



## Husband-Focused Education and Antenatal Care Compliance: A Quantitative Study in a Matrilineal Urang Sumando Community

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### Abstract

Husband involvement is a key determinant of antenatal care (ANC) compliance. In Padang Pariaman Regency, this involvement is influenced by the matrilineal Urang Sumando culture, which may limit husbands' authority in maternal health decision-making. This study aimed to analyze the association between husbands' knowledge and attitudes and maternal ANC compliance. A cross-sectional study was conducted among 100 pregnant women–husband pairs from May to August 2025. Husbands' knowledge and attitudes were measured using validated questionnaires, while ANC compliance was assessed through audits of the Maternal and Child Health (MCH) handbook. Data were analyzed using chi-square tests and logistic regression. The results showed that ANC compliance reached 71%. Husbands with good knowledge and positive attitudes were significantly more likely to support compliant ANC attendance, and these associations remained significant after adjusting for demographic factors. These findings indicate that culturally sensitive, husband-focused educational interventions are essential for improving ANC compliance in matrilineal communities.

**Keywords:** antenatal care, ANC compliance, husband education, *Urang Sumando*, matrilineal culture

### Abstrak

*Keterlibatan suami merupakan salah satu faktor kunci dalam kepatuhan antenatal care (ANC). Di Kabupaten Padang Pariaman, peran suami dalam kesehatan ibu dipengaruhi oleh budaya matrilineal Urang Sumando, yang dapat membatasi otoritas suami dalam pengambilan keputusan terkait kehamilan. Penelitian ini bertujuan untuk menganalisis hubungan antara pengetahuan dan sikap suami dengan kepatuhan ibu hamil terhadap ANC. Penelitian ini menggunakan desain potong lintang yang melibatkan 100 pasangan ibu hamil dan suami pada periode Mei hingga Agustus 2025. Pengetahuan dan sikap suami diukur menggunakan kuesioner tervalidasi, sedangkan kepatuhan ANC dinilai melalui audit Buku Kesehatan Ibu dan Anak (KIA). Analisis data dilakukan menggunakan uji chi-square dan regresi logistik.*

*Hasil penelitian menunjukkan bahwa tingkat kepatuhan ANC sebesar 71%. Pengetahuan yang baik dan sikap positif pada suami berhubungan secara signifikan dengan kepatuhan ANC dan tetap menjadi prediktor yang bermakna setelah dikontrol terhadap faktor demografis. Temuan ini menegaskan bahwa intervensi edukasi yang berfokus pada suami dan sensitif terhadap budaya sangat penting untuk meningkatkan kepatuhan ANC pada masyarakat matrilineal.*

**Kata kunci:** *antenatal care, kepatuhan ANC, edukasi suami, Urang Sumando, budaya matrilineal*

## **Introduction**

Maternal and neonatal well-being are fundamental pillars of the international development agenda, as mandated by the Sustainable Development Goals (SDGs). This framework projects a reduction in the global maternal mortality ratio (MMR) to below 70 per 100,000 live births by 2030. According to World Health Organization (2020) data, the majority of maternal deaths in developing countries are triggered by medical complications that are potentially preventable through comprehensive pregnancy surveillance systems. In this regard, Antenatal Care (ANC) has transformed from a mere routine medical procedure into a strategic instrument for information transfer, health education, and the early detection of clinical anomalies.

In Indonesia, despite a declining statistical trend, fatalities among pregnant women remain a crucial issue. The latest findings from the Indonesian Health Survey (SKI) confirm significant disparities in healthcare accessibility across various regions (Kemenkes RI, 2023). A family's lack of preparedness in detecting maternal danger signs is often a determining factor in mortality. Consequently, the level of maternal compliance with ANC service standards serves as a vital indicator of the effectiveness of community-level health interventions.

The Indonesian Ministry of Health has initiated a major reform of antenatal care protocols. Through Minister of Health Regulation No. 21 of 2021, the minimum frequency of examinations was increased from four visits (K4) to six visits (K6). This update mandates at least two sessions with a physician during the first and third trimesters, reinforced by basic ultrasonography (USG) to identify risks such as fetal malpresentation or growth retardation.

The implementation of the K6 policy is expected to minimize long-term pathological risks, including preeclampsia and postpartum hemorrhage, while contributing to stunting prevention (Sari et al., 2025). However, this regulatory shift requires massive behavioral adaptation, not only from pregnant women but also from their support ecosystems. Compliance with the K6 protocol demands investments of time, logistics costs, and psychological stability, all of which are heavily influenced by the immediate social environment.

Gestational phases are periods of intense biological and emotional transition, where women face high vulnerability to anxiety disorders, stress, and antenatal depression (Febriati & Zakiyah, 2022). Providing adequate psychosocial support during this time correlates positively with maternal mental health and directly influences optimal fetal neurobiological maturation (Rahmawati et al., 2025).

The most significant emotional support stems from the partner. UNICEF (2021) asserts that a husband's active participation in pregnancy monitoring can reduce maternal psychological burden, simultaneously increasing the regularity of health visits. Conversely, a lack of attention from the husband can trigger feelings of alienation in the mother, potentially leading to the neglect of crucial medical examination schedules.

Socio-cultural aspects play a dominant role in reconstructing health behavior in Indonesia, particularly in West Sumatra, which adheres strictly to a matrilineal system. In Padang Pariaman Regency, kinship relations position the husband as *Urang Sumando*, with a social status akin to a "guest" in the wife's family home. This structure often limits the husband's jurisdiction in household decision-making, as primary authority is typically held by the wife's brothers (*ninik mamak*) or the mother-in-law (Fitrayeni et al., 2022).

This condition creates a paradox in reproductive health management. Although husbands hold financial responsibility, their autonomy to direct their wives' health behavior is often hindered by the dominance of the extended family. A stigma exists that pregnancy is an exclusively female domestic domain, leading paternal involvement to be viewed as non-urgent (Agus & Horiuchi, 2021). These structural barriers risk degrading the quality of paternal accompaniment and decreasing ANC compliance.

A husband's knowledge regarding ANC standards and the identification of pregnancy risks is the foundation of a proactive attitude. This competence is not limited to technical information; it encompasses an awareness of moral responsibility in providing protection. Indriyani (2025) notes that husbands with good health literacy tend to provide better instrumental (logistics and financial) and affective support.

A husband's attitude serves as a catalyst in medical decisions. In a matrilineal society, improving paternal knowledge is expected to redefine the role of the *Urang Sumando* from a passive figure into a "health manager" for his family. Without the integration of understanding and positive perception, the "Alert Husband" (*Suami Siaga*) initiative remains mere discourse without concrete application.

While literature on paternal support is widely available, studies specifically evaluating the interaction between a husband's knowledge and attitude within the *Urang Sumando* cultural framework during the K6 policy era remain limited. Padang Pariaman Regency offers a relevant research locus due to its combination of strong cultural characteristics and healthcare accessibility challenges. This study is projected to provide a theoretical contribution to how knowledge and attitude variables can penetrate the rigidity of matrilineal cultural structures and serve as a basis for local health authorities to formulate more inclusive health promotion strategies.

The content of the manuscript includes the sections of Introduction, Method of Application, Results and Achievement of Targets, Conclusions, Acknowledgments, and Bibliography. Make sure that the content of the manuscript, except for the acknowledgments section, does not contain the personal identity or affiliation of the authors.

Broadly speaking, the introductory section contains background, problem formulation,

activity objectives, and literature review. Writers are required to describe quantitatively the portraits, profiles, and conditions of the target audience involved in community service activities. It can also describe the condition and potential of the area in terms of physical, social, economic, and environmental relevance to the activities carried out. Also describe the potential that is used as material for community service activities. The author is asked to formulate the problem concretely and clearly in this section. Explain the goals to be achieved in service activities.

This section is supported by a literature review which is used as a support for the concept of service. Authors are required to present primary and up-to-date literature reviews (references to journal articles and conference proceedings) (references published within the last 10 years). Literature review is not limited to theory, but also empirical evidence. Enrich this introductory section with efforts that have been made by other parties. This article is the result of dedication which is a downstream of research results, which can be in the form of the results of their own research or other researchers.

## **Method**

### **Research Design and Context**

An observational analytical study was carried out using a cross-sectional framework to explore how husbands' knowledge and attitudes relate to antenatal care (ANC) compliance. The investigation was implemented across selected community-based health facilities (Puskesmas) in Padang Pariaman Regency, West Sumatra, Indonesia.

The study area was deliberately chosen due to its deeply rooted matrilineal cultural system, which shapes family roles and decision-making processes, particularly the position of husbands (Urang Sumando) in maternal health matters. Data were gathered over a four-month duration, spanning May to August 2025.

### **Participants and Sampling Procedure**

The target population included pregnant women and their spouses living in Padang Pariaman Regency. Participant recruitment followed a consecutive enrollment strategy, whereby all eligible pregnant women (across all trimesters) attending the selected Puskesmas with their husbands during the study period were invited to participate. Recruitment continued until the predetermined minimum sample size was fulfilled.

Based on statistical requirements for proportion-based hypothesis testing, a total of 100 reproductive-age couples were included in the final analysis.

### **Eligibility Criteria**

Participants were included if they met the following conditions:

The woman was currently pregnant (Trimester I–III) and officially registered as a resident of Padang Pariaman Regency;

1. The woman attended the health facility together with her husband;

2. Both partners agreed to participate and provided informed consent.
3. Variables and Measurements
4. ANC Utilization (Outcome Variable)

ANC utilization was determined using documentation from the Maternal and Child Health (MCH/KIA) handbook. Women were classified as having adequate ANC utilization if their initial visit (K1) occurred no later than 12 weeks of gestation and if they had completed at least four ANC visits (K4) adjusted to gestational age at the time of evaluation. Those who did not meet these criteria were categorized as having inadequate ANC utilization.

### **Husbands' Knowledge (Independent Variable)**

Husbands' knowledge encompassed awareness of current ANC recommendations (K6), recognition of pregnancy danger signs, and understanding of maternal nutrition. This variable was assessed using a 20-item structured questionnaire consisting of multiple-choice and true–false items. Knowledge scores of 75% or higher were interpreted as adequate, while scores below this threshold were considered inadequate.

### **Husbands' Attitudes (Independent Variable)**

Husbands' attitudes represented their emotional and behavioral disposition toward supporting pregnancy care. Attitudes were evaluated through a 20-item Likert- scale instrument, with total scores categorized into positive or negative attitudes using a median-based classification.

### **Control Variables**

Several sociodemographic factors were treated as control variables, including maternal age, maternal educational attainment, and household living arrangements (residing with parents-in-law versus living independently).

### **Instrument Quality Assurance**

All questionnaires underwent expert review for content relevance and clarity by three specialists in midwifery and maternal nursing. Internal consistency testing produced Cronbach's alpha coefficients exceeding 0.70, confirming acceptable reliability of the measurement tools.

### **Statistical Analysis**

Data processing and analysis were performed using statistical software. Descriptive statistics were applied to summarize participant characteristics and variable distributions. Inferential analysis began with chi-square testing to assess associations between husbands' knowledge and attitudes and ANC utilization, with effect sizes presented as Odds Ratios (ORs) and 95% Confidence Intervals (CIs). Subsequently, multivariable logistic regression modeling was conducted to determine the most influential predictors of ANC utilization while adjusting for relevant control variables. A p-value < 0.05 was considered indicative of statistical significance.

## Result

### Respondent Characteristics

**Table 1.** Distribution of Respondent Characteristics (n=100)

Characteristic	Frequency (n)	Percentage (%)
Maternal Age		
< 20 years	10	10
20–35 years	70	70
> 35 years	20	20
Maternal Education		
Basic (Primary/Junior High)	25	25
Secondary (Senior High)	55	55
Higher (Diploma/University)	20	20
Residency Status		
Living with husband/children	38	38
Living with in-laws/extended family	62	62
Maternal Occupation		
Housewife	60	60
Employed (Formal/Informal)	40	40
Husband's Occupation		
Salaried Employee	25	25
Informal Sector (Trader, Laborer, Driver)	55	55
Others	20	20

As shown in Table 1, the majority of respondents (70%) were within the healthy reproductive age range of 20–35 years. Regarding education, over half (55%) of the pregnant women had a secondary education background. The most prominent social characteristic was residency status, with 62% of respondents living with in-laws or extended family, reflecting the strong kinship system in the study area. Economically, most women were housewives (60%), while their husbands predominantly worked in the informal sector (55%).

**Table 2.** Distribution of Husbands' Knowledge, Attitude, and ANC Compliance (n=100)

Variable	Category	Frequency (n)	Percentage (%)
Husband's Knowledge	Good	58	58
	Poor	42	42
Husband's Attitude	Positive	62	62
	Negative	38	38
ANC Compliance	Compliant	71	71
	Non-compliant	29	29

ANC compliance reached 71%. This high rate is supported by the husbands' profiles, where the majority possessed good knowledge (58%) and positive attitudes (62%) toward pregnancy examinations. However, 29% remained non-compliant, which aligns with the proportion of husbands with poor knowledge (42%) and negative attitudes (38%).

**Table 3.** Bivariate Analysis: Knowledge and Attitude (n=100)

Independent Variable	OR (95% CI)	p-value
Husband's Knowledge (Good)	3.21 (1.30–7.93)	0.009*
Husband's Attitude (Positive)	2.74 (1.16–6.49)	0.019*

**Table 4.** Multivariate Analysis: Logistic Regression

Variable	aOR (95% CI)	p-value
Husband's Knowledge	2.70 (1.12–6.52)	0.027*
Husband's Attitude	2.33 (1.03–5.25)	0.042*
Living with In-laws	0.52 (0.24–1.13)	0.097

Multivariate analysis shows that husbands' good knowledge (aOR=2.70) and positive attitudes (aOR=2.33) are primary determinants of ANC compliance. Conversely, living with in-laws showed a socio-cultural trend that decreased the odds of compliance by 48% (aOR=0.52). While not statistically significant (p=0.097), this finding clinically reflects the "autonomy barrier" faced by husbands (*Urang Sumando*) under the supervision of the extended family.

## Discussion

The majority of respondents were in the healthy reproductive age of 20–35 years (70%). Clinically, this group exhibits better health awareness and lower risks of complications compared to extreme age groups. According to Indriyani (2025), mature pregnant women tend to be more active in seeking health information and communicate more effectively with their partners regarding ANC needs.

Educationally, the finding that 55% of respondents graduated from high school indicates a literacy level sufficient to understand medical instructions. Education serves as an enabling factor for adopting health policy innovations, such as the transition from the K4 to the K6 standard. However, maternal education alone is insufficient without the support of the husband as the primary family decision-maker (Sari et al., 2025).

The prevalence of husbands in the informal sector (55%) necessitates stricter financial planning, such as the Tabulin (Birth Savings) scheme. Nevertheless, the data suggests that knowledge and attitude can compensate for economic limitations. Husbands with higher education levels are generally more receptive to healthcare advice and communicative in planning safe deliveries. The synergy between maternal education and paternal knowledge creates a healthy domestic ecosystem, proving that economic factors are not absolute barriers as long as cognitive (knowledge) and affective (attitude) factors are maintained.

The 71% compliance rate reflects a positive trend in community adaptation to the Ministry of Health's latest policy (PMK No. 21 of 2021). The K6 standard is not merely about frequency; it strengthens quality through physician-led examinations and USG screenings for early detection of preeclampsia and stunting. However, 29% of mothers remain non-compliant, risking the "golden period" for detecting asymptomatic complications. This is often linked to the perception that check-ups are only necessary when physical symptoms appear (Kemenkes RI, 2023).

Husbands' knowledge emerged as a powerful determinant. Adequate knowledge transforms a husband from a "passive companion" into a "clinical navigator." Those who

understand the risks of hemorrhage or hypertension are more proactive in arranging logistics and finances for ANC visits. This knowledge serves as the foundation for providing informational support (Siregar et al., 2020).

Furthermore, a positive attitude reflects mental readiness and a view of pregnancy as a shared responsibility. Emotional support derived from such attitudes acts as a cortisol-reducer for pregnant women, increasing intrinsic motivation to maintain fetal health. Conversely, apathy often creates psychological barriers for the mother to request fees or permission for check-ups (UNICEF, 2021).

A unique finding is the influence of residency. Living with in-laws showed a trend of decreasing compliance odds by 48%. In the matrilineal system of West Sumatra, the husband as *Urang Sumando* is a "guest" in the wife's family home. This often creates a duality of authority, where extended families may promote traditional practices that conflict with K6 medical standards (Agus & Horiuchi, 2021). This "autonomy barrier" highlights why compliance may drop in extended family settings. Strengthening ANC must involve cultural negotiations with the extended family to provide space for the husband to lead health decisions (Fitrayeni et al., 2022).

The predominance of respondents within the healthy reproductive age range of 20–35 years (70%) reflects a favorable demographic profile for optimal maternal health outcomes. Women in this age group generally demonstrate higher health awareness, better cognitive capacity to process health information, and lower risks of obstetric complications compared to adolescent or advanced-age pregnancies. Prior studies have shown that maternal maturity is associated with proactive health-seeking behavior and more effective spousal communication regarding antenatal needs (Indriyani, 2025; Yargawa & Leonardi-Bee, 2015). In this study, the synergy between maternal age and spousal support likely contributed to the relatively high ANC compliance rate observed. Nevertheless, age alone does not guarantee adherence, emphasizing the importance of reinforcing family-level determinants.

From an educational and socioeconomic perspective, more than half of the respondents had completed secondary education, indicating sufficient literacy to comprehend medical instructions and policy changes such as the transition from the K4 to the K6 ANC standard. Education functions as an enabling factor that facilitates acceptance of health innovations; however, its effect is amplified when combined with supportive husbands who actively participate in decision-making (Sari et al., 2025). Although the majority of husbands were employed in the informal sector, which is often associated with financial instability, this study suggests that cognitive (knowledge) and affective (attitude) factors can compensate for economic constraints. Similar findings have been reported in previous studies, where informed and motivated husbands were able to prioritize ANC visits despite limited resources (Siregar et al., 2020; Tokhi et al., 2018).

A particularly important finding relates to living arrangements. Although not statistically significant, residing with parents-in-law showed a meaningful trend toward reduced ANC compliance. In the matrilineal context of West Sumatra, husbands assume the role of *Urang Sumando*, which often limits their authority within extended-family households.

This situation may create an “autonomy barrier,” whereby traditional beliefs promoted by senior family members overshadow biomedical recommendations, including the K6 standard (Agus & Horiuchi, 2021). Consistent with previous qualitative evidence, this study highlights the need for culturally sensitive ANC interventions that not only educate husbands but also engage extended family members to support male leadership in maternal health decision-making (Fitrayeni et al., 2022; Mullany, 2017).

## Conclusion

This study concludes that a husband’s good knowledge and positive attitude are significantly associated with ANC compliance in Padang Pariaman. Paternal involvement serves as a primary driver for K6 compliance, even within complex matrilineal structures. Health institutions should implement "Father’s Class" protocols and integrated family counseling to strengthen the husband's role as a clinical navigator. Nursing practitioners should conduct deep family dynamics assessments, involving both the Urang Sumando and the maternal extended family in all educational initiatives to ensure domestic stability in antenatal care.

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