The Determinants of Four or More Antenatal Care Visits Among Working Women in Indonesia

by Hanifa Maher Denny

The Determinants of Four or More Antenatal Care Visits Among Working Women in Indonesia

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Abstract

This study aimed to analyze the determinants of four or more antenatal care (ANC) visits among working women in Indonesia. The researchers extracted data from the Indonesian Demographic and Health Survey 2017 and obtained a sample size of 8239 working women aged between 15 and 49 years. Women's residence, age, marital status, education level, parity, economic status, and health insurance were selected as the independent variables. Binary logistic regression was used for the analysis. Older working women, married working women, educated working women, those in higher economic status, and those with health insurance were more likely to complete four or more of their ANC visits. The more children the working women had, the less likely they would complete their ANC visits. In conclusion, age, marital status, education, parity, economic status, and health insurance are the determinants for completing ANC visits among working women in Indonesia. At the same time, place of residence does not affect the frequency of ANC visits.

Keywords

antenatal care, women's health, parity, ANC, working women

What We Already Know

- The demographic area plays an important factor in contributing to four or more antenatal care (ANC) visits.
- Older pregnant women tend to have four or more ANC visits.
- The more educated the working woman was, the more likely she was to complete four or more ANC visits.

What This Article Adds

- Working women have a potential contribution to the success of four or more ANC visits.
- Less-educated working women living in rural areas need more attention to increase the coverage of 4 or more ANC visits.
- The determinants of 4 or more ANC visits among female workers in Indonesia augment the scarcity of information on reproductive health program implementation among working women in Indonesia.

Introduction

Maternal mortality rate (MMR) and infant mortality rate (IMR) are the main maternal and child health indicators. Reduction in maternal and infant deaths is the target of Sustainable Development Goals (SDGs).[1] In 2015, the Indonesian MMR had decreased from 359 deaths per 100 000 live births to 305 per 100 000 live births. However, this condition is still below the target SDGs, deaths per 100 000 live births.[2] Meanwhile, according to the Indonesian Demographic and Health Survey (IDHS) 2017, the IMR in Indonesia is 15 deaths per 1000 live births.[3]

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Antenatal care (ANC) is defined as the access and use of health care during pregnancy. Its objective is to prevent malnutrition among women during pregnancy and reduce low birth weight and infant mortality. Antenatal care is part of the Indonesian programs on decent work to improve women workers' health status during pregnancy.[4,5] Antenatal care involves health risk diagnoses during pregnancy and childbirth to minimize the adverse effects on women's reproductive health.[2] The World Health Organization recommends four visits during pregnancy to prevent malnutrition in mothers and reduce the risk of low birth weight.[6] The ANC visit in Ethiopia was negatively affected by lower education, poverty, rural residence, and higher birth order. However, better ANC services contributed to the pregnant women having more visits.[7]

In Indonesia, complete ANC or at least four ANC visits during pregnancy are insufficient to reach the country's target.[8] This phenomenon is similar to that in Pakistan, showing 65.8% to 79.8% access toward four ANC visits or ANC completeness.[9] However, Indonesia has the highest percentage of ANC visits (86%) compared with Cambodia (83%) and Myanmar (47%).[1]

Several factors related to ANC completeness include geographical conditions (living in rural/urban areas), sociodemographic conditions (economic status, low education, number of short birth spacing, giving birth without the assistance of health workers or skilled attendants), and cultural values adopted by an individual.[8,10] A national survey in 2018 showed that the first ANC visit percentage was 96.1% in women aged between 10 and 54 years or increased by 1% compared with the coverage in 2013. Meanwhile, the fourth ANC visit percentage in 2018 was 74.1% or increased by 4.1% compared with 70% in 2013. Although the percentage of ANC visits has increased, the number is still below the national target of 76%.[11]

Working women's reproductive health is crucial, as workplace hazards could affect their pregnancy. Some examples of the hazards include fatigue due to excessive working hours or standing for more than seven hours, stress, and extreme exposure to chemicals, sounds, heat, and biological hazards such as viruses and vibrations that can cause miscarriage or reproductive outcome disorders.[12]

This study aimed to analyze determinants of four or more ANC visits among working women in Indonesia. This study is expected to provide some inputs for the upcoming policy and strategy to increase the coverage of four or more ANC visits among working women in Indonesia.

Methods

This study used secondary data from the IDHS 2017 as part of the IDHS program conducted by the Inner-City Fund (ICF). The authors obtained an ethical approval of the IDHS data utilization under the following category: Project complies with all of the requirements of 45 CFR 46, "Protection of Human Subjects" from the ICF IRB FWA00000845. Project Title: The

Demographic and Health Survey (DHS) Program (DHS-7), ICF Project Number: 132989.0.000. The IDHS 2017 uses stratification and multistage random sampling methods. The sample consisted of 8239 working women who had a job at the interview time, were between 15 and 49 years old, and had given birth in the last five years.

Procedure

The researchers obtained permission to analyze the IDHS data upon registering the study on the following Web site: https://dhsprogram.com/data/new-user-registration.cfm. Subsequently, the respondents' identity was removed from the data set to ensure confidentiality.

Data Analysis

The data set includes information about working women's ANC visits to a health service facility or a midwife. The ANC procedure entails a one time visit during the first trimester, a 1-time visit during the 6 months of pregnancy, and two visits between seven and nine months. Antenatal care is considered complete when a pregnant woman completes four visits to a health service facility or a midwife.[3] The independent variables for this study were categorical data of the respondents' residence, age, marital status, education level, parity, economic status, and health insurance coverage. A χ^2 test was used to detect the variables related to ANC utilization during pregnancy. Binary logistic regression was applied at the final stage due to the nature of the dependent variable. The SPSS V.22 software was operated in all stages of the statistical analysis.

Results

Working women from urban areas were higher in their four ANC visits (Table 1). Working women aged 30 to 34 years had the highest ANC completeness score. Married working women, women with secondary education, women who had two to four parities, women of higher economic status, and women who had health insurance coverage recorded higher in their four or more ANC visits.

Table 2 shows the result of the binary logistic regression of ANC visits among working women in Indonesia. There was no difference in the score of four or more ANC visits of women living in rural and urban areas.

Working women aged between 20 and 24 years tended to have 4 or more ANC visits compared with women aged 15 to 19 years. Meanwhile, working women aged 30 to 34 years were more likely to have four or more ANC visits than those aged between 15 and 19 years. Subsequently, working women aged 45 to 49 years were more apparent to have 4 or more ANC visits than those aged 15 to 19 years. The tendency to have four or more ANC visits increased with the respondents' age (see Table 2).

Table 1. Descriptive Statistics of the Respondent of Female Workers in Indonesia (n = 8239).

| Variables | Categories | ANC visits | | P value |
		<4 (n = 923)	≥4 (n = 7316)	
Type of residence	Urban	33.6%	51.4%	<.001*
	Rural	66.4%	48.6%	
Age group, y	15-19	3.7%	1.2%	<.001*
	20-24	13.8%	12.1%	
	25-29	20.4%	25.6%	
	30-34	23.1%	27.3%	
	35-39	22.1%	21.6%	
	40-44	12.9%	10.0%	
	45-49	4.1%	2.2%	
Having a husband	No	8.5%	4.0%	<.001*
	Yes	91.5%	96.0%	
Education level	No education	6.9%	1.1%	<.001*
	Primary	40.1%	21.5%	
	Secondary	40.4%	51.0%	
	Higher	12.6%	26.4%	
Parity	<2	21.6%	30.9%	<.001*
	2-4	54.7%	61.9%	
	>4	23.7%	7.2%	
Wealth status:	Poorest	51.4%	22.3%	<.001*
	Poorer	18.7%	17.5%	
	Middle	14.4%	18.2%	
	Richer	8.7%	20.3%	
	Richest	6.8%	21.7%	
Health insurance coverage	No	44.4%	33.7%	<.001*
	Yes	55.6%	66.3%	

Abbreviation: ANC, antenatal care.
*P < .001.

Working women with husbands or partners were inclined to have four or more ANC visits than unmarried ones (see Table 2). It indicates that being married or having a partner is a predictive factor for respondents' four or more ANC visits.

The analysis showed that working women with primary education were more frequent to have four or more ANC visits than those with no educational attainment. Working women with secondary education were more eager to have four or more ANC visits than those with no educational attainment. The result also indicated that working women with higher education tended to have four or more ANC visits than those with no educational attainment. Thus, this information shows that working women's tendency to have four or more ANC visits increased with their education level (see Table 2.).

Working women with parity <2 were more likely to have four or more ANC visits than those with parity >4. Furthermore, working women with two to four parities were more prevalent to have four or more ANC visits than those with parity >4 shows that more children contribute negatively to have four or more ANC visits (see Table 2.).

Women whose economic status was in the mediocre category were more likely to complete four or more ANC visits than impoverished women. In the meantime, working women with economic status in the middle category tended to complete four or more ANC visits than most impoverished women. The most prosperous woman had a higher possibility to complete four or more ANC visits than the poorest group. This analysis suggests that the likelihood of four or more ANC visits increased with an increase in economic status (see Table 2.).

Working women with health insurance coverage were more positive to have four or more ANC visits than those without health insurance (see Table 2). It reveals that health insurance among working women is a predictive factor for having four or more ANC visits.

Discussion

We found that older working women are more likely to complete their ANC visits during pregnancy. Age is one of the determinants for completing ANC, as shown in previous studies in Indonesia,[10] Guinea-Bissau, Ethiopia, Ghana, and

Table 2. The Result of Binary Logistic Regression of ANC Visits Among Female Workers in Indonesia (n = 8,239).

| | | ≥4 ANC visits | | | |
| | | | | 95% CI | |
Variables	Categories	P value	AOR	Lower bound	Upper bound
Type of residence	Urban	.999	1.000	0.841	1.189
	Rural	—	—	—	—
Age group	15-19	—	—	—	—
	20-24	<.001*	2.533	1.601	4.007
	25-29	<.001*	3.944	2.477	6.278
	30-34	<.001*	4.466	2.765	7.213
	35-39	<.001*	4.830	2.958	7.889
	40-44	<.001*	5.179	3.085	8.692
	45-49	<.001*	4.896	2.640	9.081
Having a husband	No	—	—	—	—
	Yes	<.001*	2.012	1.524	2.658
Educational attainment:	No education	—	—	—	—
	Primary	<.001*	2.371	1.644	3.421
	Secondary	<.001*	3.658	2.513	5.324
	Higher	<.001*	3.147	2.062	4.803
Parity	<2	<.001*	4.789	3.525	6.507
	2-4	<.001*	2.949	2.362	3.682
	>4	—	—	—	—
Wealth status	Poorest	—	—	—	—
	Poorer	<.001*	1.623	1.325	1.988
	Middle	<.001*	2.015	1.603	2.532
	Richer	<.001*	3.324	2.516	4.392
	Richest	<.001*	4.177	3.023	5.771
Health insurance coverage	No	—	—	—	—
	Yes	<.001*	1.436	1.236	1.667

Abbreviations: ANC, antenatal care; AOR = adjusted odds ratio; CI = confidence interval.
*P < .001.

several other countries.[8,13] The age factor is closely related to a woman and her partner's decision related to bearing a child or children, as working women tend to delay their first pregnancy and are more mature in terms of age during pregnancy than those who do not have an occupation.[14]

Being married is a predictive factor among working women to complete their ANC visits. Extramarital pregnancy is frowned upon in the Indonesian culture. This social context often leads to unmarried pregnant women hiding their pregnancies, resulting in lower ANC visits.[10,15,16]

Better education might help working women understand their needs and demands and make them confident about making independent decisions.[17,18] Education is closely related to power in sexual relationships, especially in a paternalistic social system. Women with better education might have more freedom to decide what is beneficial for their health. In Vietnam, inequality or fewer ANC visits occurred among minority groups, those in poor economic status, and low educational women.[19,20]

The results show that the higher the parity, the less likely to complete the ANC requirements. Women who have been pregnant or have given birth before tend to neglect their need to seek help from health workers.[8,14] This result contradicts a study in China that pregnant women tend to have fewer ANC visits during their first and second pregnancies.[21]

The higher the working women's economic status, the higher the possibility of them having ANC visits. A study in India reported that the wealthiest woman was 3.59 times more likely than the most impoverished household to complete all ANC visits.[22] Studies reported that women's education and economic status influenced the effectiveness of the ANC visits.[19,23]

Having health insurance coverage is a positive factor for working women to have four or more ANC visits. This result supports the Indonesian health insurance scheme's ultimate goal known as "BPJS" as the Indonesian universal health coverage.[24] Studies have confirmed that health insurance positively impacts access to health care services, whether run by the government or the private sector.[25,26]

Several other studies show that maternal health service providers' factors also contribute to the frequency of ANC visits (eg, pregnant women's response to service innovation and the midwife's attitude as a maternal service provider).[27] A possible limitation of this study could be that the data focus only on working women as consumers of maternal health services.

Conclusion

Age group, marital status, education level, parity, economic status, and health insurance coverage play a significant role in having four or more ANC visits among working women in Indonesia. Those factors are the keys to enhance the future success of ANC visits among working women in Indonesia. However, the place of residence was not determinant of four or more visits among working women in Indonesia. The interpretation of this finding seems to be important and informative for readers. The factors found as determinants of 4 or more ANC visits in the analysis of this study would provide a clear direction for the government to modify its acceleration policy to increase the coverage of four or more ANC visits among working women in Indonesia. The findings in this study could be useful for other countries in other regions as these results are consistent and confirm previous studies from multiple countries.

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