**Overview of the Level of Knowledge of Pregnant Women About Antenatal Care in the Working Area of the Sititio Health Center**

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| ***Abstrak*** | | |
| *Penelitian ini bertujuan untuk mendeskripsikan tingkat pengetahuan ibu hamil tentang pelayanan antenatal care (ANC) di wilayah kerja Puskesmas Sitiotio, Kabupaten Samosir. ANC adalah layanan kesehatan penting bagi ibu hamil untuk mengurangi angka kematian ibu dan janin, yang merupakan salah satu target global dalam Tujuan Pembangunan Berkelanjutan (SDGs). Penelitian ini menggunakan desain deskriptif dengan pendekatan cross-sectional, melibatkan 50 responden yang dipilih melalui teknik total sampling. Pengumpulan data dilakukan dengan menggunakan kuesioner, dan analisis data dilakukan univariat menggunakan SPSS. Hasil penelitian menunjukkan bahwa 27 ibu hamil (54%) memiliki pengetahuan yang cukup, 13 (26%) memiliki pengetahuan yang kurang, dan 10 (20%) memiliki pengetahuan yang baik. Pengetahuan yang baik tentang ANC penting untuk meningkatkan kesehatan ibu dan janin serta mengurangi angka morbiditas dan mortalitas. Penelitian ini memberikan rekomendasi untuk meningkatkan konseling kesehatan bagi ibu hamil untuk memperkuat pemahaman mereka tentang ANC.*  ***Kata kunci:*** *Antenatal care, pengetahuan ibu hamil, kesehatan ibu, Puskesmas Sitiotio, angka kematian ibu* | | |
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| **Abstract**  This study aims to describe the level of knowledge of pregnant women regarding antenatal care (ANC) services in the Sitiotio Health Center working area, Samosir Regency. ANC is an essential health service for pregnant women to reduce maternal and infant mortality rates, which is one of the global targets within the Sustainable Development Goals (SDGs). This research employs a descriptive design with a cross-sectional approach, involving 50 respondents selected through total sampling techniques. Data collection was conducted using a questionnaire, and data analysis was performed univariately using SPSS. The study results show that 27 pregnant women (54%) have sufficient knowledge, 13 women (26%) have inadequate knowledge, and 10 women (20%) possess good knowledge. Good knowledge regarding ANC is crucial to improving maternal and infant health and reducing morbidity and mortality rates. This study provides recommendations to enhance health education for pregnant women to strengthen their understanding of ANC.  **Keywords**: Antenatal care, maternal knowledge, maternal health, Sitiotio Health Center, maternal | | |

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**INTRODUCTION**

Maternal health is a part of public health which is described as increasing if the maternal mortality rate decreases and childbirth assistance by health workers in health facilities increases (Khan et al., 2018). Maternal health is also one of the important aspects in supporting health development programs in Indonesia (Ministry of Health Indonesia, 2020). This is part of the global target of the Sustainable Development Goals (SDGs) which aims to reduce the maternal mortality rate (MMR) to 70 per 100,000 live births by 2030 (WHO, 2020).

The Maternal Mortality Rate (MMR) is one of the indicators to see the degree of women's health. According to the WHO definition, maternal death is the death of a woman during pregnancy and childbirth or within 42 days after the end of pregnancy due to all causes related to or exacerbated by pregnancy or its treatment, but not caused by an accident or injury (Say et al., 2021). In 2020, about 287,000 women worldwide died during and after pregnancy and childbirth (Kassebaum et al., 2018). The maternal mortality rate in ASEAN is recorded at around 235 per 100,000 live births (Rahman et al., 2023). Based on data from the Indonesian Ministry of Health, the number of AKI in 2020 was 4,627 deaths and increased to 7,389 cases in 2021, with most deaths caused by COVID-19 (Ministry of Health Indonesia, 2020).

The cause of maternal death can be prevented through adequate pregnancy screening services, namely antenatal care (ANC) (Okonofua & Ogu, 2020). ANC is a health examination of pregnant women according to standards by skilled and professional health workers. The Indonesian government through the Ministry of Health has arranged for ANC services during pregnancy to be at least six visits, namely two times in the first trimester, once in the second trimester, and three times in the third trimester (Lincetto et al., 2019). In addition, the provision of blood-boosting tablets and additional food for pregnant women who experience chronic energy deficiency (KEK) is also part of the government's efforts (Chen et al., 2019).

ANC services are very important in ensuring that the pregnancy process runs normally. Many factors affect maternal health, including knowledge, education, age, socio-economy, geography, and community environment (Titaley et al., 2020). Mothers' knowledge about ANC is one of the determinants of success in reducing maternal and infant mortality rates. Based on research by Andi (2022), as many as 59% of respondents have good knowledge about ANC, while 16.4% have less knowledge.

In addition, the literature shows that the level of education of mothers has a significant influence on the use of ANC services (Gupta et al., 2020). Mothers with higher levels of education tend to be more aware of the importance of ANC compared to mothers with low education (Alam et al., 2020). Socioeconomic factors also play an important role in access to health services (Fagbamigbe & Idemudia, 2021).

Community and family support is also an important element in increasing ANC coverage (International Labour Organization, 2021). A study by Moore and Lowery (2021) shows that the use of digital tools such as health apps can help improve mothers' adherence to ANC schedules. Strategies like this support a technology-based approach to ensuring wider access to maternal health services (UNICEF, 2022).

Based on the description above, this study was conducted to describe the level of knowledge of pregnant women about antenatal care in the Working Area of the Sitiotio Health Center, Samosir. This research aims to understand the factors that affect the knowledge of pregnant women so that it can be used as a basis to improve the quality of maternal health services in the future.

**RESEARCH METHODS**

This type of research is descriptive with a cross-sectional design. The research location is in the Working Area of the Sitiotio Health Center, Samosir Regency, North Sumatra in 2023. The target population in this study is all pregnant women who carry out antenatal care visits in the working area of the Sitiotio Health Center from October to December 2023. The research sample was taken using the total sampling technique. The sample was taken by including the entire population. The data collection tool uses questionnaires. The data analysis in this study used univariate analysis using SPSS.

The data used were primary data with questionnaires and secondary data from the maternal and child health book (KIA) with 50 respondents. The validity of the questionnaire has been tested with an r count > r table of 0.514 with a significant level of 5%. Reliability with Cronbach alpha 0.713. The data were analyzed univariably using SPSS 22.

**RESEARCH RESULTS**

The study was conducted on 40 pregnant women in the Sitiotio Health Center Work Area. Based on the results of data collection and analysis obtained from all pregnant women studied, it can be concluded in the explanation below:

1. **Distribution of Respondent Characteristics**

**Table 1. Distribution of characteristics of pregnant women by age**

|  |  |  |
| --- | --- | --- |
| **Age** | **N** | **%** |
| <20 years | 0 | 0 % |
| 20 - 25 years old | 5 | 10 % |
| 26 - 30 years old | 15 | 30 % |
| 31 - 35 years old | 16 | 32 % |
| > 35 years | 14 | 28 % |
| Total | 50 | 100 % |

From table 1, it can be seen that the most age group of pregnant women is the age group between 31-35 years, which is 16 people (32%). The least age group is the age group of less than 20 years, namely 1 person.

**Table 2. Distribution of characteristics of pregnant women based on Last Education**

|  |  |  |
| --- | --- | --- |
| **Age** | **N** | **%** |
| SD | 12 | 24 % |
| SMP | 10 | 20 % |
| SMA | 20 | 40 % |
| Diploma/ Academic | 3 | 6 % |
| Sarjana | 5 | 10 % |
| Total | 50 | 100 % |

From table 2, it can be seen that the highest level of education of pregnant women is pregnant women with high school education, which is as many as 20 people (40%). The least level of education for pregnant women is pregnant women with the last education of Diploma / Academy, which is 3 people.

**Table 3. Distribution of characteristics of pregnant women by occupation**

|  |  |  |
| --- | --- | --- |
| **Age** | **N** | **%** |
| Housewives | 18 | 36 % |
| Self employed | 2 | 4 % |
| Farmer | 20 | 40 % |
| ASN | 5 | 10 % |
| Private Employees | 5 | 10 % |
| Total | 50 | 100 % |

Based on table 3, it can be seen that the most pregnant women are mothers who work as housewives amounting to 18 people (36%). While the least are pregnant women who work as self-employed, namely 2 people.

**Table 4. Distribution of characteristics of pregnant women based on Parity**

|  |  |  |
| --- | --- | --- |
| **Age** | **N** | **%** |
| Nullipara | 9 | 18 % |
| 1 orang | 10 | 20 % |
| 2-3 orang | 24 | 48 % |
| > 3 people | 7 | 14 % |
| Total | 50 | 100 % |

From table 4 above, it can be seen that the group of pregnant women based on the highest number of parity is pregnant women with a parity of 2-3 people, which is as many as 24 people (48%). Meanwhile, the least are pregnant women with a parity of more than 3 people (multigravida), which is as many as 7 people (14%).

1. **Knowledge Level Test Results**

The results of the test on pregnant women's knowledge about antenatal care in the Sitiotio Health Center Working Area conducted using a questionnaire can be seen in the following table:

**Table 5. Overview of the level of knowledge of pregnant women about *antenatal care***

|  |  |  |
| --- | --- | --- |
| **Level of Knowledge** | **N** | **%** |
| Good | 10 | 20 % |
| Enough | 27 | 54 % |
| Less | 13 | 26 % |
| Total | 50 | 100 % |

Based on table 4, it shows that the level of knowledge of respondents is good knowledge as many as 10 people (20%), the level of knowledge is sufficient as many as 27 people (34%), and the level of knowledge of the category is less as many as 13 people (26%).

**Discussion**

From the results of a study conducted on 80 pregnant women in the working area of the Sitiotio Health Center, it is known that their knowledge of antenatal care (ANC) services varies. There were 27 (34%) pregnant women who had sufficient knowledge, 13 (16%) pregnant women had less knowledge, and 10 (20%) pregnant women who had good knowledge. This data shows that most pregnant women are at a sufficient level of knowledge, although there are still some who do not understand the importance of ANC services. This study illustrates the importance of efforts to increase the knowledge of pregnant women in this region to achieve more optimal health services.

1. **Enough Knowledge as the Dominant Category**

These results are in line with research conducted by Bashir (2023), which also found that 96% of the 400 respondents had sufficient knowledge about antenatal care. These findings suggest that sufficient knowledge is the most common category among pregnant women, both in the Sitiotio region and elsewhere. However, sufficient knowledge is not enough to guarantee that pregnant women will get the maximum benefit from antenatal care services. Good knowledge is essential to ensure that pregnant women understand the importance of regular visits, diagnostic tests, and nutrition during pregnancy. This is important given that lack of knowledge can be risky to maternal and fetal health, as well as to overall pregnancy outcomes.

1. **Lack of Knowledge and Its Impact on Maternal and Fetal Health**

As many as 16% of pregnant women in the work area of the Sitiotio Health Center are classified as lacking knowledge. This condition requires special attention, given the significant impact of low knowledge on the health behavior of pregnant women. According to some studies, pregnant women with low knowledge tend to miss ANC visits, do not adhere to nutritional recommendations, and lack understanding of the signs of complications that require immediate treatment. Nico's research (2024) also shows that most respondents who have less knowledge about ANC are at risk of not getting the full benefits of the health services provided before counseling. In the context of the Sitiotio Health Center's work area, it is important to design more intensive interventions to improve the knowledge of pregnant women who are still low.

Lack of knowledge about ANC is often caused by factors such as limited access to information, low levels of education for pregnant women, and a lack of ongoing health counseling or education programs. In the Sitiotio region, geographical and socioeconomic factors also play a role in limiting pregnant women's access to important health information. Therefore, efforts are needed to improve health education with a more interactive approach and in accordance with local conditions.

1. **Good Knowledge and Its Relationship to Health Behavior**

Although only 10 people (20%) of pregnant women have good knowledge, this figure is important to observe. Pregnant women who are well-informed tend to be more proactive in maintaining their health during pregnancy, including regular antenatal visits, adhering to medical advice, and recognizing red flags that require immediate attention. Well-informed mothers also tend to have better pregnancy outcomes, with a lower risk of complications. This is in line with previous research that showed that mothers with high knowledge are more likely to follow health recommendations recommended by medical professionals.

According to Bashir's research (2023), pregnant women with good knowledge are also more active in seeking additional information about pregnancy health, both through social media, health applications, and direct communication with health workers. In the context of the Sitiotio area, increasing knowledge among pregnant women who are still lacking can be done by utilizing information technology and social media that are increasingly developing as a means of education.

1. **Comparison with Previous Studies**

The results of this study show similarities with some previous studies, but there are also some significant differences. For example, research conducted by Nico (2024) shows that before counseling about antenatal care, 10 out of 17 respondents had less knowledge. This shows that good and continuous health education can play an important role in increasing pregnant women's knowledge about ANC. However, compared to Bashir's (2023) study using 400 respondents, where most pregnant women have sufficient knowledge, the number of pregnant women with good knowledge in Sitiotio is relatively lower. This can be caused by differences in population characteristics, access to information, and health interventions carried out in each region.

1. **Factors Affecting the Level of Knowledge**

Some factors that can affect the level of knowledge of pregnant women in the Sitiotio Health Center area include the level of education, access to health services, and the active role of health workers in providing counseling. Pregnant women with higher levels of education tend to have better knowledge of ANC, while mothers who live in remote areas or have limited access to health services may have lower knowledge. In addition, the frequency and quality of counseling provided by health workers can also affect the level of knowledge of pregnant women. Counseling that is carried out in a continuous and interactive manner has been proven to be more effective in increasing pregnant women's understanding of ANC compared to one-way or sporadic counseling.

1. **Recommendations for Increasing Knowledge of Pregnant Women**

Based on the results of this study, several recommendations can be given to increase the knowledge of pregnant women about antenatal care in the work area of the Sitiotio Health Center:

* 1. Routine and Structured Counseling: Health workers at the Sitiotio Health Center need to increase the intensity and quality of counseling to pregnant women, especially those in the category of lack of knowledge. Structured counseling with easy-to-understand materials will help increase the knowledge and awareness of pregnant women about the importance of ANC.
  2. Utilization of Information Technology: Given the increasing number of pregnant women using social media, Puskesmas can utilize this platform to disseminate health information more widely and interactively.
  3. Increased Access to Health Services: Local governments need to ensure that pregnant women in remote areas have better access to health services, both through the provision of closer health facilities and through mobile health service programs.
  4. Health Education in Schools: One long-term way to increase the knowledge of pregnant women is to introduce reproductive health and pregnancy education from an early age in schools.

With these efforts, it is hoped that pregnant women's knowledge about antenatal care in the work area of the Sitiotio Health Center can increase significantly, which will ultimately have a positive impact on the health of mothers and babies.6

**CONCLUSION**

This study shows that the level of knowledge of pregnant women about antenatal care (ANC) in the Working Area of the Sitiotio Health Center varies, with the majority in the moderate category (54%), while 26% have poor knowledge, and only 20% are in the good category. These findings highlight the importance of interventions to increase awareness and understanding of pregnant women, especially those who lack knowledge. Factors such as education level, access to information, and quality of health counseling play a significant role in influencing the level of knowledge. Mothers with higher education tend to have a better understanding of ANC, while structured and interactive counseling has been shown to be effective in increasing pregnant women's knowledge. Good knowledge of ANC is related to proactive health behaviors, such as adherence to ANC visits, nutritional fulfillment, and the ability to recognize red flags during pregnancy, thereby contributing to maternal and infant health and reducing maternal mortality. Recommendations include regular and structured counseling, the use of information technology such as social media and health apps, increased access to health services in remote areas, and reproductive health education programs in schools as long-term strategies to increase public knowledge about ANC. The implementation of this strategy is expected to be able to support the achievement of the SDGs target in significantly reducing maternal mortality.

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