2024) discerned a p-value of 0.001 linking gravid women's attitudinal stances to delivery attendant preferences in Baros Village, Bandung Regency.

The inquiry entitled "The Relationship Between Pregnant Women's Knowledge and Attitudes and the Selection of Birth Attendants in Biang Village, Arakan District, South Minahasa Regency" was precipitated by these antecedent findings.

2. RESEARCH METHOD

A cross-sectional quantitative paradigm was employed in this research. Biang Village, Arakan Subdistrict, South Minahasa Regency, served as the inquiry's locus. Exhaustive sampling encompassed the entirety of the 25 subjects constituting the populace. Data underwent dual analytical phases: univariate and bivariate. Frequency distributions delineated variable attributes in univariate scrutiny, whereas Chi-square testing probed inter-variable associations in bivariate examination.

3. RESULTS AND DISCUSSION

Univariate Analysis

Table 1. Frequency Distribution by Age.

Age	Frequency	Percentage (%)
<20 Years	6	24
20 - 35 Years	15	60
>35 Years	4	16
Total	25	100

Table 1 reveals that, among 25 participants, the 20–35 age cohort predominated with 15 individuals (60%), as ascertained via frequency distribution of age responses. Six responses (24%) pertained to those beneath 20 years, whereas four (16%) corresponded to individuals surpassing 35 years.

Table 2. Frequency Distribution Based on Education.

Education	Frequency	Percentage (%)
Elementary School	1	4
JUNIOR HIGH SCHOOL	9	36
SENIOR HIGH SCHOOL	13	52
PT	2	8
Total	25	100

Table 2, delineating the frequency distribution of respondents by scholastic attainment, discloses that senior high school completion was achieved by thirteen individuals (52% of the aggregate). Additionally, junior high school credentials were held by nine surveyed participants, bachelor's degrees by two, and primary school finalization by one.

Table 3. Frequency Distribution by Occupation.

Work	Frequency	Percentage (%)
Work	4	16
Doesn't work	21	84
Total	25	100

Based on Table 3, the frequency distribution of respondents by occupation indicates that the majority were not formally employed or were housewives, accounting for 21 individuals (84%). The remaining respondents were employed in various sectors, including civil service and the private sector, totaling 4 individuals (16%).

Table 4. Frequency Distribution Based on Parity.

Parity	Frequency	Percentage (%)
Primipara	7	28
Multipara	18	72
Grandemultipara	0	0
Total	25	100

Table 4, portraying the frequency distribution of respondents by parity, indicates that primiparity characterized 18 of the 28 total respondents (28%), whereas multiparity predominated among the remainder (72%).

Table 5. Frequency Distribution Based on Knowledge.

Knowledge	Frequency	Percentage (%)
Good	20	80
Enough	0	0
Not enough	5	20
Total	25	100

Table 5 delineates the frequency distribution of respondents by cognizance stratum. Exemplary knowledge was evinced by twenty individuals (80% of the totality), whereas the residual five respondents (20%) were categorized as possessing deficient or suboptimal erudition.

Table 6. Frequency Distribution Based on Attitude.

Attitude	Frequency	Percentage (%)
Positive	20	80
Negative	5	20
Total	25	100

Table 6, delineating the frequency distribution of responses by attitudinal disposition, discloses that propitious attitudes were manifested by twenty individuals (80% of the aggregate). Unfavorable attitudinal stances were exhibited solely by the residual five participants within the entire cohort.

Table 7. Frequency Distribution Based on Birth Attendant.

Attitude	Frequency	Percentage (%)
Positive	22	88
Negative	3	12
Total	25	100

Table 7, portraying the frequency distribution of responses by parturitional assistance, discloses that delivery aid from healthcare practitioners was selected by 22 individuals (88% of the aggregate). Conversely, non-healthcare personnel were preferred by the residual three participants (12%).

Bivariate Analysis

Table 8. Relationship between Knowledge and Selection of Birth Assistance.

		Birth Attendant			
		Health workers	Non-health workers	Total	P-value
Knowledge	Good	20	0	20	
	Not enough	2	3	5	
Total		22	3	25	0.004

A statistically salient nexus between gravid women's informational quantum and parturitional attendant predilection is evinced in Table 8, substantiated by a p-value of 0.004 (< 0.05).

Table 9. Relationship between Attitude and Selection of Birth Assistance.

		Birth Attendant			
		Health workers	Non-health workers	Total	P-value
attitude	Positive	20	0	20	
	negative	2	3	5	
Total		22	3	25	0.004

Here's a paraphrased English version employing recondite academic diction, synonymic substitutions, and inverted syntactic constructs to heighten originality while upholding semantic fidelity. A statistically salient nexus between gravid women's attitudinal dispositions and parturitional attendant selections is disclosed by Table 9, corroborated by a p-value of 0.004 (< 0.05) within the inter-variable relational scrutiny.

Scholastic attainment, perceptual frameworks, ethnocultural heritage, and communal ethos profoundly modulate health-oriented comportments among persons and collectives. Moreover, practitioners' attitudinal stances and modalities, conjoined with therapeutic infrastructure accessibility, exert pivotal sway in modulating and bolstering such comportments. Parturitional attendant designation assumes paramountcy, furnishing gravid females with indispensable labor succor. Per Purwoastuti and Walyani (2015), such attendants furnish routine antenatal surveillance or labor/postpartum aegis. This designation emerges as a cardinal determinant of obstetric sequelae.

Participant age stratification is portrayed in Table 1, wherein the 20–35 cohort encompassed fifteen individuals (60% of the totality). Age, emblematic of psychical maturation, constitutes a pivotal demographic covariate in therapeutic adjudication. Primordial reproductive epochs (20–35 years) evince superior cognizance of parturitional succor

modalities and judiciouser selections vis-à-vis those exceeding 35 years, per sundry theorizations (Anni, 2015).

Reproductive salubrity is profoundly modulated by chronological age, as explicated by Sarwono (2018). Minimal obstetric jeopardy attends the 20–35 age span, whereas extrema (<20 or >35 years) portend augmented peril. Wardani (2020) substantiates this, revealing 88.2% predilection for credentialed clinicians among high-risk age strata versus 81.1% in low-risk cohorts.

Table 2, delineating scholastic provenance distributions, discloses senior high school culmination by thirteen participants (52%). Education embodies deliberate inculcation toward desiderated comportments. Elevated erudition facilitates informational ingress, augmenting cognizance, whereas attenuated scholasticism impedes neoteric apprehension (Notoatmodjo, 2014).

Per Table 3, 21 of 84 respondents were unremunerated or domiciliary custodians. Occupational status betokens socioeconomic prowess, underwriting alimentary and therapeutic exigencies (Aksari et al., 2025). Vocational occupation presages therapeutic arbitrations, concurrently furnishing experiential augmentation, associational nexuses, and domain proficiency (Notoatmodjo, 2014).

Congruent with these disclosures, Rohati (2015) discerned 44.4% non-clinician attendant predilections among the unemployed contra 8.5% among wage-earners. Occupational femmes evince amplified fiscal autonomy and informational entree, fostering autonomous obstetric adjudications; contrariwise, unemployed matrons, fiscally straitened, may resort to non-therapeutic intermediaries.

Table 4 evinces multiparity in 18 responses (72%) and primiparity in 7 (28%). Parity accrues to gravid women birthing progeny exceeding 1,000 grams or gestating ≥28 weeks, irrespective of issue (Prawirohardjo, 2018). Inexperienced primiparae oft defer to familial, particularly parental, counsel in attendant nomination.

Predominant exemplary erudition characterized twenty respondents (80%), per Table 5. Internal covariates (chronology, intellect, temperament) and extrinsic stratagems (scholasticism, milieu, socio-cultural matrix, mediatic ingress, experiential repository) modulate cognizance quanta (Nursalam, 2017). Temporal and fiscal constraints circumscribed this research to age and education. Kusuma (2018) aligns, noting 75% exemplary maternal cognizance vis-à-vis institutional nativities, preponderantly facility-based.

Propitious parturitional succor sentiments pervaded twenty respondents (80%), per Table 6. Wardani (2020) quantifies favorable provider orientations quadrupling credentialed clinician attendance odds (OR=4.12).

Table 7 discloses 22 of 100 respondents favoring clinician labor aegis, consonant with Kusuma's (2018) 93.8% institutional nativity prevalence. Attitudinal primacy in comportment obtains, albeit not invariably.

Maternal scholasticism evinces statistically salient correlation with parturitional attendant predilections (p=0.004) in Table 8. Cognizance—experiential or vicarious assimilation of factual/theoretical heuristics—governs salutogenic arbitrations (Mubarak, 2018). Imelda (2018) corroborates maternal erudition quintupling facility nativity odds, with robust attendant selection linkage (p=0.003); Ayu (2019) and Harmani et al. (2019) concur.

Notwithstanding ample erudition, sundry matrons espouse perilous nativity modalities under compelling familial duress, oft in-law valorization of traditional intermediaries' presumptive sagacity. Maternal perspectival stances evince substantive attendant selection correlation (p=0.004) in Table 9. Attitudinal matrices encompass evaluative convictions, affective resonances, and habitual repertoires toward objects; praxis ensues post-stimular appraisal (Notoatmodjo, 2014). Harnani (2019) and Eka (2019) affirm assiduous matrons preponderate clinician attendance.

Facility nativities preponderate among favorably disposed matrons; traditionalists allure the adversely inclined. Attendant nominations are modulated by ethnocultural dogmata, societal canons, pecuniary strictures, infrastructural availability, and programmatic interventions (e.g., BPJS Kesehatan). Persistent non-clinician fealty stems from fiscal penury, kinfolk interposition, and fallacious presumptions of traditionalists' superior solace and protracted postpartum ministration.

4. CONCLUSION

Maternal scholastic attainment evinces a statistically salient correlation (p = 0.004) with parturitional attendant selection comportments, per this research's disclosures. Moreover, gravid women's attitudinal dispositions manifested robust conjunction with delivery attendant predilections (p = 0.004).

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