

Associations between Education, Knowledge, Attitude, and Maternal Intention on Antenatal Care Visit

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ABSTRACT

Background: Good quality of health care is important for maternal and infants health. Regular antenatal visit can assist in identifying and reducing risks of mother and infant during pregnancy. This study aimed to examine the associations between education, knowledge, attitude, and maternal intention on antenatal care (ANC) visit.

Subjects and Method: A cross sectional study was carried out at Ridos hospital, Medan, North Sumatera, in 2017. A sample of 89 pregnant women was selected by accidental sampling. The dependent variable was ANC visit. The independent variables were education, knowledge, and attitude. The data were collected by questionnaire and analyzed by linear multiple regression.

Results: Maternal intention to do ANC visit increased with high education ($b = 0.36$; $p = 0.001$), knowledge ($b = 0.48$; $p = 0.001$), and attitude ($b = 0.24$; $p = 0.001$).

Conclusion: Maternal intention to do ANC visit increased with high education, knowledge, and attitude.

Keywords: antenatal care, pregnant women

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BACKGROUND

The target of Maternal Mortality Rate (MMR) in the Global Millennium Development Goals (MDGs) program that ended in 2015 has not achieved. This is likely caused by: (1) inadequate quality of maternal health services; (2) unhealthy condition of pregnant women (handling complications), namely anemia, diabetes, hypertension, malaria; (3) 4-T namely: too young, too old, pregnancy interval <2 years and too many children; and (4) other determinant factors such as postpartum hemorrhage. It can be minimized by good Antenatal Care (ANC) implementation (Strategic Plan of Ministry of Health, 2015-2019).

Based on the Indonesian Demographic and Health Survey (IDHS) in 2012, the Maternal Mortality Rate in Indonesia is still high at 359 per 100,000 live births.

This is not in accordance with the 5th Global Millennium Development Goals (MDGs) target in reducing the Maternal Mortality Rate (MMR) to 102 per 100,000 live births in 2015. In other words, the Global MDGs target has not achieved (Data Center and Information of Ministry of Health RI, 2014).

Meanwhile, MMR in North Sumatra is still high, including: (1) 228/100,000 live births in 2016; (2) 175/100,000 live births in 2015; and (3) 152/100,000 live births in 2014, and 187/100,000 live births in Medan in 2014 (<http://www.sumutprov.go.id>).

Based on the result of the Preliminary Survey (January-April 2017) at Ridos Hospital in Medan, the Antenatal Care (ANC) examination increased, including: (1) in 2014, there were 698 people and 376 of

them did ANC repeat visit; (2) in 2015, there were 769 people and 455 of them did ANC repeat visit; and (3) in 2016, there were 889 people and 498 of them did ANC repeat visit. Based on these data, the ANC repeat visit in patients at Ridos Hospital is still low.

The low level of intention to do ANC examination repeat visit at Ridos Medan General Hospital occurred due to the association between individual characteristics (education, knowledge, and attitude) on the intention to do ANC examination repeat visit.

This study aimed to analyze the association between education, knowledge, and attitude on ANC repeat visit.

SUBJECTS AND METHOD

1. Study Design

This study was an explanatory research design which aimed to explain the effects of the individual characteristics (education, knowledge, and attitude) on the intention to do ANC repeat visit at Ridos Hospital in 2017. This study was conducted at Ridos Hospital, Medan. The field study was carried out in March, 2018.

2. Population and Sample

The population in this study was all pregnant women who did ANC visit at Ridos Hospital, Medan. Based on the data from Ridos Hospital, Medan, in 2017, the number of pregnant women undergoing ANC was 889 people. Based on the sampling formula, the number of sample was 89 people. This study used accidental sampling.

3. Study Variables

The dependent variable was intention to do ANC repeat visit. The independent variables were education, knowledge, and attitude.

4. Operational Definition of Variables

Intention to do ANC repeat visit was the intention or plan of pregnant women to

do ANC repeat visit. The data were obtained from questionnaires. The measurement scale was continuous.

Education was the highest level of formal education ever taken by pregnant women. The data were obtained from questionnaires. The measurement scale was categorical.

Knowledge was everything that was known by pregnant women about the ANC examination included the understanding, purpose, benefits, and the number of ANC visits. The data were obtained from questionnaires. The measurement scale was continuous.

Attitude was the reaction or process of a pregnant woman to act or do a repeat visit of the ANC examination. The data were obtained from questionnaires. The measurement scale was continuous.

5. Data Analysis

The data were analyzed univariately, bivariate, and multivariate. The association between education, knowledge, and attitude of pregnant women on the maternal intention to do ANC repeat visit were analyzed by multiple linear regression.

RESULTS

1. Sample characteristics

Table 1 showed sample characteristics. Table 1 showed that educational background of pregnant women was dominated by low level of education which was 40 pregnant women (44.9%). Table 2 showed distribution of maternal knowledge on ANC.

Table 3 showed characteristics of maternal attitude. Table 3 showed that 75.3% of pregnant women had positive attitude on ANC visit.

Table 4 showed characteristics of maternal intention on ANC visit. Table 4 showed that 59.6% of pregnant women had strong intention to do ANC visit.

Table 1. Sample characteristics by education

Characteristics	n	%
Did not graduate from Elementary School	9	10.1
Elementary School	13	14.6
Junior High School	18	20.2
Senior High School	28	31.5
Academy	13	14.6
Bachelor	8	9.0

Table 2. Sample characteristics by knowledge about ANC

Variables	Categories					
	Poor		Fair		Good	
	N	%	N	%	n	%
Knowledge	6	6.7	56	62.9	27	30.3
a. Definition of ANC	35	39.3	18	20.2	36	40.4
b. Purpose of ANC	26	29.2	34	38.2	29	32.6
c. Function of ANC	34	38.2	23	25.8	32	36.0
d. Definition of ANC visit	45	50.6	24	27.0	20	22.5
e. Purpose of ANC visit	37	41.6	33	37.1	19	21.3
f. Number of ANC visit	41	46.1	26	29.2	22	24.7

Table 3. Attitude of pregnant women

Categories	n	%
Negative	22	24.7
Positive	67	75.3

Table 4. Maternal intention on ANC visit

Category	n	%
Low	36	40.4
High	53	59.6

2. Multivariate Analysis

Table 5 shows the results of the multiple linear regression analysis. Table 5 shows that the maternal intention to do ANC visit

increased with knowledge ($b = 0.48$; $p = 0.001$), education ($b = 0.36$; $p = 0.001$), and attitude ($b = 0.24$; $p = 0.001$).

Table 5. Multiple Linear Regression

Independent Variable	b	p
Knowledge	0.48	0.001
Education	0.36	0.001
Attitude	0.24	0.001
Constanta	-2.66	<0.001
R Square= 57%		

DISCUSSION

1. Effects of Education on Maternal intention to do ANC visit

The results of this study indicated that education had a positive effect on maternal intention to do ANC visit. The higher the

education of pregnant women, the higher intention to do ANC visit.

This is consistent with Manurung's study (2015) which showed that there is an association between education and ANC visit. Mothers with higher education are 4.26 times more likely to take advantage of

ANC visit compared to mothers with low education.

Rahman et al. (2016) stated that secondary education and above increased the likelihood of ANC visits ≥ 4 times by 3.65 times.

Education is one of the important elements that will encourage the individual so that it can affect one's situation. With a higher level of education, it is expected that knowledge or information about the utilization of health services will be better. Health knowledge will affect one's behavior as a medium-term result of the education obtained. Health behavior will affect the improvement of public health indicators as a result of health education (Green-away et al., 2012; Emmanuel et al., 2013; Silva et al., 2018).

Muyunda et al. (2016) stated that high maternal education is associated with an optimal ANC visit in women of child-bearing age in Zambia.

2. Effect of Knowledge on Maternal intention to do ANC visit

The results of this study indicated that knowledge increases the interest of maternal intention to do ANC visit.

The results showed that the majority of pregnant women (62.9%) had good knowledge about the benefits of ANC. Pregnant women with low knowledge about ANC tend to not do ANC visit.

The results of this study indicated that one third of pregnant women (30.3%) have good categorized knowledge about ANC visit.

A study by Kazwa et al. (2018) showed that knowledge of pregnant women has a positive association with the regularity of ANC visit. Pregnant women with a lack of knowledge about the benefits and schedule of ANC cause them to not do regular pregnancy checks. Ogunba and Abiodun's study (2017) showed that the knowledge of

pregnant women affects the behavior of pregnant women in doing ANC.

A study by Patel et al. (2016) conducted in Pune, Maharashtra, India showed that the knowledge of pregnant women increase the regularity of ANC visit (OR = 5.72; 95% CI = 3.6 to 9.2; $p < 0.001$).

Lack of knowledge about the importance of ANC visit can cause maternal mortality. The low ANC visit decreases the quality of health during pregnancy and affects the success of the birth process (Nurachman, 2014).

A study by Creanga et al. (2016) in Kenya stated that regular ANC visit is useful for detecting health problems during pregnancy and preparing for safe delivery.

3. Effect of Attitude on Maternal Intention to do ANC Visit

The results of this study indicated that the attitude of pregnant women affect the intention in doing ANC visit. A positive attitude increases the intention of pregnant women to do ANC visit. 32.6% of pregnant women had a positive attitude towards ANC visit. A positive attitude is indicated by the indicator that ANC visit need to be carried out to obtain information about maternal and infant health and recognize pregnancy danger signs.

The results of this study are in line with a study by Ogunba and Abiodun (2017) in Nigeria which stated that knowledge and attitudes of pregnant women are associated to ANC visit.

Negative attitude of pregnant women is indicated by the assumption that ANC visit may not be able to prevent complications during pregnancy (Akhtar et al., 2018). The results of this study are consistent with Djonis's (2015) study, which showed that there is an association between attitude and utilization of ANC services.

A study by Carvalho et al. (2014) showed that attitude is associated with the

frequency of ANC visit. Pregnant women with a positive attitude will increase the frequency of ANC visit.

Attitude is a collection of feelings, beliefs and behavioral tendencies towards certain ideas, objects and groups / people. Attitude is a condition in a person that affects his behavior, for example adherence to paramedic recommendations. Feelings include two things, feeling happy or unhappy about something that can have a big effect on the determination of attitude (Kawungezi et al., 2015).

Attitude is a reflection of feelings of pleasure or displeasure towards objects that are determined by one's beliefs. The more positive aspects in the belief, the happier is the attitude object. On the contrary, the more negative aspects in the belief, there will be displeasure towards the attitude object. For example in the service process, the more positive things shown by health workers in providing services to patients, the more positive the patients so that they become happier with the health service (Kawungezi et al., 2015).

AUTHOR CONTRIBUTION

Ria Metawati Panjaitan is the main author who plays a role in collecting and processing data analysis of the study. Heru Santosa examined the conceptual framework and methodology of the study. Surya Utama gave the suggestion related to the discussion.

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This study used independent fund by the main researcher.

CONFLICT OF INTEREST

There is no conflict of interest.

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