

Mapping of Antenatal Care Visits for Pregnant Women on the risk of pregnancy and prevention of childbirth complications

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ABSTRACT

Maternal and infant mortality rates in North Sumatra are still high. Based on data from the North Sumatra Health Office as of June 2021, there are 67,345 pregnant women who have received pregnancy services, 65,431 who gave birth and 39,375 newborns. The most common causes of death for pregnant women according to the Sample Registration System (SRS) are hypertension in pregnancy 33.7%, obstetric bleeding 27.3%, non-obstetric complications 15.7% and other obstetric complications 12.04%. Antenatal Care (ANC) as one of the early screening efforts of pregnancy risk factors. The aim of the study was to map Antenatal Care Visits to Pregnant Women on the risk of pregnancy and the prevention of childbirth complications based on the minimum standards of antenatal care and danger signs during pregnancy. The method used is the spider web test, frequency test, reliability test, coefficient of determination test, bivariate analysis. The sample in this study used a non-probability sampling technique – accidental sampling, 60 samples, 2 dependent variables and 1 independent variable. The results showed that the implementation of the Mapping of Antenatal Care Visits for Pregnant Women in the working area of the Sei Mencirim Health Center had not yet run optimally. This situation can be seen from the results of achieving the target of Antenatal Care Visits at the Sei Mencirim Health Center. The low achievement can be seen from the lack of cooperative respondents in filling out the questionnaire, and the education level of many who are still in elementary/junior high school. The occupation is dominated by housewives. In terms of age, it is dominated by the age of 21-30 years. Although the human resources on Puskesmas are sufficient, the availability of facilities and infrastructure does not meet government standards, and so the source of the budget obtained for Antenatal Care Visits is low. Simultaneously, knowledge about the danger signs of pregnancy and knowledge about antenatal care visits has an effect of 22.3% on knowledge about prevention of childbirth complications

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INTRODUCTION

Maternal and infant mortality rates in North Sumatra are still high. Based on data from the North Sumatra Health Office as of June 2021, there are 67,345 pregnant women who have received pregnancy services, 65,431 who gave birth and 39,375 newborns. The most common causes of death for pregnant women according to the Sample Registration System (SRS) are hypertension in pregnancy 33.7%, obstetric bleeding 27.3%, non-obstetric complications 15.7% and other obstetric complications 12.04% (Widyastuti, 2021). The Provincial Government of North Sumatra continues to implement various programs or activities to reduce maternal and infant mortality. Including programs to improve access and quality of health services for mothers and newborns, so that maternal and newborn deaths can be prevented. In North Sumatra, this program is implemented in Deliserdang, Asahan, Langkat and Karo Regencies (SUMUT, 2021).

Antenatal Care (ANC) as one of the early screening efforts of pregnancy risk factors. According to the World Health Organization (WHO), antenatal care during pregnancy to detect early occurrence of high risks of pregnancy and childbirth can also reduce maternal mortality and monitor the condition of the fetus. Ideally, if every pregnant woman wants to have her pregnancy checked, it is aimed at detecting abnormalities that may exist or will arise in the pregnancy, which can be quickly identified, and can be addressed immediately before it has an adverse effect on the pregnancy by conducting antenatal care (Oktavia, 2018). Detection during pregnancy checks is very helpful in preparing for risk control. Moreover, pregnant women who do not do prenatal care, will not know whether their pregnancy is going well or experiencing high risk conditions and obstetric complications that can endanger the lives of the mother and fetus. And can cause high morbidity and mortality (Oktavia, 2018). Midwives, as first health workers in delivery assistance, have a very large role in controlling maternal mortality. The role of the midwife is to provide midwifery care through consultation and referral during labor with certain complications involving the patient and family, including: Assess the presence of complications and emergency conditions in the mother and delivery that require consultation and referral. Determine the diagnosis, prognosis, and priorities. Provide first aid in cases that require referral. Refer the client for further intervention to the authorized health service officer/institution. Keeping records and reporting as well as always documenting events and interventions. Therefore, the knowledge and skills of midwives in the delivery process must always be improved. The efforts of the health department in helping reduce costs and educating patients are also needed to support the reduction of maternal mortality (Setiawan & Chalidyanto, 2021).

Antenatal services are strived to meet the 7 T quality standards (Kemenkes RI, 2012), namely : Weighing and measuring height; Blood pressure measurement; Measurement of the height of the top of the uterus; Determination of tetanus immunization status and provision of Tetanus Toxoid immunization according to immunization status; Giving blood tablets of at least 90 tablets during pregnancy; Implementation of talks (providing interpersonal communication and counseling, including family planning); as well as. Simple laboratory test services, at least one blood hemoglobin (Hb) test and blood type examination (if it has never been done before).

Antenatal care (ANC) in normal pregnancy at least 6 times with details 2x in the 1st trimester, 1x in the 2nd trimester, and 3x in the 3rd trimester. At least 2x checked by a doctor during the 1st visit in the 1st trimester and during the 5th visit in the 3rd trimester (Kemenkes RI, 2020).

Danger signs during pregnancy (Rachmawati, Puspitasari, & Cania, 2017) : swelling/edema of the face or hands; severe abdominal pain; reduced fetal movement; vaginal bleeding; severe headache; blurred vision; fever; severe vomiting; vaginal discharge suddenly.

The factors that influence the health behavior of pregnant women in conducting antenatal care visits are divided into 3 factors, namely predisposing factors, enabling factors, and reinforcing

factors. Predisposing factors consist of age, education level, occupation, knowledge, parity and attitudes of pregnant women. Enabling factors consist of distance factors, income, facilities and infrastructure, as well as available information. The reinforcing factor consists of husband support, family support, and health worker support (SHAQINAH, 2020)

Several studies that have been carried out regarding research themes include: Coverage of Antenatal Care Visits for Pregnant Women (Nurmawati & Indrawati, 2018), Relationship Between Knowledge, Education Status, and Employment Status of Mothers With Antenatal Care Visits at Teling Atas Health Center Wanea District, Manado City (Lumempouw, Pelealu, & Maramis, 2015), Relationship Regularity of ANC Visits (Antenatal Care) and Compliance with Fe Tablet Consumption with Anemia Incidence in Third Trimester Pregnant Women in Maron Probolinggo District (Nurmasari & Sumarmi, 2019), Motivasi dan kepatuhan kunjungan ANC pada ibu hamil (Hardiani & Purwanti, 2012), Knowledge Relationship Pregnant Women with Regular Antenatal Care Examinations at Bahu Health Center, Malalayang District, Manado City (Tamaka, Madianung, & Sambeka, 2013), Relationship between Antenatal Care (ANC) visits and Stunting Incidence in Toddlers Age 12-59 Months in North Lombok Regency, NTB Province in 2016 (Amini, 2016), The Relationship between Antenatal Care Service Satisfaction with the Frequency of Pregnant Women Visits at the Kombos Health Center, Singkil District, Kot a Manado (Sisca Solang, Anastance Lohoraung, 2012), Relation of Frequency of Antenatal Care (ANC) Visits with Premature Incidence (Utami, Ernawati, & Irwanti, 2016), Factors Associated with K4 Antenatal Care Visits at Sipatana Health Center Gorontalo City (Laminullah, Kandou, & Rattu, 2015), Efforts to Increase Knowledge, Attitudes and Visits of Antenatal Care (ANC) for Pregnant Women Through Empowerment of ANC Cadres (Vika Sakinah, 2015), Knowledge of Midwives About Preeclampsia in North Sumatra (Khodijah & Lumbanraja, 2021), The Influence of Mother's Motivation and Knowledge on Pregnancy Anemia Examination in Huta Holbung Village, South Tapanuli Regency in 2019 (Harahap, 2021), Relationship of Consumption of High Iron Meals with Anemia in Pregnant Women at Tukka Health Center (Jenni Susi Sihite, 2021), Relationship of Hemoglobin Levels In Mothers in the Third Trimester of Pregnancy with Postpartum Bleeding Events at Haji Adam Malik Hospital Medan (Paramita & Sukatendel, 2021), Factors Relating to Maternal Compliance in Conducting Antenatal Care Visits in the Working Area of the Gambut Health Center, Banjar Regency, South Kalimantan in 2013 (S. Nurul, 2014), Factors Relating to Maternal Compliance in Conducting Antenatal Care Visits in the Working Area of the Gambut Health Center, Banjar Regency, South Kalimantan in 2013 (Wulandatika, 2017).

The problems that will be studied are Mapping of Antenatal Care Visits to Pregnant Women on the risk of pregnancy and prevention of childbirth complications. The specific purpose of this study was to map Antenatal Care Visits to Pregnant Women on the risk of pregnancy and the prevention of childbirth complications based on minimum standards of antenatal care and danger signs during pregnancy.

RESEARCH METHOD

The type and design of the research is an observational analytic study with a cross-sectional study approach.

Research Location

This research was carried out at the Sei Mencirim Health Center, Sunggal District, Deli Serdang Regency.

Population and Sample

The population in this study were all pregnant women in the Work Area of the Sei Mencirim Health Center. The sample in this study was drawn using a non-probability sampling technique – Accidental sampling, the sample criteria were mothers who did a pregnancy check at the primary

health care center or had an MCH book and were willing to participate in the study as respondents. The total sample was 60 pregnant women.

Data collection is divided into 2, namely primary data and secondary data. Primary data consisted of general data of respondents, age, education, knowledge of pregnant women as well as data on antenatal care visits obtained through interviews and using questionnaires, while secondary data was obtained through profile data at the Sei Mencirim Health Center in the form of dates and frequency of ANC visits by looking at the mother and daughter card book.

Data analysis technique

Data analysis in this study used bivariate analysis. The data analysis technique used a spider web test, frequency test, reliability test, determination coefficient test, bivariate analysis.

Research variable

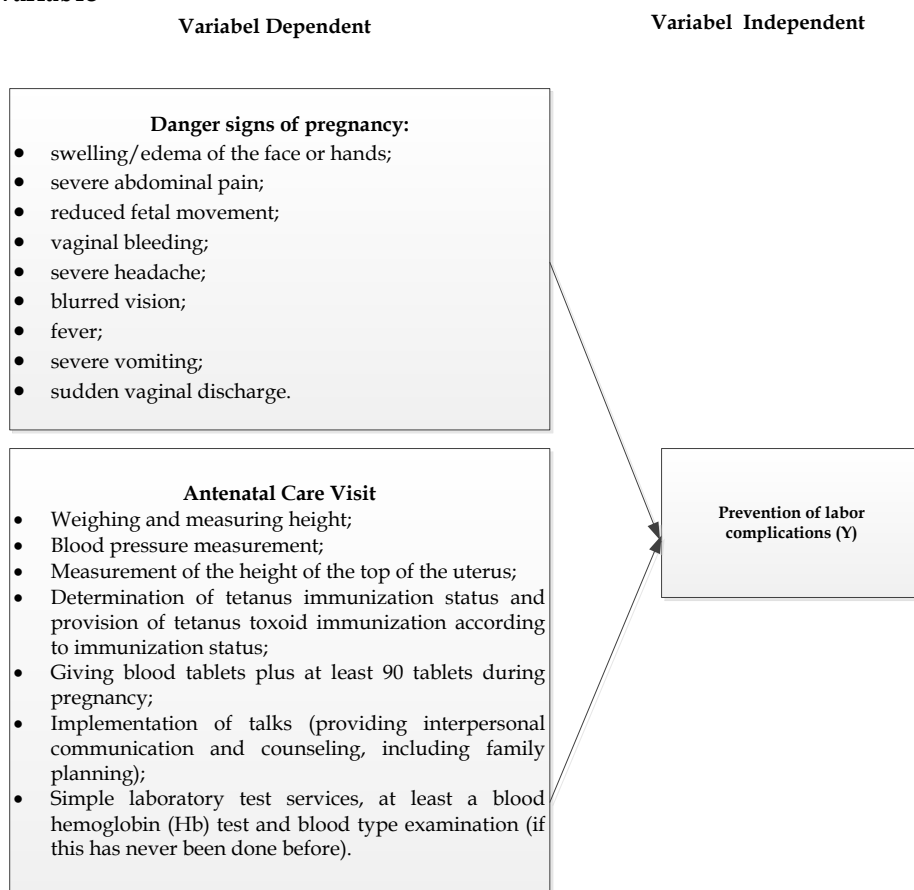


Figure 1. Research variable

RESULTS AND DISCUSSIONS

Profile of the Sei Mencirim Health Center is an inpatient health center located in Deli Serdang Regency. Consisting of 7 General Practitioners, 2 Dentists, 67 Nurses and 35 Persons in the Field. In 2018, based on data from the Indonesian Toddler Nutritional Status Study (ITNSS), the stunting rate in Deli Serdang was 25.7 percent, and in 2019 it rose to 30.97 percent. In 2020, based on ITNSS data, the figure fell to 22.11 percent, and in 2021 it fell again to 12.5 percent.

In 2022, Deli Serdang Regency has budgeted more than Rp. 9.20 billion, and there is special operational assistance for stunting of more than Rp. 1.7 billion. Based on the Decree of the Regent

No. 90 of 2022, the Deli Serdang Regency Stunting Reduction Acceleration Team has been formed, on January 26, 2022, adjusted to Presidential Regulation (Perpres) No. 72 of 2021, concerning the Acceleration of Stunting Reduction, with the task of coordinating, synergizing, evaluating the acceleration of stunting in the district, districts, villages and wards.

In 22 sub-districts, 380 villages, and 14 sub-districts in Deli Serdang Regency, there are already a Decree (SK) of the Team for the Acceleration of Stunting Reduction, and a Decree of the Family Assistance Team has been formed for 989 teams with cadres of 2967 people.

The stunting rate in Deli Serdang Regency is in the range of 12.5 percent in 2021. This figure shows good conditions, and is the result of simultaneous and continuous teamwork.

The success of maternal health efforts can be seen from the indicators of the Maternal Mortality Rate (MMR). MMR is the number of maternal deaths during pregnancy, childbirth and the puerperal caused by pregnancy, childbirth and the postpartum period or its management.

But not due to other causes like accidents or falls in every 100,000 live births. This indicator is not only able to assess maternal health programs, but is also able to assess the degree of public health, because of its sensitivity to improving child health services, both in terms of accessibility and quality. The number of maternal deaths reported in North Sumatra Province in 2019 was 202 people with a distribution of 53 maternal deaths, 87 maternal deaths. Deli Serdang Regency (13 people). Most maternal deaths are known to be caused by other causes that are not detailed, and the exact cause is known (63 people), due to bleeding (67 people), due to hypertension (51 people), due to infection (8 people), due to circulatory system disorders (8 people), as well as due to metabolic disorders (5 people). Awareness of pregnant women in North Sumatra Province for immunization during pregnancy is still low, at 37.99%. The number of pregnant women who received standardized antenatal care in the Deli Serdang district in 2021 was 43,449.

For the non-physical BOK in the health sector in 2022 in Deli Serdang Regency, Rp. 2,396,577, BOK for Puskesmas Rp. 29,299,000 and BOK for stunting Rp. 1,741,949. The Puskesmas BOK will be distributed to 34 health center under the auspices of the Deli Serdang Health Office.

In the Guidelines for Antenatal Services, Childbirth, Postpartum and Newborns in the Era of New Habits Adaptation issued by the Ministry of Health of the Republic of Indonesia in 2020, it is explained about program Antenatal Services based on regional zones as shown in the **Table 1** below:

Table 1. The Ministry of Health's new normal service program for pregnant women

Program	Green Zone (Not Affected / No Cases) Covid-19	Yellow Zone (Low Risk), Orange (Medium Risk), Red (High Risk) Covid-19
Maternity Class	Can be carried out face-to-face (maximum 10 participants), and must follow the protocol health strictly.	The implementation was postponed during the COVID-19 pandemic or carried out through online communication media (Video Call, Youtube, Zoom).
Delivery Planning and Complication Prevention (P4K)	P4K sticker filling is carried out by health workers during antenatal care.	P4K sticker filling is carried out by pregnant women or families guided by midwives/nurses/doctors through communication media.
Program Perinatal Maternal Audit (AMP)	A verbal autopsy was carried out by visiting the family. The assessment can be done face-to-face (following health protocols) or through online communication media (video conference).	Verbal autopsies are performed by visiting the family or by telephone. The assessment can be done through online communication media (video conference).

Antenatal care (ANC) in normal pregnancy at least 6 times with details of 2x in the 1st trimester, 1x in the 2nd trimester, and 3x in the 3rd trimester. At least 2x checked by a doctor during the 1st visit in the 1st trimester and during the 5th visit in the 3rd trimester.

Mapping Results of Antenatal Visits at the Sei Mencirim Health Center

The regularity of Antenatal Visits in the Post-Covid-19 Pandemic by the research team by referring to pregnancy examination books such as maternal and child health books and books on visits to doctors as well as questions and answers with respondents can be seen in the following **Table 2:**

Table 2. Antenatal visit mapping program

No	Program	Achievements	Ministry of Health indicators
1	Maternity Class	0	1
2	P4K	0	1
3	AMP	0	1
4	Antenatal care (ANC) in the 1st trimester of normal pregnancy	1	2
5	Antenatal care (ANC) in normal pregnancy 2nd trimester	0	1
6	Antenatal care (ANC) in normal pregnancy 3rd trimester	1	3
7	Examination by a doctor during the 1st visit in the 1st trimester	1	2
8	Examination by doctor at 5th visit in 3rd trimester	1	2

From Table 2. the results of interviews and subtly encourage respondents to dare to be open and spontaneous about things that are considered important related to the topic of Antenatal. then the scoring test is carried out. The results of all interview assessments were then recapitulated and transformed into numbers. The results of the assessment are displayed in graphic form with a spider web.

Based on the standards of the Ministry of Health related to Antenatal, and achievement the results of the research are known as shown in the figure below:

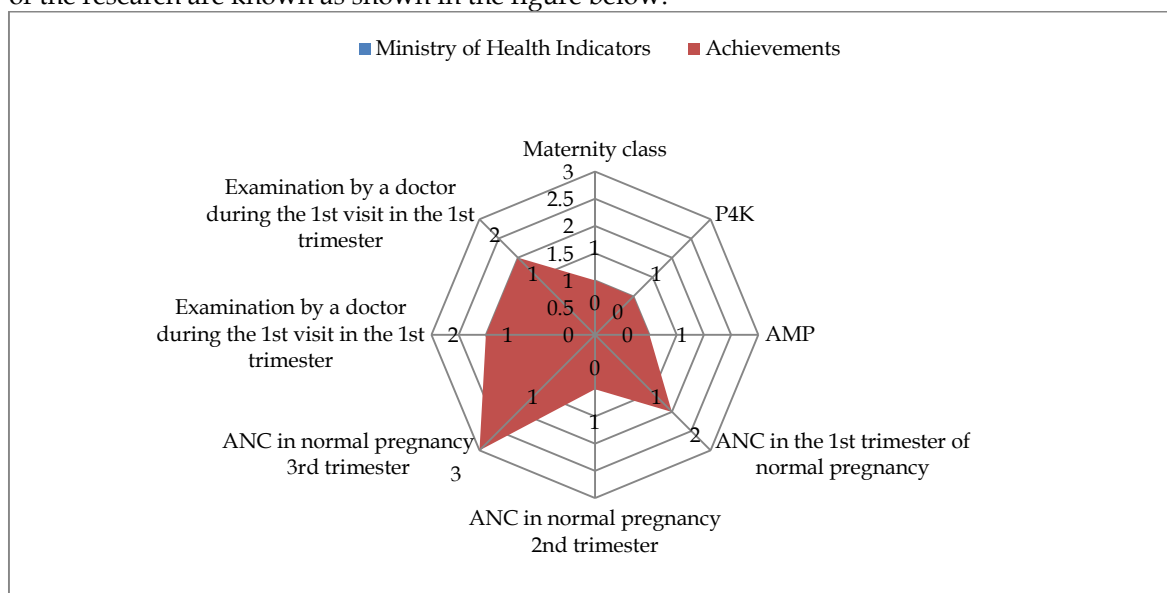


Figure 2. Pemetaan Kunjungan Antenatal

From Figure 2. above shows the spider web test with the results of achieving the target of Antenatal Care Visits at the Sei Mencirim Health Center, the frequency of antenatal services at the Sei Mencirim Health Center does not meet all aspects of the 2020 Ministry of Health standards. The results showed that the implementation of Antenatal Care Visit Mapping activities for pregnant women in the working area of the Sei Mencirim Health Center had not yet run optimally. The low

achievement can be seen from the lack of visits by pregnant women and not cooperative respondents in answering questions,

Although the human resources of the health center are sufficient, the availability of facilities and infrastructure does not meet government standards, and then the source of the budget obtained for Antenatal Care Visits is low.

Frequency Distribution Overview

Table 3. age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<20 years	6	10.0	10.0	10.0
	21-30 years old	31	51.7	51.7	61.7
	31-40 years old	23	38.3	38.3	100.0
	Total	60	100.0	100.0	

The age distribution shows that the age of 21-30 years is more dominant, namely 51.7%.

Table 4. education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No school	1	1.7	1.7	1.7
	primary school	10	16.7	16.7	18.3
	Junior high school	16	26.7	26.7	45.0
	high school	22	36.7	36.7	81.7
	University	11	18.3	18.3	100.0
	Total	60	100.0	100.0	

The results of the frequency show that the education level of the respondents 36.7% are high school/vocational high school graduates and 26.7% junior high school graduates

Table 5. work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Housewife	30	50.0	50.0	50.0
	Laborer	19	31.7	31.7	81.7
	Self-employed	5	8.3	8.3	90.0
	civil servant/private employee	6	10.0	10.0	100.0
	Total	60	100.0	100.0	

Judging from the occupation, the dominant respondents are housewives by 50%, followed by laborer 31%.

Tabel 6. Reliability Statistics

Cronbach's Alpha	N of Items
.847	17

From the Cronbach test, it shows that the data is reliable because it is 0.847

Table 7. Coefficient of Determination Test Results (R²)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.472 ^a	.223	-.024	.48314

a. Predictors: (Constant), Lab tests; test for hb and blood group if not, blood pressure measurement, conduct of interview, determination of status of tetanus immunization and tetanus immunization, swelling of the face or hands, administration of at least 90 tablets of additional blood during pregnancy, measurement of uterine peak height, vaginal bleeding, pain severe abdominal pain, severe vomiting, fever, sudden vaginal discharge, blurred vision, severe headache

Based on Table 7. The value of the Coefficient of Determination (R-Square) on the variables of knowledge of pregnancy danger signs and knowledge of antenatal care visits is 0.223, this shows that all independent/independent variables simultaneously have an effect of 22.3% on knowledge of Prevention labor complications (Y).

While the remaining 77.7% is influenced by other variables not tested in the study.

CONCLUSION

Based on the data analysis that has been done, the following conclusions can be drawn:

The results showed that the implementation of the Mapping of Antenatal Care Visits for Pregnant Women in the working area of the Sei Mencirim Health Center had not yet run optimally. This situation can be seen from the results of achieving the target of Antenatal Care Visits at the Sei Mencirim Health Center. The low achievement can be seen from the lack of cooperative respondents in filling out the questionnaire, the education level of many who are still elementary/junior high school. The occupation is dominated by housewives, in terms of age, it is dominated by the age of 21-30 years.

Although the human resources of the Puskesmas are sufficient, the availability of facilities and infrastructure does not meet government standards, and then the source of the budget obtained for Antenatal Care Visits is low.

From the Coefficient of Determination (R-Square) test on knowledge of pregnancy danger signs and knowledge of antenatal care visits is 0.223, this shows that all independent/independent variables simultaneously have an effect of 22.3% on knowledge of prevention of childbirth complications (Y). While the remaining 77.7% is influenced by other variables not tested in the study.

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