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**Determinants of K1 and K4 Visits Coverage at *Dungaliyo* Community Health Center**

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**ABSTRACT**

This study aims to determine the factors related to the coverage of K1 and K4 visits in 2019. This study used analytical observational with a cross-sectional approach. The population were all mothers who have made K1 and K4 visits at *Dungaliyo Community Health Center* totaling 306 people, there were 158 people (51.6%) did not complete ANC and 148 people (48.4%) had complete ANC. The sampling technique used total population sampling and data collection using a questionnaire. Based on the results of statistical analysis using the Chi square test, it showed that the distance of health services, economic status, availability of transportation, and family support had a significant relationship with the coverage of K1 and K4 visits at *Dungaliyo Community Health Center* in 2019, p-value of the distance to health service = 0.000, economic status = 0.021, access to transportation availability = 0.000, family support = 0.000.

**Keywords:** K1 and K4; distance to health service; economic status; access to transportation availability; family support.

**INTRODUCTION**

Maternal Mortality Rate (MMR) is an indicator that can be used to measure the health status of mothers in an area <sup>(1)</sup>. Efforts to reduce MMR (pregnancy, childbirth, and postpartum) are urgently needed for good quality Antenatal Care (ANC) services according to government policy standards <sup>(2)</sup>. Antenatal Care (ANC) is one of the health supporting factors to reduce maternal mortality <sup>(3)</sup>. ANC is a planned program in the form of observation, education, and medical treatment for pregnant women to have a safe and satisfying pregnancy program. The purpose of ANC is to keep the mother healthy during pregnancy, childbirth, and post-partum as well as to keep the baby born healthy. This is to monitor possible pregnancy risks, to plan optimal management of high-risk pregnancies, and to reduce perinatal morbidity and mortality <sup>(4)</sup>.

The World Health Organization (WHO) estimates that about 15% of all pregnant women will develop complications related to their pregnancy and can be life threatening. Most of these causes may be prevented by providing regular and quality pregnancy care <sup>(5)</sup>. A research study by WHO in 2007 in Tanzania, showed that the utilization of ANC services by pregnant women was 87.7% <sup>(6)</sup>. An increase in midwifery service standards needed to reduce maternal mortality (AKI) <sup>(7)</sup>. So far, midwifery services depend on the social attitudes of the community and the environmental conditions in which midwives work. Socio-economic progress is the most important parameter in midwifery services, the parameters of socio-economic progress in midwifery services include: improvement of maternal and infant nutritional status, coverage of delivery assistance by midwives, reduction in maternal mortality, reduction in neonatal mortality, coverage of high-risk management, and Antenatal examination coverage increased <sup>(8)</sup>.

Assessment of the implementation of health services for pregnant women should be done by looking at the K1 and K4 coverage in an area. The number of pregnant women who have made the first contact or received ANC services for the first time by health personnel compared to the target number of pregnant women in one work area in one year is included in the K1 coverage. Meanwhile, the number of pregnant women who have received standard ANC services is at least four times according to the recommended schedule in each trimester compared to the target number of pregnant women in one work area within one year is included in the K4 coverage. This indicator can show how access to ANC health services for pregnant women and the level of compliance of pregnant women to come to have their pregnancy checked by health personnel <sup>(9)</sup>.

In 2017, the coverage of health services for K4 pregnant women in Indonesia was 86.57% and has met the Strategic Plan (Renstra) target of the Indonesian Ministry of Health that was set at 72%. Hence, there are still 11 provinces that have not reached the target yet. Gorontalo Province is one of the provinces that has achieved the Strategic Plan (Renstra) target of the Indonesian Ministry of Health with the coverage of the 2017 K4 Visit of 82.34%.<sup>9</sup> Gorontalo District Health Office data, in 2017 as many as 91.3% of the total number of pregnant women who made K1 visits and only 76.2% made visits up to K4. In 2018, 99.8% of pregnant women who visited K1 and 92.6% visited K4 <sup>(10)</sup>.

Based on the data, for the last three years in the Dungaliyo Community Health Center work area as many as 89% of pregnant women had K1 visits and only 62% had K4 visits out of 317 pregnant women. Meanwhile, in 2018, out of 357 pregnant women, 93% had K1 visits, but only 75% were K4 visits. In 2019, out of 355 pregnant women, there were 93.52% who made K1 visits and 82.25% of those who made K4 visits<sup>(11)</sup>. Some factors that influence pregnancy visits include education, knowledge, attitudes, family support, husband support, attitude, transportation availability and parity<sup>(2), (3), (4)</sup>. Based on the background above, motivating the author to examine the problem by focusing the problem on factors that can be related to the behavior of pregnant women to the difference in the number of ANC visits (K1 and K4).

The aims of this study is to determine the determinants of the K1 and K4 visit coverage in Gorontalo.

**METHODS**

This type of research was analytic observational research with a cross-sectional study approach. The research conducted in Dungaliyo District, Gorontalo District. The study conducted from February to April 2019. Respondents in this study were all pregnant women who visited K1 and K4 with a total of 306 people, selected using total population sampling. Data were collected using questionnaire, then analyzed using Chi-Square test.

**RESULTS**

Based on table 1, there was a relationship between the distance of maternal health services (p = 0.000), the economic status of the mother giving birth (p = 0.021), the availability of maternal transportation (p = 0.000), and maternal family support (p = 0.000) with the coverage of K1 and K4 visits at Dungaliyo Community Health Center.

Table 1. The results of Chi-square test

Factors			K1 and K4 visits				Total		p-value
			Complete		Not complete		N	%	
Variable	f	%	f	%	f	%			
Health service distance									
Near	85	27.8	56	65.9	29	34.1	85	100	
Far	221	72.2	92	41.6	129	58.4	221	100	
Economic status									
Less	276	90.2	127	46.0	149	54.0	276	100	
Enough	30	9.8	21	70.0	9	30.0	30	100	
Availability of transportation									
Not available	213	69.6	84	39.4	129	60.6	213	100	
Available	93	30.4	64	68.8	29	31.2	93	100	
Family support									
Less	20	6.5	1	5.0	19	95.0	20	100	
Enough	286	93.5	147	51.4	139	48.5	286	100	

**DISCUSSION**

**The Relationship between the Distance of Health Service and the Coverage of K1 and K4 Visits**

Distance is an important thing to reach health service places. The availability and affordability of health resources is one of the factors that contribute to health behavior. Equitable access to health services related to the ability to get health services and the ability to obtain them. A long distances make it difficult for mothers to make visits because it will take a lot of energy and time for each visit<sup>(12)</sup>. The majority of mothers who do not use transportation and have to walk to the health service place have fewer than 4 visits during pregnancy. Most of the distance from home to puskesmas between 3-4 km or about 45-60 minutes. This is according to the results of the study that the distance considered optimal for health care places is an area with a radius of 3 km or with a travel time of less than 30 minutes<sup>(13)</sup>.

Based on the results of data analysis using the Chi Square statistical test, the p value was obtained was 0.000, this shows that there is a relationship between the distance of maternal health services to the coverage of K1 and K4 visits at Dungaliyo Community Health Center. The distance between the house and the Antenatal Care service

center is related to Antenatal Care visits with a p value of 0.009 (<0.05)<sup>(13)</sup>. However, the results of this study are not in line with research conducted in Lampung, which results that the distance from the house to health services is a factor that irrelated to pregnancy visits<sup>(14)</sup>. Distance is a demographic factor that influences K1 and K4 visits in pregnant women<sup>(15), (16), (17)</sup>.

### **The Relationship of Economic Status Factors to Coverage of K1 and K4 Visits**

Socio-economic conditions will affect the mother's pregnancy. This is because it related to fulfilling the needs of mothers during pregnancy, including healthy food, birth preparation materials, medicines, health personnel and transportation<sup>(7)</sup>. Pregnant women with low family income will prioritize meeting basic needs for their families. This results in neglected other needs, including the health of her pregnancy. Thus, the lower the family income, the lower the number of visits by mothers to health care facilities to check their pregnancies..This research is in line with previous research that family income is related to regular use of Antenatal Care<sup>(18), (19), (20)</sup>. The husband's wealth is related to Antenatal Care visits to pregnant women<sup>(21)</sup>. The same research shows that there is a relationship between economic status and the use of health facilities in pregnant women<sup>(23, 24)</sup>. This is because a high economic level will provide opportunities for pregnant women to make K1 and K4 visits because they are not constrained by transportation<sup>(17), (22)</sup>. Based on the results of the study found that the average job of pregnant women husband is to trade in the market and farmers with a < Rp.2.384.020. Low family income makes them prioritize the fulfillment of basic needs for their family, while others become neglected, including the health of their pregnancy.

### **The Relationship of Transportation Availability Factors to the Coverage of K1 and K4 Visits**

The affordability of the service location is crucial for health services. In places where services are difficult to reach, it is difficult for pregnant women to have their pregnancy checked; this is because transportation is difficult to reach these places of service so that it will affect the visit of pregnant women. The low number of patient visits to a health service place proves that a health service place is difficult to reach by the community; this is related to its geographical location, lack of transportation facilities and the community's low ability to pay for transportation costs. The community expects health service workers to provide medical services at home or in a place close to where they live<sup>(23)</sup>.

Based on the results of data analysis using the Chi Square statistical test, there is a relationship between the availability of maternal transportation to the coverage of K1 and K4 visits at Dungaliyo Community Health Center. The results of this study are also that the availability of transportation related to behavior in conducting Antenatal Care visits at Bawen Community Health Center<sup>(24)</sup>. Most of the respondents' residences are locations not reached by public transportation, except motorcycle taxis or bentor, while not all have private vehicles. So this becomes an obstacle to make K1 and K4 visits<sup>(25)</sup>.

### **The Relationship of Family Support Factors to the Coverage of K1 and K4 Visits**

Family support is the attitude, action and acceptance of the family towards family members. Family support plays an important role in meeting the psychological needs of pregnant women. Family support is a motivation for pregnant women to adopt healthy behaviors. Good family support will affect the mother in paying attention to the health of herself and her fetus, so that the mother will always make ANC visits according to the schedule given<sup>(12)</sup>.

The family is the closest person to helping each other, especially when pregnant women<sup>(26)</sup>. The involvement of families, including husbands in pregnant women from the beginning of pregnancy to delivery and postpartum will increase care behavior so that it determines the success of the mother during pregnancy until the delivery process. Pregnant will choose not to make ANC visits<sup>(14)</sup>.

Based on the results of data analysis using the Chi Square statistical test, it shows that there is a relationship between maternal family support and the coverage of K1 and K4 visits at DungaliyoCommunity Health Center. This support is mainly from her husband, who reminds and is willing to take pregnant women to make visits K1 and K4. The results of this study are also with previous studies, that there is a relationship between family support and Antenatal Care.<sup>26</sup> And this study is also in line with previous research with the results of the study showing that there is a significant relationship between family support and coverage of Antenatal services at Buleleng I Community Health Center<sup>(27)</sup>. Husband's support is also a factor affecting the presence of pregnant women at ANC visits<sup>(28)</sup>.

## CONCLUSION

Based on the results of the study, it is known that there is a relationship between service distance, economic status, availability of transportation and family support to the coverage of K1 and K4 visits at Dungaliyo Health Center. Among the four variables that affect the most are distance, availability of transportation and family support. And based on the conclusion above, it is recommended at the puskesmas to continue to encourage pregnant women to conduct regular pregnancy examinations at least 4 visits according to the minimum standard of K1 and K4 visits by often providing education through promotion and other counseling.

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