

# Pregnant Women's Knowledge and Attitudes Towards Antenatal Care (ANC) Services at Siko Public Health Center

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**Abstract:** Antenatal care (ANC) is critical for ensuring the health and well-being of pregnant women and their fetuses, particularly in reducing maternal mortality rates, which remain high in Indonesia. One of the contributing factors to this issue is a lack of knowledge and non-compliance with ANC visits. The goal of this study is to examine the knowledge and attitudes of pregnant women towards ANC services at Puskesmas Siko, a health center located in Indonesia. The study used a descriptive quantitative approach with a cross-sectional design. A sample of 34 pregnant women was selected using purposive sampling. A structured questionnaire was administered to assess their knowledge and attitudes regarding ANC services. Data analysis was conducted using the Chi-Square test. The results indicated a significant relationship between pregnant women's knowledge and their adherence to ANC visits, with a p-value of 0.001 ( $p < 0.05$ ). Similarly, the study found a significant relationship between the attitudes of pregnant women and their participation in ANC visits, with a p-value of 0.004 ( $p < 0.05$ ). These findings suggest that pregnant women who possess more knowledge and have a positive attitude toward ANC are more likely to utilize these services. The study highlights the critical role that improving knowledge and attitudes plays in increasing ANC utilization, which is essential for preventing pregnancy-related complications and improving overall maternal health outcomes. Given the significant impact of ANC on reducing maternal and fetal health risks, it is crucial to implement targeted health education programs that aim to enhance pregnant women's understanding of ANC's importance and encourage positive attitudes towards attending these visits. The findings from this study call for greater emphasis on health education interventions that can improve the knowledge and attitudes of pregnant women, thereby contributing to a reduction in maternal mortality and improved pregnancy outcomes in the region.

**Keywords:** Antenatal Care; Attitude; Level of Knowledge; Pregnant Women

## 1. Introduction

Pregnancy is a physiological process that occurs in women as a result of fertilization between male and female gametes. The normal duration of pregnancy typically reaches 40 weeks, or approximately 9 to 10 months. During pregnancy, pregnant women experience various physical, psychological, and pathological changes that necessitate information about their condition and their fetus from medical professionals. Therefore, supervision from medical personnel is crucial to maintaining the health of pregnant women through antenatal care (ANC) visits (Wahyuningsih A, P. K. 2020).

Antenatal care (ANC) aims to physically, psychologically, and socially prepare pregnant women for pregnancy, childbirth, and the postpartum and breastfeeding phases. Additionally, ANC strives to ensure that the baby is born healthy, prepares the mother to face possible complications during pregnancy, and manages these problems as early as possible if any deviations occur. Therefore, it is very important for pregnant women to have knowledge about pregnancy danger signs to undergo antenatal care examinations properly and compliantly (Saifuddin, 2019).

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According to the World Health Organization (WHO) 2023, the number of maternal deaths worldwide reached 303,000. In the ASEAN region, the Maternal Mortality Rate (MMR) was recorded at 235 per 100,000 live births. Indonesia ranks fourth among Asia Pacific countries with the highest MMR, at 177 per 100,000 live births (ASEAN Secretariat, 2020).

The Maternal Mortality Rate (MMR) is an important indicator for assessing a country's level of welfare, health, and quality of life. In 2021, the MMR in Indonesia, taken from the family health profile released by the Ministry of Health of the Republic of Indonesia (2022), still showed an alarming figure, with a total of 7,389 deaths. The high maternal mortality rate is often caused by hemorrhage, infection, and hypertension during pregnancy. One contributing factor is the minimal knowledge mothers have about pregnancy danger signs and how to manage complications. In addition, mothers' non-compliance in undergoing antenatal care examinations results in a lack of crucial information about maternal and infant health. The low level of knowledge about recognizing pregnancy danger signs also contributes to a lack of motivation and awareness to undergo these examinations (Permenkes, 2020).

Maternal deaths can arise due to several factors, including hemorrhage, hypertension, infection, and non-obstetric diseases. This is largely caused by mothers' lack of understanding of pregnancy danger signs and limited attitudes in managing complications, as well as the low frequency of visits to antenatal care services. To reduce pregnancy-related risks, it is important for mothers to regularly undergo antenatal care examinations and ensure that health facilities are equipped with adequate infrastructure and resources. Education programs that can increase pregnant women's understanding of pregnancy and danger signs are also very much needed.

The standard for antenatal care visits stipulates that pregnant women must have contact with a health professional with clinical or midwifery competence at least six times during their pregnancy. This aims to ensure that pregnant women receive integrated and comprehensive antenatal care services according to standards. The schedule consists of one visit in the first trimester (0-12 weeks) for an ultrasound examination by a doctor; two visits in the second trimester (between 12 and 24 weeks); and three visits in the third trimester (from 24 weeks until birth). Among these visits, pregnant women must consult with a doctor at least twice: once in the first trimester and once in the third trimester (Kemenkes RI, 2022).

Based on this phenomenon, the author is interested in conducting research on the knowledge level and attitude of pregnant women towards ANC services at Siko Public Health Center.

## 2. Research Methods

This research is a descriptive quantitative study with a cross-sectional approach. The study population includes pregnant women in their first, second, and third trimesters, both primiparous and multiparous, at the Siko Public Health Center. Respondents were selected

using a purposive sampling technique, resulting in a sample size of 34 respondents. The research instrument used was a questionnaire on the level of pregnant mothers' knowledge and attitudes towards antenatal care services.

### 3. Results and Discussion

The Association Between Knowledge Levels and Antenatal Care (ANC) Service Utilization at Siko Community Health Center.

**Table 1.** ANC

Knowledge	Antenatal Care (ANC) Service Utilization				Total	
	Less		Good			
	n	%	n	%		
Less	4	11,7	0	0	4	11,7
Fair	15	44,1	2	5,9	17	50,0
Good	4	11,8	9	26,5	13	38,3
Total	23	67,6	11	32,4	34	100
P Value		0,001				

This table illustrates the relationship between pregnant women's knowledge levels and their assessment of antenatal care (ANC) services at Siko Public Health Center. The Chi-Square test results show a p-value of 0.001, which is less than 0.05. This indicates a significant relationship between these two variables. From the table, it's evident that pregnant women with good knowledge levels are more likely to rate ANC services as good (26.5%). In contrast, mothers with sufficient (5.9%) and poor (0%) knowledge are more likely to give a poor rating. The majority of mothers with sufficient (44.1%) and poor (11.7%) knowledge rated ANC services as poor. These findings suggest that pregnant women's knowledge level influences their assessment of ANC service quality. This means that mothers with better knowledge are more inclined to rate ANC services positively.

"The Association Between Pregnant Women's Attitudes and ANC Service Utilization at Siko Community Health Center."

**Table 1.** ANC

Knowledge	Antenatal Care (ANC) Service Utilization				Total	
	Less		Good			
	N	%	n	%		
Negatif	14	41,1	1	2,9	15	44,0
Positif	9	26,5	10	29,5	19	56,0
Total	23	67,6	11	32,4	34	100
<i>P Value</i>		0.004				

This table illustrates the relationship between pregnant women's attitudes and their assessment of antenatal care (ANC) services at Siko Public Health Center. The Chi-Square test results show a p-value of 0.004, which is less than 0.05. This indicates a significant relationship between pregnant women's attitudes and their assessment of ANC services.

From the table, it's evident that pregnant women with a positive attitude are more likely to rate ANC services as good (29.5%), while mothers with a negative attitude are more likely to rate ANC services as poor (41.1%). A portion of mothers with a positive attitude (26.5%) also rated ANC services as poor, though this number is smaller compared to those with a negative attitude.

These findings suggest that pregnant women's attitudes toward ANC services significantly influence their assessment of the quality of services received, where mothers with a positive attitude are more inclined to rate ANC services more favorably.

### **3.1 Pregnant Women's Knowledge Regarding ANC Services**

Knowledge is the result of understanding that emerges after someone interacts with an object through human senses, namely sight, hearing, smell, taste, and touch (Citrawati & Laksmi, 2021). The majority of human knowledge is acquired through sight and hearing (Kolantunga et al., 2021). Knowledge or cognition is a very important aspect in shaping a person's actions (Windalyanti & Masruroh, 2022).

The results of this research indicate that the majority of respondents among pregnant women at Siko Public Health Center have a sufficient knowledge level (50.0%), followed by those with good knowledge (38.2%), and the remainder having poor knowledge (11.8%).

This research aligns with a study conducted by Fitnaningsih Endang Cahyawati (2019) at Kasihan I Public Health Center, Bantul, Yogyakarta, which found that out of 31 respondents, the majority with a high knowledge level were in the age range of 20-35 years, totaling 14 respondents (45.2%). Similar research was also conducted by Putri Ratnasari (2022), which showed that at Ruteng City Public Health Center, some pregnant women who had their pregnancies examined had poor knowledge, totaling 29 people (48.3%) (Ratnasari et al., 2022).

According to the researchers, no significant difference was found between the facts and the theory. Based on the knowledge questionnaire results administered to 34 pregnant women respondents, the majority of pregnant women had a sufficient knowledge level. This aligns with data regarding the educational level of pregnant women, where the majority have a high school education, as well as an age range of 26-35 years. These findings support the theory stating that the higher a person's education level, the better their knowledge, and the more mature a person's age, the better their knowledge. Knowledge is an important factor in shaping a person's actions; in this case, pregnant women tend to undergo pregnancy examinations (antenatal care) more regularly if they understand the benefits and objectives of these services. Pregnant women can obtain information related to pregnancy health through ANC visits at health facilities, both government and private. In addition, pregnant women can also attend pregnancy classes organized by public health centers or hospitals, and obtain information through social media and the internet.

### 3.2 Pregnant Women's Attitudes Towards ANC Services

Attitude is a mental and neural state that reflects a person's readiness, which is formed through experience and influences an individual's response to various relevant objects and situations (Dewi Ciselia & Vivi Oktari, 2020).

The majority of respondents have a positive attitude (55.9%), while the rest show a negative attitude (44.1%). This indicates that although the majority of pregnant women have a good view towards antenatal care, there is still a number of respondents with negative attitudes who require a special approach to increase their awareness and acceptance of the importance of these services.

The results of this research are consistent with the research by Andy Risky Ramadani (2022) which states that out of 61 respondents, those with good attitudes were within the respondent's age range. This is also consistent with the research by Ni Ketut Citrawati (2021) whose results show that out of 64 respondents, 28.1% had less positive behavior due to their knowledge level and educational level being predominantly primary and secondary school.

According to the author's assumption, experience can leave a deep impression and become a basis for shaping a person's attitude. Besides personal experience, attitude is also influenced by parity, gravidity, and the influence of mass media. Pregnant women's attitudes play an important role in increasing the frequency of visits for maternal and child health examinations, and in understanding the importance of antenatal care (ANC) examinations. With a positive attitude towards ANC visits, pregnant women will be more likely to undergo routine examinations without waiting for complaints, and can monitor the health condition of both the mother and the fetus.

Mass media, which conveys information that should be objective and factual, can influence a person's attitude. Regularly receiving health-related information can increase knowledge and insight, while individuals who rarely receive information tend to have limited knowledge and insight. Information about the importance of ANC services for pregnant women can be obtained through print or electronic media. Pregnant women with a positive attitude will be more likely to consult health information obtained through mass media with health professionals, such as obstetricians (SpOG), doctors, midwives, or nurses at health service facilities. Conversely, pregnant women with less positive attitudes may follow such information without first consulting with health professionals.

### 3.3 ANC Services for Pregnant Women at Siko Public Health Center

From the research results, it is known that the majority of respondents rated the ANC services they received as good (67.6%), while 32.4% rated them as poor. These results indicate that although most services have met expectations, there is still room for improvement in service quality to ensure all pregnant women's needs are optimally met.

This shows that respondents who rated ANC services provided by midwives as good were more numerous than those who rated them as less good. Nevertheless, the utilization of ANC services by midwives still needs attention, given the low knowledge of pregnant women

about pregnancy care, which might be caused by insufficient information provided by midwives during antenatal services. Additionally, pregnant women's experiences during previous pregnancy examinations also influence their behavior in undergoing current pregnancy examinations. This statement aligns with the theory from Depkes, which states that mothers who had unpleasant experiences during previous pregnancy examinations tend to be less enthusiastic about undergoing subsequent pregnancy examinations, fearing that the bad experience might recur.

### **3.4 Relationship Between Knowledge Level and ANC Services at Siko Public Health Center**

From the bivariate analysis results using the Chi-Square test, a p-value of 0.001 was obtained. H1 is accepted, meaning that knowledge has a relationship with ANC visits.

This is consistent with research presented by Nofiyanti Mahmud et al. (2023), where insufficient knowledge about ANC services can be influenced by the mother's education level. In this study, it was found that some pregnant women had a primary school and junior high school educational background, which could affect their understanding of ANC services. Based on this research, mothers with sufficient knowledge have a more effective level of compliance with ANC services (48.0%), while those with less knowledge have a lower level of ANC service effectiveness, namely 12.0%. The research results indicate that maternal knowledge has a significant relationship with the effectiveness of ANC services, as seen from the  $\rho$  value = 0.028.

According to Notoatmodjo, the productive age of pregnant women greatly determines their health status and ability to anticipate the risk of health problems during pregnancy. Age influences a mother's receptiveness and mindset, which contributes to the mother's compliance in performing ANC services. Based on the analysis conducted, no discrepancy was found between facts and theory. Pregnant women in their productive age tend to have higher awareness regarding the benefits of ANC services. In addition to age, a higher education level also significantly influences a mother's knowledge of ANC services.

Besides education and age factors, occupation, parity (number of children), and number of pregnancies (gravidity) also influence a mother's knowledge in following ANC services. Environmental and sociocultural factors also play a role in a mother's knowledge. A good environment will facilitate better knowledge, while a less supportive environment will limit a mother's knowledge. Individuals in an environment filled with educated people will have better knowledge compared to those surrounded by uneducated or unemployed individuals.

### **3.5 Relationship Between Pregnant Women's Attitudes and ANC Services at Siko Public Health Center**

The Chi-Square test results show a p-value of 0.004, which is less than 0.05, indicating a significant relationship between pregnant women's attitudes and their assessment of ANC services. It is evident that pregnant women with a positive attitude are more likely to rate ANC services as good (29.5%), while mothers with a negative attitude are more likely to rate ANC

services as poor (41.1%). A portion of mothers with a positive attitude (26.5%) also rated ANC services as poor, although their number is smaller compared to mothers with a negative attitude.

Attitude is a state of readiness or willingness to act or a person's response to a particular stimulus or object. A person's compliance in making ANC visits can occur if they are aware of its benefits, which is based on good knowledge, followed by good health behavior (Suprati et al., 2022). The success of ANC is influenced by pregnant women's knowledge of ANC and their behavior in making ANC visits (Safitri & Lubis, 2020). Health behavior is essentially a person's (organism's) response to a stimulus, one of which is ANC visits (Mirah et al., 2023).

The results of this research are consistent with the findings of Yusuf Abdul Wahab (2019), which showed that ANC visit behavior in pregnant women was categorized as good for 92.5%, while the other 7.5% of respondents reported less good ANC visits. Research by Safitri & Lubis (2020) also supports these findings, stating that pregnant women's attitudes are significantly related to the utilization of ANC services. Similar research conducted by Fitriyani et al. (2021) showed that 20 pregnant women (43.5%) had good behavior and performed ANC visits according to standards, while no pregnant women with sufficient behavior were found not performing ANC visits according to standards.

From the obtained analysis results, pregnant women's attitude is a very important factor in increasing the utilization of ANC services for maternal and child health examinations. Pregnant women can also better understand the importance of ANC examinations. Good attitudes toward irregular ANC services, and moderate attitudes toward irregular ANC services, can be influenced by factors such as parity, gravidity, and personal experience. Pregnant women with parity of 1 or more than 1 child and more than 1 pregnancy tend to be less regular in utilizing ANC services because they feel there are no problems, either in the current or previous pregnancies. Conversely, if there were problems in previous pregnancies, pregnant women tend to be more vigilant and more regularly examine their pregnancies.

Good attitudes toward regular ANC services and moderate attitudes toward regular ANC services can be influenced by several factors, such as beliefs held by pregnant women, prevailing traditions in the community, adequate health facilities and infrastructure, as well as the behavior of health workers and community leaders who support and motivate pregnant women to regularly examine their pregnancies. Other factors influencing the regularity of examinations are the characteristics of pregnant women, such as a safe age for pregnancy and working as a housewife, which provides more time for pregnancy examinations. Additionally, mothers who have experience in previous pregnancies or who desire more pregnancies and children tend to be more motivated to utilize ANC services. Sociocultural factors also play a role in influencing mothers' attitudes in receiving information about ANC services, where sociocultural influence can unconsciously shape a mother's response to received information.

#### 4. Conclusions

Based on the research findings, a p-value of 0.003 ( $<0.05$ ) leads to the conclusion that there is a significant relationship between pregnant women's knowledge of pregnancy danger signs and their compliance in attending ANC visits. Pregnant women with good knowledge of pregnancy danger signs are more likely to comply with routine ANC examinations, which positively impacts the health of both the mother and the fetus. Conversely, pregnant women with less knowledge show a lower level of compliance with ANC visits. Therefore, it's crucial to enhance pregnant women's knowledge through more intensive education and health promotion, so they become more aware of pregnancy danger signs and more motivated to participate in the ANC program to ensure health and safety during pregnancy.

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