

# Husband's Support in Wife's ANC in Eastern Indonesia: Do Regional Disparities Exist?

*by Ratna Dwi Wulandari*

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# HUSBAND'S SUPPORT IN WIFE'S ANC IN EASTERN INDONESIA: DO REGIONAL DISPARITIES EXIST?

## Dukungan Suami dalam ANC Istri di Timur Indonesia: Adakah Disparitas Antar Wilayah?

Agung D<sup>1</sup>, Laksono<sup>1</sup>, \*Ratna Dwi Wulandari<sup>2</sup>, Nikmatur Rohmah<sup>3</sup>, Ratu Matahari<sup>4</sup>

<sup>1</sup>National Research and Innovation Agency Republic of Indonesia, Indonesia

<sup>2</sup>Faculty of Public Health, Universitas Airlangga, Indonesia

<sup>3</sup>Faculty of Health Science, Muhammadiyah University of Jember, Indonesia

<sup>4</sup>Faculty of Public Health, Universitas Ahmad Dahlan, Indonesia

Correspondence\*:

Address: Kampus C Unair, Mulyorejo, Surabaya, Indonesia | e-mail: ratna-d-w@fkm.unair.ac.id

### Abstract

**Background:** Previous research has found that husband support can increase the participation of the wife's antenatal care (ANC) to prevent an increase in maternal mortality. Meanwhile, in the eastern region, the effort to provide pregnant women's health services tends to be lower than in Indonesia's other areas.

**Aims:** The study analyzed regional disparities of husbands' support in wives' ANC in eastern Indonesia.

**Methods:** Secondary data from the 2017 Indonesian Demographic and Health Survey were used in the study. In eastern Indonesia, the analytic units were wives aged 15 to 49, married, and pregnant in the previous five years. The study analyzed 2,005 respondents as a sample. In addition to the husband's support, the study examined region (province), residence, age, education, occupation, wealth, and parity as the independent variable. In the final stage, the study used a binary logistic regression test.

**Results:** A husband in East Nusa Tenggara has 1.556 times the probability of a husband in Papua for a support wife's ANC (95% CI 1.082-2.237). Maluku husbands are 0.528 times less likely to support their wife's ANC than Papua husbands (95% CI 0.363-0.768). North Maluku husbands are 0.476 times less likely than Papua husbands to support their wife's ANC (95% CI 0.320-0.709). Meanwhile, there was no significant difference in the husband's support between West Papua and Papua.

**Conclusion:** Regional disparities of husband's support in wife's ANC existed in eastern Indonesia.

**Keywords:** husband's support, maternal health, antenatal care, family factors.

### Abstrak

**Latar Belakang:** Studi sebelumnya menemukan bahwa dukungan suami dapat meningkatkan partisipasi istri dalam ANC untuk mencegah peningkatan kematian ibu. Sementara di wilayah timur, upaya penyelenggaraan pelayanan kesehatan ibu hamil cenderung lebih rendah dibandingkan wilayah Indonesia lain.

**Tujuan:** Tujuan studi untuk menganalisis disparitas regional dukungan suami pada ANC istri di Indonesia Timur.

**Metode:** Penelitian menganalisis data Survei Demografi dan Kesehatan Indonesia 2017. Unit analisis adalah pasangan dengan istri berusia 15-49 tahun, menikah, dan hamil selama lima tahun terakhir. Studi menganalisis 2.005 responden. Selain dukungan suami, penelitian ini menganalisis wilayah (provinsi), tempat tinggal, umur, pendidikan, pekerjaan, status kekayaan, dan paritas sebagai variabel bebas. Tahap akhir penelitian menggunakan uji regresi logistik biner.

**Hasil:** Suami di Nusa Tenggara Timur memiliki peluang 1,556 kali lipat kemungkinan suami di Papua untuk mendukung ANC istri (95%CI 1,082-2,237). Suami di Maluku 0,528 kali lebih rendah mendukung ANC istri dibandingkan suami di Papua (95%CI 0,363-0,768). Suami di Maluku Utara 0,476 kali lebih rendah mendukung ANC istri dibandingkan suami di Papua (95%CI 0,320-0,709). Sedangkan dukungan suami antara Papua Barat dan Papua tidak ada perbedaan yang signifikan.

**Kesimpulan:** Ada disparitas regional pada dukungan suami dalam ANC istri di kawasan Timur Indonesia.

**Kata kunci:** dukungan suami, kesehatan ibu, antenatal care, faktor keluarga.

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## Introduction

The maternal mortality rate (MMR) indicates the success of women's health efforts (Indonesian Ministry of Health, 2019). MMR is the ratio of a woman's death during pregnancy, childbirth, or within 42 days after delivery per 100,000 live births caused by pregnancy, childbirth, and the puerperium or its management (Indonesian Ministry of Health, 2019; World Bank, 2021). MMR in Indonesia from 2013 to 2014 has tended to decline but has not yet reached the target of the Sustainable Development Goals of 70,000 per 100,000 live births (Susiana, 2025; World Bank, 2021). MMR in 2017 in Indonesia was 177.00 per 100,000 live births, down 3.8% from 2016. In 2016 it was 184.00 per 100,000 live births, down 4.17% from 2015 (World Bank, 2021). Indonesia has the third highest MMR among ASEAN countries after Myanmar and Laos (World Health Organization and UNICEF, 2019).

One of the strategies to reduce MMR is to provide qualified ANC services. ANC can detect early complications, provide appropriate intervention if midwives/ob-gyn find difficulties, and educate pregnant women about well-being, childbirth preparedness, and breastfeeding (Utami *et al.*, 2020). Economic concerns, distance, transportation difficulties to health facilities, a lack of information, and family support, particularly from their husband, are some factors that restrict women from receiving or seeking care during pregnancy and childbirth (Dahab and Sakellariou, 2020). Previous studies have found that poor spouses' support and involvement in the prenatal and delivery phases is one of the ANC obstacles. Women postpone maternal health treatment due to a lack of authorization from their spouses (Gize *et al.*, 2019; Uldbjerg *et al.*, 2020). Husbands' willingness to accompany their spouses to

medical appointments correlates positively with maternal and neonatal health care (Rahman *et al.*, 2018; Sakuma *et al.*, 2019).

Other factors influencing social background and cultural practices include local traditions that the community still practices during pregnancy. Of the care pattern for pregnant women, 61% always combine traditional and modern methods, and 11% fully believe and only rely on conventional approaches (Pratiwi *et al.*, 2019).

The husband was a leader and, most importantly, supported when a woman was pregnant. As the family head, men manage resources, consult on pregnant women's care, and are in authority over where and when pregnant women should reach medical assistance (Wulandari, Laksono and Matahari, 2022). Several studies have reported that a husband's support positively impacts encouraging pregnant women to attend ANC visits. The husband's role also positively affects the delivery process and choosing of skilled birth attendants (Lestari *et al.*, 2019). The situation can include financial support, accompanying ANC visits, setting up a place for delivery, and making decisions (Marzo *et al.*, 2018).

Indonesia is currently facing three health problems. First is the uneven and inadequate infrastructure. Existing health service facilities in Indonesia are still centralized in big cities. Second, the distribution of health workers is not evenly distributed, especially specialist doctors. The third is the funding allocation for the health sector in the amount of 2.4% of the Regional Revenue and Expenditure Budget funds (Amelia, 2020). This problem causes health development in Indonesia to be uneven. Health development in eastern Indonesia has lagged behind other areas. Health Development in Eastern Indonesia has shallow indicators of healthy families, namely in East Nusa Tenggara, Maluku,

North Maluku, West Papua, and Papua provinces (Ipa *et al.*, 2020; Laksono *et al.*, 2021). ANC utilization in eastern Indonesia shows that almost all areas have a gap with Papua, except Maluku (Laksono, Rukmini

## Method

### Data Source

The study analyzed the 2017 Indonesian Demographic Data Survey (IDHS) data. The analysis units were couples of childbearing age, with the inclusion criteria of couples with wives aged 15-49 who got pregnant in the last five years before the interview. The survey used stratification and multistage random sampling and obtained 2,005 samples. The study used the wife as respondents.

### Variables

The outcome variable was the husbands' support. The study defines husbands' support as the respondents' acknowledgments of husbands' participation during ANC. The study obtained variables from one question: Does the husband accompany the wife in antenatal care? The husband's support consists of no and yes.

The study used regions as an exposure variable. The study determined regions based on provincial administrative boundaries. Furthermore, the area comprises five provinces: East Nusa Tenggara, Maluku, North Maluku, West Papua, and Papua (Wulandari and Laksono, 2020).

Meanwhile, six variables as control variables consist of the type of residence, age, education level, occupation, wealth status, and wife's parity. The study divided places into urban and rural. The study

and Wulandari, 2020). Previously, no researcher had analyzed this topic. Based on the background narration, the study analyzes regional disparities of husbands' support in wives' ANC in eastern Indonesia. The study determined age by the respondents' acknowledgments of their husbands' most recent birthdays.

Education comprises no education, primary, secondary, or higher education. The occupation includes unemployed, professional/ technical, managers/administrators, clerical, sales, services, agricultural self-employed, industrial workers, and others. The parity comprises primiparous (<2), multiparous (2-4), and grand multiparous (>4).

The survey evaluates household wealth based on furniture types and prices. It includes a TV, a bicycle, a car, and family items such as drinking water sources, bathroom amenities, and flooring materials. Furthermore, the principal component analysis was used to calculate the value of this variable. The country's wealth quintiles were developed based on individual household scores and then grouped into the same five categories, which account for 20% of the population (Wulandari *et al.*, 2019). The wealth status comprises five classes: poorest, poorer, middle, richer, and richest.

### Data Analysis

In the first step, the researcher analyzed the bivariate method to observe regional disparities in all investigated variables. The study used chi-square to select the dichotomous variables at this step, while the continuous variables were tested using the T-test. In the last stage, the researcher used binary logistic regression to examine the odds ratio between regions.

Table 1. Descriptive statistic of Husband's Support in Wife's ANC in Eastern Indonesia

Characteristics	Province					p-value
	East Nusa Tenggara (n=743)	Maluku (n=562)	North Maluku (n=344)	West Papua (n=172)	Papua (n=184)	
<b>Husband's support</b>						*<0.001
- No	40.9%	51.2%	58.4%	42.4%	40.2%	
- Yes	59.1%	48.8%	41.6%	57.6%	59.8%	
<b>Residence</b>						*<0.001
- Urban	19.5%	45.9%	25.3%	30.2%	23.9%	
- Rural	80.5%	54.1%	74.7%	69.8%	76.1%	
<b>Age (mean)</b>	35.06	34.47	34.49	33.95	34.69	*<0.001
<b>Education</b>						*<0.001
- No education	5.9%	1.1%	1.5%	0.6%	3.8%	
- Primary	40.4%	18.3%	20.9%	14.5%	21.2%	
- Secondary	40.1%	62.6%	63.1%	65.1%	60.3%	
- Higher	13.6%	18.0%	14.5%	19.8%	14.7%	
<b>Occupation</b>						*<0.001
- not work	1.6%	2.5%	1.7%	2.3%	2.7%	
- Professional/technical	8.1%	14.9%	7.8%	15.7%	10.3%	
- Managers-Administration	2.2%	3.6%	2.6%	2.9%	2.2%	
- Clerical	6.7%	7.7%	5.5%	11.6%	11.4%	
- Sales	6.3%	5.9%	6.4%	7.6%	10.3%	
- Services	12.4%	21.7%	17.4%	19.2%	21.7%	
- Agricultural-self employed	42.9%	27.4%	40.7%	23.8%	25.0%	
- Industrial worker	18.4%	15.5%	16.6%	15.7%	14.1%	
- Other	1.3%	0.9%	1.2%	1.2%	2.2%	
<b>Wealth</b>						*<0.001
- Poorest	79.0%	48.9%	60.5%	39.5%	52.2%	
- Poorer	12.7%	21.7%	17.2%	20.9%	19.0%	
- Middle	3.8%	12.6%	11.6%	19.2%	10.3%	
- Richer	2.3%	11.7%	8.4%	13.4%	9.8%	
- Richest	2.3%	5.0%	2.3%	7.0%	8.7%	
<b>Parity</b>						0.050
- Primiparous	26.9%	24.4%	25.9%	29.7%	19.6%	
- Multiparous	56.8%	57.8%	61.0%	57.0%	56.5%	
- Grand multiparous	16.3%	17.8%	13.1%	13.4%	23.9%	

Note: \*p < 0.001.

## Result and Discussion

Table 1 displays the descriptive statistics of the husband's support of his wife's ANC in Eastern Indonesia. Table 1 informs husbands in East Nusa Tenggara, West Papua, and Papua ruled husbands who support their wives' ANC. Otherwise, husbands in Maluku and North Maluku do not support the wife's ANC.

Couples living in rural areas are prevalent in the entire region based on the type of residence. Meanwhile, according to age, husbands in West Papua have the youngest average age. Husbands with

secondary education are prominent in all areas based on education level, except in East Nusa Tenggara, where husbands with primary education dominate. According to occupation type, husbands with agricultural groups are influential in the five regions.

The most impoverished family is influential in all research areas based on wealth status. On the other hand, a husband who has multiparous wives dominates in all regions.

Table 2 shows the binary logistic regression test results—the analysis used "Husband's Support in Wife's ANC=no" as a reference. Husbands in East Nusa

Tenggara are 1.556 times more likely than husbands in Papua to support their wife's ANC (95%CI 1.082-2.237). Husbands in Maluku are 0.528 times less likely than husbands in Papua to support their wife's ANC (95%CI 0.363-0.768). Husbands in North Maluku are 0.476 times less likely than husbands in Papua to support their wife's ANC (95%CI 0.320-0.709). Meanwhile, there was no significant difference in the husband's support between West Papua and Papua.

Previously, the author had not found any research that discussed regional disparities of husbands' support in their wife's ANC, especially in the east of Indonesia. As in Indonesia, the five regions' social context generally has a patriarchal

social system, which tends to place men as more dominant (Sakina and A., 2017). This patriarchal social system places a woman's pregnancy and cares as a domestic matter, which is the woman's responsibility. So, it becomes a challenge to involve men in pregnancy care efforts.

A previous study shows the eastern zone lags behind its western counterpart, particularly when compared to Java, which serves as the government's seat of power (Mubasyiroh, Nurhotimah and Laksono, 2016). In contrast to the west side, eastern Indonesia's topography shows more extreme heterogeneity. Certain regions of the eastern region are known as rural or remote areas, owing to the minimal road

Table 2. Binary logistic regression of Husband's Support in ANC in Eastern Indonesia

Predictors	Husband's Support in Wife's ANC			
	p-value	AOR	95% CI	
			Lower Bound	Upper Bound
Province: East Nusa Tenggara	*0.017	1.556	1.082	2.237
Province: Maluku	**0.001	0.528	0.363	0.768
Province: North Maluku	***<0.001	0.476	0.320	0.709
Province: West Papua	0.092	0.674	0.425	1.067
Province: Papua (ref.)	-	-	-	-
Type of Place of Residence: Urban	0.230	1.165	0.908	1.497
Type of Place of Residence: Rural (ref.)	-	-	-	-
Education: No education (ref.)	-	-	-	-
Education: Primary	0.066	1.720	0.965	3.067
Education: Secondary	**0.003	2.397	1.344	4.276
Education: Higher	***<0.001	4.388	2.287	8.421
Occupation: Did not occupation (ref.)	-	-	-	-
Occupation: Professional/Technical	0.270	1.515	0.724	3.174
Occupation: Managerial and Administration	0.354	1.540	0.618	3.838
Occupation: Clerical	0.426	1.364	0.635	2.929
Occupation: Sales	0.248	1.581	0.727	3.437
Occupation: Services	0.388	1.370	0.671	2.799
Occupation: Agricultural - self-employed	0.574	1.224	0.605	2.477
Occupation: Industrial	0.364	1.393	0.680	2.854
Occupation: Other	0.810	1.146	0.375	3.501
Wealth: Poorest (ref.)	-	-	-	-
Wealth: Poorer	***<0.001	2.027	1.531	2.684
Wealth: Middle	***<0.001	3.730	2.548	5.459
Wealth: Richer	***<0.001	5.014	3.176	7.917
Wealth: Richest	***<0.001	5.194	2.733	9.871

Note: \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.

infrastructure and public transit available. Some other places are tough to access (Soewondo *et al.*, 2019).

Maluku and North Maluku tend to have a more extreme topography than the other provinces because of their geographic archipelago conditions. Meanwhile, Papua and West Papua are known as areas with unspoiled wilderness, and Papua is also directly adjacent to Papua New Guinea. The two regions in one large island tend to be left behind because there are still many isolated areas (Laksono and Wulandari, 2021). The eastern region has more health myths, making it difficult for health professionals to improve maternal health (Laksono and Faizin, 2015).

Meanwhile, the result found three control variables influencing the husband's support for the ANC: age, education, and wealth. Age as one predictor of the husband's support is in line with a study in Southern Ethiopia, and the situation is related to the partner's need for support and care. A couple older than the wife's age means that a pregnant wife needs attention and help in pregnancy. A husband's support can reduce maternal mortality and stress and strengthen fathers' future role in caring for children (Mamo *et al.*, 2021).

Husbands with secondary education are 2.397 times more likely than no education to support their wife's ANC (95%CI 1.344-4.276). Husbands with higher education are 4.388 times more likely than no education to support their wife's ANC (95%CI 2.287-8.421).

A previous study shows that someone with minimal knowledge will impact a lack of information about access to health services, including ANC (Mohammed *et al.*, 2019). The level of education is linear with women's knowledge and skill to bargain with their partners (Rumaseuw *et al.*, 2018). The

husband's involvement is crucial in ANC because we hope the husband will get good maternal information from health workers to improve pregnancy and birth (Jones *et al.*, 2021).

Table 2 shows the poorer husband was two times more likely than the most impoverished to support the ANC (95%CI 1.531-2.684). Husbands with middle wealth status have a 3.730 times higher probability than the most destitute to support the ANC (95%CI 2.548-5.459). Meanwhile, a more prosperous husband was 5.014 times more likely than the most impoverished to support the ANC (95%CI 3.176-7.917). Moreover, the richest have a 5.194 times higher probability than the poorest of supporting the ANC (95% CI 2.733-9.871).

Low socioeconomic families will have deficient access to health services, including pregnancy examinations. The situation is because families with low economic status must have a priority scale to meet their basic needs (Omar, M and Musili, 2020).

#### Study Limitation

Due to the utilization of secondary data, the situation makes the phenomenon obtained superficial. The study results cannot capture more profound phenomena related to the social and cultural systems surrounding Indonesia's context founded in a previous study (Pratiwi *et al.*, 2019). Further studies with a qualitative approach are needed to uncover this phenomenon.

#### Conclusion

Regional disparities of husband's support in wife's ANC existed in eastern Indonesia. Husbands in East Nusa Tenggara are the most likely to support the ANC. On the other hand, a husband in Maluku and North Maluku has the lowest likelihood of being a supportive ANC.

Besides, there was no significant difference in the husband's support between West Papua and Papua.

Moreover, the study also found three control variables influencing the husband's support for the ANC. Age, education, and wealth were the three factors.

Based on the results, the study recommended that policymakers need more attention to archipelagic areas such as Maluku and North Maluku. Policymakers must develop a policy strategy by considering the region's geographical factors.

### Abbreviations

MMR: Maternal Mortality Rate; ANC: Antenatal Care; IDHS: Indonesian Demographic Data Survey; ICF: Inner City Fund; AOR: Adjusted Odds Ratio; PHC: Primary Health Care.

### Declarations

### Ethics Approval and Consent Participant

The 2017 IDHS passed the ethical test and received ethical clearance from the Ministry of Health. The identities of the respondents were all removed from the database. Respondents have given their written consent to participate in this study. The researcher granted permission to use data for this study via <https://dhsprogram.com>.

### Conflict of Interest

The authors state that there are no substantial conflicting financial, professional, or personal interests that could have influenced the performance.

### Availability of Data and Materials

The authors are unable to disclose the data publicly because a third party and the authors do not have authorization to do so. Researchers who match the criteria for access to secret data can obtain the 2017

IDHS data at <https://dhsprogram.com/data/new-userregistration.cfm>.

### Authors' Contribution

ADL developed the study's concept; RDW developed the methodology; NR and RM wrote, reviewed, and evaluated the manuscript; ADL created the original draft.

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