

The Relationship Between the Knowledge Level of Early Pregnant Women and Antenatal Care Visits at the Obgyn Polyclinic of Dr. Sam Ratulangi Tondano Regional Hospital

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Abstract. *Background:* Early pregnancy remains a significant reproductive health issue in Indonesia, with approximately 10% of births occurring to mothers under 20 years of age (BPS, 2021). Early pregnancy can lead to complications such as preeclampsia, premature birth, and maternal death. Adequate knowledge of antenatal care (ANC) is crucial for optimal pregnancy health. *Objective:* To examine the relationship between the knowledge level of early-age pregnant women and ANC visits at the Obgyn Polyclinic of Dr. Sam Ratulangi Tondano Regional Hospital. *Methods:* This quantitative study employed a cross-sectional design with 30 pregnant women under 20 years old at the OBGYN Clinic from January to December 2023. A structured questionnaire was used for data collection, and data analysis was conducted using SPSS with a Chi-Square test. *Results:* Among respondents, 36.7% were aged <18 years, and 63.3% were aged 18-19 years. Education levels varied, with 26.7% having elementary school, 43.3% junior high school, and 30% senior high school education. ANC visits met standards in 53.3% of cases. The Chi-Square test showed a significant relationship between knowledge and ANC visits (p -value = 0.007). *Conclusion:* There is a significant relationship between pregnant women's knowledge and ANC visits. Health education programs are necessary to reduce pregnancy and childbirth complications.

Keywords: Antenatal Care; ANC Visits; Early Pregnancy; Health Education; Knowledge.

1. INTRODUCTION

Pregnancy is a crucial period in a woman's life, especially when experienced at a young age. According to information from the Central Statistics Agency (BPS) in 2021, the proportion of pregnancies among Indonesian teenagers is alarming, with approximately 10% of all deliveries involving mothers under 20 years of age (BPS, 2021). Pregnancy at a young age carries various health threats, both for the mother and the fetus. Therefore, understanding the significance of antenatal care (ANC) is essential for pregnant women as a preventative measure to ensure optimal health throughout gestation.

The fundamental rationale for this study is the link between young pregnant women's health literacy and the frequency of their antenatal care visits. A sufficient level of understanding regarding pregnancy and reproductive health can shape pregnant women's attitudes and choices regarding consistent ANC visits. A study by Wulandari et al. (2022) revealed that pregnant women with a better understanding of reproductive health tended to be more active in accessing health facilities, including ANC visits. These findings indicate that effective health education can improve maternal and child health.

The consequences of a lack of understanding about health during pregnancy can lead to various health problems. For example, pregnant women who neglect regular ANC visits are at greater risk of complications such as preeclampsia, premature birth, and even maternal

mortality (Ministry of Health of the Republic of Indonesia, 2022). Research by Sari et al. (2023) found that 30% of pregnant women who do not consistently attend ANC visits experience dangerous complications that could have been avoided with adequate care. This data underscores the urgency of education and the availability of information for pregnant women, especially those in their younger years.

Efforts to address this issue include intensifying health education programs targeted at adolescents and pregnant women. One strategy that can be implemented is through health education activities in educational institutions and community settings, as well as strengthening the role of health workers in delivering credible and applicable information. Ideally, such programs should not only provide knowledge about pregnancy but also cover the urgency of ANC visits, risk indicators during pregnancy, and comprehensive health care methods (Ministry of Health, 2021). By increasing this knowledge, it is hoped that young pregnant women will have a greater awareness of the importance of comprehensive health care.

The motivation for this research stems from concerns about the high prevalence of early pregnancy and its implications for maternal and child health. The research aims to explore in more depth the correlation between the knowledge levels of young pregnant women and their visits to antenatal care services at the Obstetrics and Gynecology Clinic of Dr. Sam Ratulangi Tondano Regional Hospital. This research is expected to contribute to the development of more efficient and targeted health programs, as well as serve as a reference for decision-makers in optimizing healthcare services for pregnant women in Indonesia.

2. RESEARCH METHOD

This study applied a quantitative research design with a cross-sectional approach to investigate the correlation between the level of understanding of young pregnant women and antenatal care (ANC) visits at the Obstetrics and Gynecology Clinic of Dr. Sam Ratulangi Tondano Regional Hospital. The target population in this study included all pregnant women aged less than 20 years who underwent examinations at the OBG SYN Clinic of Dr. Sam Ratulangi Tondano Regional Hospital during the period of January to December 2023. The sampling technique used was purposive sampling, where researchers selected respondents based on specific criteria, namely young pregnant women who expressed their willingness to participate in the study and had undergone at least one ANC examination.

The sample size determined for this research was 30 pregnant women, which was estimated to be representative of the population. Data collection was carried out using a questionnaire instrument divided into two main segments: the first segment served to measure

the level of pregnant women's knowledge regarding ANC, covering dimensions such as the significance of prenatal checkups, visit scheduling, and risk indicators during pregnancy. The second segment aimed to collect information on the frequency of ANC visits made by the participants. This questionnaire instrument underwent validity and reliability testing before being applied to the study.

The data analysis process was carried out using statistical software, such as SPSS, to calculate the relationship between the level of understanding and the frequency of ANC visits. The statistical procedure applied was the chi-square test to identify a significant relationship between the two variables. In addition, a logistic regression analysis was also implemented to evaluate other factors that potentially influence ANC visits, such as age, education level, and family support. The output of this analysis is expected to provide a more comprehensive description of the relationship between the level of knowledge of young pregnant women and ANC visiting behavior, as well as provide recommendations for optimizing health education programs for pregnant women in the region.

3. RESULTS AND DISCUSSION

Early pregnancy is a reproductive health issue that remains a serious concern in Indonesia, given the high rate of teenage pregnancies, reaching 48 per 1,000 adolescents. Early pregnancy not only carries physical health risks for the mother and baby, but is also closely related to socioeconomic factors such as education level and access to health services. One important effort in maintaining maternal and fetal health is through regular Antenatal Care (ANC) visits according to standards, at least six times during pregnancy. However, the reality in the field shows that many early pregnant women still do not make ANC visits as recommended, which is thought to be related to their level of knowledge about the importance of prenatal care. This study aims to analyze the relationship between the level of knowledge of early pregnant women and Antenatal Care visits at the Obstetrics and Gynecology Clinic of Dr. Sam Ratulangi Tondano Regional Hospital, so as to provide a clear picture of the importance of improving reproductive health education for young pregnant women.

General Data

Table 1. General Data Distribution.

| Characteristics | Amount | % |
|----------------------|--------|------|
| Mother's Age: | | |
| • < 18 years | 11 | 36.7 |
| • 18–19 years old | 19 | 63.3 |
| Education | | |
| • Elementary School | 8 | 26.7 |
| • JUNIOR HIGH SCHOOL | 13 | 43.3 |
| • SENIOR HIGH SCHOOL | 9 | 30.0 |
| Gestational Age | | |
| • First trimester | 9 | 30.0 |
| • Second Trimester | 12 | 40.0 |
| • Third Trimester | 9 | 30.0 |

In this study, respondents of early pregnancy were distributed into two age categories: under 18 years and between 18 and 19 years. Of the 30 respondents, 11 mothers (36.7%) were under 18 years old, while 19 mothers (63.3%) were in the 18–19 age range. These data indicate that the majority of pregnant women in this study were within the reproductive age range generally considered safe for pregnancy. However, pregnancy under 18 years of age remains a serious concern, given the higher health risks for both mother and baby, including the possibility of complications during pregnancy and childbirth (Ministry of Health of the Republic of Indonesia, 2021).

Statistics show that early pregnancy is often correlated with social and economic issues, such as lack of access to education and adequate healthcare. According to data from the Central Statistics Agency (BPS), the prevalence of teenage pregnancy in Indonesia remains quite high, reaching 48 per 1,000 adolescents (BPS, 2022). This highlights the need for better interventions in reproductive health education to reduce teenage pregnancy rates.

The mothers' education level in this study also played a significant role in understanding the impact of knowledge on health. Of the 30 respondents, 8 mothers (26.7%) had primary education (SD), 13 mothers (43.3%) had junior high school education (SMP), and 9 mothers (30.0%) had senior high school education (SMA). Most pregnant women in this study had a junior high school education, which may impact their ability to understand pregnancy health information and the importance of antenatal care (ANC) visits.

Low education is often associated with a lack of knowledge about reproductive health and limited access to appropriate information (Sari & Indrawati, 2021). Previous research has shown that mothers with higher education tend to be more proactive in seeking health information and attend ANC visits more frequently (Husna, 2022). Therefore, efforts to improve health education and counseling for early-stage pregnant women are crucial.

The distribution of respondents' gestational ages shows that 9 mothers (30.0%) were in their first trimester, 12 mothers (40.0%) in their second trimester, and 9 mothers (30.0%) in their third trimester. These data indicate that the majority of respondents were in their second trimester, which is a crucial period for regular ANC visits. During this trimester, pregnant women should begin to understand the importance of regular health check-ups to monitor fetal development and maternal health.

Research shows that timely and appropriate ANC visits can reduce the risk of complications during pregnancy and childbirth (Ministry of Health of the Republic of Indonesia, 2021). However, in reality, many pregnant women do not attend visits according to standards. Therefore, efforts are needed to raise awareness among pregnant women, especially those in their early stages, about the importance of ANC visits.

Special Data

Table 2. Knowledge Level of Early Pregnant Women.

| Level of Knowledge | Frequency | (%) |
|--------------------|-----------|------|
| • Not enough | 12 | 40.0 |
| • Enough | 10 | 33.3 |
| • Good | 8 | 26.7 |

The knowledge levels of early-stage pregnant women in this study showed that 12 (40.0%) had insufficient knowledge, 10 (33.3%) had sufficient knowledge, and 8 (26.7%) had good knowledge. These results indicate that the majority of respondents still fall into the insufficient knowledge category, which can negatively impact their health and that of their fetus.

Low knowledge about reproductive health can lead to a lack of understanding of the importance of ANC visits, which in turn can impact maternal and infant health (Widiastuti & Rahmawati, 2022). Research by Supriyadi et al. (2021) also shows that pregnant women with good knowledge tend to attend ANC visits more frequently, as recommended.

Table 3. Antenatal Care (ANC) Visits.

| ANC Visit | Frequency | (%) |
|--------------------------|-----------|------|
| • Not up to standard | 14 | 46.7 |
| • According to standards | 16 | 53.3 |
| • Total | 30 | 100 |

Of the 30 respondents, 14 mothers (46.7%) did not attend ANC visits according to the standard, while 16 mothers (53.3%) did attend the recommended standard (≥ 6 visits). Although the majority of respondents had attended ANC visits, the 46.7% figure that did not meet the standard indicates a problem in understanding and accessing health services.

Substandard ANC visits can increase the risk of complications during pregnancy and childbirth. According to research by Rahayu et al. (2021), mothers who do not attend regular

ANC visits have a higher risk of complications such as preeclampsia and premature birth. Therefore, it is important to increase awareness and knowledge of pregnant women regarding the importance of regular ANC visits.

Bivariate Analysis

Bivariate analysis using the Chi-Square test showed a significant relationship between the knowledge level of early-stage pregnant women and ANC visits. Of the 30 respondents, 9 mothers with poor knowledge did not make visits according to standards, while only 3 mothers from the same group did. Conversely, of the 8 mothers with good knowledge, 7 made ANC visits according to standards. These results indicate that the better the mothers' knowledge level, the more likely they are to make ANC visits according to existing guidelines.

The statistical test showed a p-value of 0.007, which is less than the significance threshold of 0.05, indicating a significant relationship between knowledge level and ANC visits. Previous research also supports this finding, indicating that mothers with good knowledge of reproductive health are more likely to utilize existing health services (Husna, 2022). Therefore, appropriate health education interventions for early-stage pregnant women are essential to increase their knowledge and awareness of the importance of ANC visits.

Discussion

Several previous studies have examined the correlation between pregnant women's understanding and their antenatal care (ANC) follow-up. A study by Pratiwi et al. (2021) revealed that mothers with higher education have a better understanding of reproductive health, which increases the frequency of their ANC check-ups. These results align with this research, which shows that pregnant women with better knowledge are more likely to undergo ANC check-ups as prescribed.

Furthermore, a study by Sari et al. (2022) underscored the urgency of health education for pregnant women, particularly in broadening their understanding of pregnancy health and the importance of ANC. The research found that mothers who received adequate information about pregnancy health were more proactive in visiting health care facilities. This indicates that effective and focused health education and counseling programs can raise pregnant women's awareness of the importance of ANC examinations.

Furthermore, research by Fitriani et al. (2021) found that social and economic factors influence the level of understanding and implementation of ANC visits. Pregnant women with more stable economic conditions generally have greater access to health information and facilities, which results in an increased frequency of ANC visits. These findings indicate the

need for cross-sectoral interventions, including increased access to education and health services, to improve maternal and child health.

In this regard, research by Nurhayati et al. (2023) highlights the importance of community-based intervention programs to increase pregnant women's knowledge of reproductive health. These programs not only provide information but also create a conducive environment to motivate pregnant women to undergo regular ANC checkups. Therefore, a comprehensive and integrated strategy is crucial in improving the health of young pregnant women.

4. CONCLUSION

This study examines the correlation between the knowledge level of early-age pregnant women and the frequency of antenatal care (ANC) visits at the Obstetrics and Gynecology Clinic at Dr. Sam Ratulangi Regional Hospital in Tondano. Early pregnancy is a crucial reproductive health issue in Indonesia, with the teenage pregnancy rate reaching 48 per 1,000 adolescents, according to 2021 data from the Indonesian Ministry of Health. This condition poses significant health risks that require serious attention from various stakeholders.

The study involved 30 respondents of early pregnancy mothers distributed in two age categories: 36.7% were under 18 years old and 63.3% were between 18 and 19 years old. The educational characteristics of the respondents showed quite wide variations, with 26.7% having elementary school education, 43.3% having junior high school education, and 30% having high school education. The distribution of gestational age showed that 30% of respondents were in the first trimester, 40% in the second trimester, and 30% in the third trimester, with the second trimester being a crucial period for routine ANC visits.

The study revealed that the level of knowledge of early-stage pregnant women remains concerning. Forty percent of respondents had insufficient knowledge, 33.3% had sufficient knowledge, and only 26.7% had good knowledge about reproductive health and the importance of ANC. These findings indicate that the majority of respondents had inadequate knowledge, which could potentially negatively impact maternal and fetal health.

In terms of ANC visit practices, the study found that 46.7% of respondents did not meet the recommended standard, while 53.3% had met the standard (at least six visits). Although the majority of respondents met the standard, the non-compliance rate, which reached nearly half of the total, indicates problems in understanding and accessing health services that require immediate intervention.

Bivariate analysis using the Chi-Square test showed highly significant results with a p-value of 0.007 ($p < 0.05$), proving a strong relationship between the level of knowledge of early-stage pregnant women and ANC visits. The data showed that of the 12 mothers with poor knowledge, 9 of them did not make visits according to standards. In contrast, of the 8 mothers with good knowledge, 7 of them made ANC visits according to recommendations. These findings confirm that good knowledge about reproductive health encourages mothers to be more proactive in utilizing ANC services.

This research is also supported by various previous studies showing that education, socioeconomic factors, and access to health information play a significant role in shaping pregnant women's health behaviors. Mothers with higher education and adequate access to information tend to better understand the importance of regular prenatal checkups and are more likely to visit health facilities.

Based on the findings of this study, it can be concluded that there is a significant relationship between the level of knowledge of early-stage pregnant women and ANC visits. Therefore, comprehensive efforts are needed from various parties, particularly health institutions and the government, to improve structured and sustainable reproductive health education and counseling programs. Targeted health education interventions can improve the knowledge of early-stage pregnant women, thereby encouraging them to attend ANC visits regularly according to standards. This is ultimately expected to reduce the number of pregnancy and childbirth complications and improve the overall health of mothers and babies.

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