

Research Article

## Determinant of Preconception on Antenatal Care K1 in Pagimana Community Health Center, Banggai Regency

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**Abstract:** Antenatal Care is an effort to control pregnancy to find out the general health of the mother, to establish early the disease that accompanies the pregnancy, pregnancy complications determines the risk of pregnancy. The research objective was to determine the effect of preconception programs on K1 antenatal care based on age, education, parity. Cohort research design with a retrospective study approach. Sample 102 Trimester I and II pregnant women, divided into 34 people who participated in the preconception program and 68 people did not participate in the preconception program. Data collection was carried out by interview using a questionnaire. Data were analyzed by Univariate and Bivariate with Chi-Square test and stratification. The results of the age group <35 years ( $p = 0,000$ ) age  $\geq 35$  years ( $p = 0,819$ ). Low education ( $p = 0,004$ ) higher education ( $p = 0,003$ ). Primigravida parity ( $p = 0,000$ ) Multigravida parity ( $0,158$ ). There is a significant influence of age group <35 years who took preconception program to ANC (Antenatal Care) K1 on time and there was no significant influence of age group  $\geq 35$  years who took preconception program to ANC K1 on time, there was a significant effect of both low and high education on ANC K1 on time, there is a significant influence on primigravida parity on KC ANC on time and no significant effect on multigravida parity on KC ANC on time.

**Keywords:** Preconception, Antenatal Care, Pregnant Women.

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## INTRODUCTION

Antenatal Care (ANC) is an effort to control pregnancy to find out the general health of the mother, to establish the disease that accompanies the pregnancy early, to establish and to know early about pregnancy complications, and to determine the risk of pregnancy. ANC starts immediately after not getting your period (menstruation). (Ministry of Health of the Republic of Indonesia, 2018).

World Health Organization (WHO) recommends that the obligation to visit ANC during normal pregnancy is four visits during pregnancy with a predetermined standard and time (WHO, 2015). According to Ministry of Health of the Republic of Indonesia, 2014, ANC services at least four times during pregnancy with a predetermined schedule that is at least once in the first trimester (K1), once in the second trimester (K2), and twice in the third trimester (K3 and K4) (Ministry of Health of the Republic of Indonesia, 2014).

According to data from WHO, 2016 only 64% of world women who give birth live to receive ANC services four or more times. Whereas in Southeast Asia, 57% occupy the lowest number after the eastern Mediterranean (WHO, 2016). National coverage for K1

and K4 according to the 2014 Ministry of Health Strategy Plan has set targets for ANC Visits of K1 of 100% and K4 of 95% (Ministry of Health Republic of Indonesia, 2010).

ANC coverage in Indonesia for K1 is 94.5% and K4 coverage is 86.57% and in 2018 KC ANC coverage is 95.65% and K4 coverage is 88.03% (Ministry of Health of the Republic of Indonesia, 2018). Coverage of Central Sulawesi Province in 2017 K1 ANC coverage was 90.3% and K4 coverage was 78.2% in 2018 K1 coverage was 63.51% and K4 coverage was 77.87% (Ministry of Health of the Republic of Indonesia, 2018).

Coverage of ANC in Banggai Regency in 2017, coverage of ANC K1 was 96.2% and coverage of ANC K4 was 88.9%, in 2018 ANC K1 coverage was 95.4% and coverage of ANC K4 was 90.1%, this coverage was quite high but Not yet reached the SPM target. namely 100% and 95% (Banggai District Health Office, 2018).

Based on PWS KIA Puskesmas Pagimana data, the coverage of ANC K1 and K4 in 2017 ANC K1 was 83% and ANC K4 was 71.4% and in 2018 ANC K1 was 78.3% and ANC K4 was 70.1%. This coverage was the lowest of 26 Puskesmas in Banggai Regency.

Previous research found an ANC regularity relationship with a high-risk pregnancy rate ( $p = 0.029$ ) in pregnant women in the hamlet of a new village, kawa village. In addition, the percentage of respondents who experienced a high-risk pregnancy was greater for those who did not perform ANC regularly than those who did ANC regularly (50% vs 16.7%) (Pattiasina, *et al.*, 2019).

The amount of postponement of the first ANC visit is still high but it is lower than studies conducted in Africa and Ethiopia. Current initiation ranges from the first trimester, third trimester and the average gestational age of the second trimester, according to the study's educational status, pregnancy intentions and perceptions about the time of initiation ANC that affects the mother at the time of the first ANC visit (Zewdie *et al.*, 2018).

Age is one of the determining factors in the process of pregnancy. At the age of 20-35 years tend to be more regular because they still feel that pregnancy checks are very important while those aged <20 years tend to not really understand the importance of regular antenatal care visits while those aged > 35 years tend to be indifferent to antenatal care visits because they feel they have experienced.

In research conducted by Orboi *et al.*, (2019) and also research conducted by Rohmah (2010) the age of pregnant women in the safe category of pregnancy or the age of 20-35 years (88.4%) compared to the age of safe mothers in pregnancy <20 years or > 35 years (11.6%). Pregnant women aged 20-35 years have a higher percentage of antenatal visits (48.7%) compared to pregnant women <20 or > 35 years who only (30%) make antenatal visits.

Research conducted by Zakdiyah *et al.* (2018) and Cholifah & Putri, (2016) stated that the majority of respondents had a secondary education background of 59 people (76.6%) with a complete pregnancy imaging status of 17 people. From the logistic regression analysis results obtained a p-value of 0,000 (<0.05), which means there is a significant relationship between education to visit the examination of pregnancy. almost all mothers (90.0%) had higher education compared to mothers who had secondary and basic education. The higher level of education you have, the better the way someone thinks.

Parity is the number of children born to mothers, both stillborn and alive. Parity of a mother who is classified as not safe for pregnancy and childbirth is in the first pregnancy and high parity (more than 2). Parity 1-2 is the safest parity from the point of view of maternal death. The higher the parity, the higher the maternal mortality at parity 1 and > 2 pregnant women are

expected to be seen more frequently by health workers regularly. In a previous study showed that there was no effect between parity and ANC examination, respondents with parity > 2 said that they had experienced in pregnancy and childbirth, so they were not too worried anymore as in previous pregnancy while mothers with parity 1-2 felt pregnancy examination is an obligation that must be done every time having a pregnancy (Daryanti, 2019). Based on the description of the background, the purpose of this study was to determine the effect of preconception programs on K1 antenatal care based on age, education, parity.

## METHODS

### Research design

This type of research is quantitative research using a cohort design research design using the Retrospective Study approach. This research was conducted in the Working Area of Pagimana Health Center in Banggai Regency, Central Sulawesi Province from March to April 2020.

### Population and Sample

#### Population and Sample

The population in this study were all pregnant women trimester I and II totaling 127 pregnant women spread in the area of Pagimana Health Center, Banggai Regency. Sample size In this study using a ratio of 1: 2 that is 34 exposed and 68 not exposed, so the total sample of 102 respondents, the sampling technique for the exposed group was taken using the total population. While the unexposed group was selected by purposive sampling and respondents were willing to take part in this study by signing an informed consent that had been issued by the Ethics Committee of the Faculty of Public Health, Hasanuddin University.

#### Collecting data

Data collection techniques in this study are primary data taken directly from respondents (first and second-trimester pregnant women) including the support of health workers, husband support, distance from home to health facilities, using a questionnaire in the Working Area of Pagimana Health Center, Banggai Regency, Central Sulawesi Province 2020.

#### Data analysis

The sample characteristic data is processed using SPSS for windows 10 to describe the frequency distribution of each variable. Meanwhile, to assess the influence of factors, support of health workers, support of husbands, home distance to health facilities, a Chi-Square analysis was used and stratification was performed.

## RESULTS

**Table 1 Distribution of characteristics of pregnant women in the Pagimana Health Center in 2020**

Variable	Sample Group	
	N	%
<b>Age</b>		
<20 Years Old	11	10.8
20-35 Years Old	86	84.3
>35 Years Old	5	4.9
<b>Education</b>		
Diploma/Bachelor	10	9.8
High School	34	33.3
Junior School	36	35.3
Elementary School	21	20.6
Did Not Go To School	1	1.0
<b>Profession</b>		
House Wife	91	89.2
Non-Civi Servant Employee	3	2.9
Entrepreneur	2	2.0
Civil Servant	6	5.9
<b>Parity</b>		
Primigravida	76	74.5
Multigravida	26	25.5

Based on table 1, it is known that the age group  $\geq 35$  years old most participated in the preconception program and did antenatal care K1 on time ie 1 respondent (100%). Higher education which mostly followed the preconception program and conducted K1

antenatal care on time was 13 respondents (82.4%). Primigravida parity who took the most preconception programs and did antenatal care K1 on time were 16 respondents (84%).

**Table 2 Effects of preconception programs on K1 antenatal care testing based on age support at Pagimana Health Center in 2020**

Age Group (Years)	Preconception	Antenatal Care K1				Total	p-value	
		Not Ontime		On-time				
		n	%	n	%			
<35	Not Following	41	64.1	23	36.0	64	100	,000
	Following	6	18.2	27	82.0	33	100	
$\geq 35$	Not Following	3	75.0	1	25.0	4	100	,819
	Following	0	0.0	1	100.0	1	100	

Based on table 2 shows that respondents with higher education who took preconception program did K1 antenatal care on time ie 82.4% while respondents with low education who took preconception program did antenatal care K1 on time ie 75.0%. Statistical test results on respondents with higher education obtained p

= 0.003, which means there was a significant influence between respondents with higher education who took preconception programs with K1 antenatal care on time while respondents with low education obtained p = 0.004 which means there was a significant influence between respondents with low education who take preconception programs with K1 antenatal care on time.

**Table 3:** Effects of preconception programs on K1 antenatal care checks based on Education at Pagimana Health Center in 2020

Age Group (Years)	Preconception	Antenatal Care K1				Total		p-value
		Not Ontime		Ontime		n	%	
		n	%	n	%			
<35	Not Following	41	64.1	23	36.0	64	100	,000
	Following	6	18.2	27	82.0	33	100	
≥35	Not Following	3	75.0	1	25.0	4	100	,819
	Following	0	0.0	1	100.0	1	100	

Table 3 shows that respondents with primigravida parity who participated in the preconception program performed K1 antenatal care on time, namely 84.0%, while respondents with multigravida parity who took the preconception program did antenatal care on time, namely 80.0%. Statistical test results on respondents with primigravida parity who took preconception program to do K1 antenatal care obtained p-value = 0,000 which means there was a significant influence between respondents

with primigravida parity and who took preconception program with K1 antenatal care on time, whereas respondents with multigravida parity and participating in the preconception program to do antenatal care K1, the value of p = 0.158 was obtained, which means there was no significant effect between respondents with multigravida parity who participated in the preconception program doing antenatal care K1 on time.

**Table 4:** Effects of preconception programs on K1 antenatal care examinations based on parity in Pagimana Health Centre 2020

Age Group (Years)	Preconception	Antenatal Care K1				Total		p-value
		Not Ontime		Ontime		n	%	
		n	%	n	%			
<35	Not Following	41	64.1	23	36.0	64	100	,000
	Following	6	18.2	27	82.0	33	100	
≥35	Not Following	3	75.0	1	25.0	4	100	,819
	Following	0	0.0	1	100.0	1	100	

Based on the research data it can be understood that there is a significant influence on the primigravida parity group that follows the preconception program and performs K1 antenatal care on time while in the multigravida parity group there is no significant influence who follows the preconception program and conducts K1 antenatal care on time.

**DISCUSSION**

In this study, it was found that there was a significant effect on the age group <35 years who took preconception programs and did K1 antenatal care on time while in the age group ≥35 years there was no significant influence of respondents who took preconception programs and did K1 antenatal care on time. This study is in line with the research of Nurmawati & Indrawati (2018).

The results of the study obtained p = 0.003 which means there is a relationship between the age of

pregnant women with the coverage of antenatal care visits. The age of pregnant women in the 20-35 years category of antenatal care visits is more regular than mothers in the <20 years and kategori35 age categories. Age greatly influences the process of reproduction.

A mother should get pregnant at the age of 20-35 years, because this period is a safe time to get pregnant. Through the age of 20 years, the uterus and other body parts are ready to accept the pregnancy. Also at that age women usually feel ready to become a mother.

In this study, it was found that there was a significant influence both in the higher and lower education groups who took preconception programs and did antenatal care K1 on time. This study is different from previous studies conducted by (Zakdiyah *et al.*, 2018; Cholifah, 2015) states that the majority of respondents have a secondary education background of 59 people (76.6%) with a complete pregnancy imaging status of 17 people.

From the logistic regression analysis results obtained a p-value of 0,000 (<0.05), which means there is a significant relationship between education to visit the examination of pregnancy.

The education referred to in this study is the last education of respondents. Formal education produces behavior that is adopted by individuals but in some people, the level of education does not affect the pattern of attitudes, it is greater from the environment that is accepted by each individual. The level of education can affect one's ability and knowledge in implementing healthy living behaviors (Riauwi, 2014).

In the study, there was a significant influence in the primigravida parity group who participated in the preconception program and performed K1 antenatal care on time while in the multigravida parity group there was no significant influence who participated in the preconception program and did K1 antenatal care on time.

This study is in line with Tarigan's research (2017) showing that of 42 pregnant women who have high parity (> 2 people) there are 28 people (66.7%) with incomplete antenatal care visits and as many as 14 people (33, 3%) with a complete antenatal care visit. While from 22 pregnant women who had low parity ( $\leq 2$  people) there were 12 people (54.5%) with incomplete antenatal care visits and 10 people (45.5%) with complete antenatal care visits. This means that high parity (> 2 people) influences pregnant women not doing a complete pregnancy check-up.

## CONCLUSION

Based on the results of research and data analysis it is known that there is a significant influence on the age group <35 years who take preconception programs with K1 antenatal care on time while in the age group  $\geq 35$  years there is no significant influence of respondents who take preconception programs with the right antenatal care K1 time, there is a significant influence both the higher and lower education groups who take preconception programs and conduct antenatal care K1 on time, there is a significant influence on the primigravida parity group who take preconception programs and conduct antenatal care K1 on time while in the multigravida parity group there is no significant influence that follows preconception programs and conducts K1 antenatal care on time.

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