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RELATIONSHIP BETWEEN CHARACTERISTICS OF PREGNANT WOMEN AND THE LEVEL OF KNOWLEDGE ABOUT DANGERS SIGNS OF PREGNANCY AREA OF BARANA COMMUNITY HEALTH CENTER

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ABSTRACT

Danger signs of pregnancy are signs that indicate danger that could occur during pregnancy or the antenatal period, which if not detected could cause maternal death. This study aims to determine the relationship between the characteristics of pregnant women and the level of knowledge about the danger signs of pregnancy before and after education at the Barana Community Health Center in 2024. The method used in this research is a descriptive method using a cross sectional approach, namely independent and dependent variables are measured on At the same time using chi-square, the sample obtained was 30 respondents who came to the community health center and were given questionnaires and leaflets. The univariate results of the frequency of knowledge level before education were that respondents who had good knowledge were 18 (60%), while those with sufficient knowledge were 12 (40%). The level of knowledge after education was 28 (93%) respondents who had good knowledge, while 2 (7%) had sufficient knowledge. Bivariate results of knowledge level with age variable before education p-0.070, education variable p-0.053, gradivity variable p-0.511, parity variable p-0.462, employment variable p-0.064. while the level of age knowledge after education is p-0.136, the education variable is p-0.114, the gravidity variable is p-0.289, the parity variable is p-0.249, the employment variable is p-0.957.

The conclusion is that the bivariate results of gravidity and employment have a relationship while the others have no relationship.

Keywords: characteristics of pregnant women, danger signs of pregnancy

Introduction

According to data from the World Health Organization (WHO), the high maternal mortality rate in several regions of the world remains a major concern because it is included as one of the Sustainable Development Goals (SDGs), which aims to reduce the global maternal mortality rate to 70 per 100,000 live births. In low-income countries, 94% of these deaths occur, while in lower-middle-income countries, the figure reaches 64%, particularly in the African region (World Health Organization, 2019).

Danger signs of pregnancy are indicators that suggest potential risks that may occur during pregnancy or the antenatal period, which, if not detected early, can lead to maternal death. The danger signs of pregnancy include vaginal bleeding, severe headache, visual disturbances, swelling of the face and hands, severe abdominal pain, reduced or absent fetal movement, fever, excessive nausea and vomiting, and sudden discharge of large amounts of fluid from the vagina (premature rupture of membranes) (Ministry of Health of the Republic of Indonesia, 2020).

Based on data from the South Sulawesi Provincial Health Office, the number of maternal deaths during pregnancy and childbirth in 2018 reached 139 cases (0.09%) per 150,624 live births, 144 cases (0.10%) in 2019 out of 152,680 live births, and 133 cases (0.08%) in 2020 out of 154,733 live births. Although the data show a gradual decline in the number of deaths, the maternal mortality rate is still considered high (South Sulawesi Provincial Health Office, 2020).

A community service activity aimed at increasing pregnant women's knowledge about the danger signs of pregnancy was conducted on March 22, 2022. The target group consisted of 15 pregnant women. The results showed an improvement in knowledge after the educational session. The pre-test score averaged 65% of the total correct answers, while the post-test score increased to 90%. This improvement indicates that the educational intervention successfully enhanced pregnant women's understanding of the danger signs of pregnancy, which are also outlined in the Maternal and Child Health (MCH) Handbook (Jeneponto, 2022).

Based on preliminary data collection at the Barana Community Health Center, the number of pregnant women from November 2023 to April 2024 was 71.

The relationship between pregnant women's characteristics and their level of knowledge about the danger signs of pregnancy is essential for improving maternal health and reducing the risk of pregnancy complications. Factors such as age, education, gravidity, parity, and occupation are related to the level of knowledge about pregnancy danger signs.

Methods

This study employed a descriptive research method with a cross-sectional approach, in which the independent and dependent variables were measured simultaneously. The population in this study consisted of all pregnant women who had their pregnancies examined at the Barana Community Health Center, totaling 71 individuals.

The sample in this study included pregnant women who came for antenatal care during the research period and were willing to participate as respondents.

The sample size was determined using accidental sampling. Accidental sampling (also known as convenience sampling) is a sampling technique based on spontaneity, meaning that anyone who happens to meet the researcher and fits the inclusion criteria can be selected as a sample.

The independent variables (factors that influence other variables) in this study were age, education, gravidity, parity, and occupation. The dependent variable (the variable influenced by others) was the level of knowledge regarding the danger signs of pregnancy.

The research location was the Barana Community Health Center, Jeneponto Regency, in 2024, chosen because it met the required number of respondents for the study. This research was conducted from July to August 2024.

The research instrument used was a questionnaire sheet. The questionnaires were distributed directly by the researcher to the study participants. The questionnaire consisted of questions assessing pregnant women's knowledge about the danger signs of pregnancy.

Results

This study aimed to determine the relationship between the characteristics of pregnant women and their knowledge of the danger signs of pregnancy before and after education in the working area of Barana Community Health Center, Bangkala Barat District, Jeneponto Regency, in 2024. The population in this study consisted of 71 pregnant women, while the sample included 30 respondents who visited the health center for antenatal check-ups during the study period.

Table 5.1 Frequency Distribution of Respondents' Characteristics

Variabel	(n)	(%)
Age		
Late adolescence (17–25 years old)	18	60%
Early adulthood (26–35 years old)	10	33%
Late adulthood (36–45 years old)	2	7%
Education		
Elementary School	4	13%

Junior High School	9	30%
Senior High School	13	44%
Diploma / Degree	4	13%
Gradivitas		
Primigravida	7	23%
multigravida	23	77%
Paritas		
Primipara	19	63%
Multipara	11	37%
Occupation		
Housewife	26	86%
Entrepreneur	0	0%
Farmer	2	7%
Midwife	2	7%
Total	**30**	**100%**

Source: Primery Data 2024

Table 5.1 shows the frequency distribution based on age, where respondents in the late adolescence (17–25 years old) category accounted for 18 people (60%), those in the early adulthood (26–36 years old) category accounted for 10 people (33%), and those in the late adulthood (36–45 years old) category accounted for 2 people (7%). The frequency distribution based on education level shows that elementary school (SD) graduates totaled 4 respondents (13%), junior high school (SMP) graduates 9 respondents (30%), senior high school/vocational school (SMA/SMK) graduates 13 respondents (44%), and diploma/undergraduate degree holders 4 respondents (13%). The frequency distribution based on gravidity shows 7 respondents (23%) were primigravida and 23 respondents (77%) were multigravida. Based on parity, 19 respondents (63%) were primiparous, 11 respondents (37%) were multiparous, and none were grand multiparous (0%). The frequency distribution based on occupation shows 26 respondents (86%) were homemakers, none were self-employed (0%), 2 respondents (7%) were farmers, and 2 respondents (7%) were midwives.

Table 5.2 shows the frequency distribution based on the level of knowledge before education.

Education	**(n)**	**(%)**
Good	18	60%
Fair	12	40%
Total	**30**	**100%**

Source: Primery Data 2024

Table 5.2 shows the frequency distribution of the level of knowledge before education, where respondents with good knowledge accounted for 18 (60%), while those with fair knowledge accounted for 12 (40%).

Table 5.3 presents the frequency distribution of the level of knowledge after education.

Education	(n)	(%)
Good	28	93%
Fair	2	7%
Total	**30**	**100%**

Source: Primery Data 2024

Table 5.3 shows the frequency distribution of the level of knowledge after education, where respondents with good knowledge accounted for 28 (93%), while those with fair knowledge accounted for 2 (7%). A bivariate analysis was used to determine the relationship or correlation between the independent and dependent variables using the Chi-square test.

Table 5.4 presents the cross-tabulation between the variables of age, education, gravidity, parity, and occupation and the level of knowledge before education on the danger signs of pregnancy.

Variable	Level of knowledge Before Education				Frekuensi	Persentase	Result
Umur	**Good**	**%**	**Fair**	**%**	**n**	**%**	
Late adolescence (17–25 years old)	11	37%	6	20%	17	57%	
Early adulthood (26–35 years old)	6	20%	5	17%	11	37%	*p*-0.659
Late adulthood (36–45 years old)	1	3%	1	3%	2	6%	
Total	**18**	**60%**	**12**	**40%**	**30**	**100%**	
Education							
SD	0	0%	4	13%	4	13%	
SMP	6	20%	3	10%	9	30%	*p* -0.031
SMA/SMK	8	27%	5	17%	13	44%	
Diploma/Sarjana	4	13%	0	0%	4	13%	
Total	**18**	**60%**	**12**	**40%**	**30**	**100%**	
Graviditas							
primigravida	3	10%	4	13%	7	23%	*p* -0.290
multigravida	15	50%	8	27%	23	77%	
Total	**18**	**60%**	**12**	**40%**	**30**	**100%**	
Paritas							
Primipara	13	43%	6	20%	19	63%	*p* -0.643
Multipara	5	17%	6	20%	11	37%	
Total	**18**	**60%**	**12**	**40%**	**30**	**100%**	
Occupation							
Houswife	15	50%	11	37%	26	87%	
Farmer	1	3%	1	3%	2	6%	*p* -0.478
Midwife	2	7%	0	0%	1	7%	
Total	**18**	**60%**	**12**	**40%**	**30**	**100%**	

Table 5.4 shows that for the age variable, respondents in the late adolescence (17–25 years old) category with a good level of knowledge before education were 11 (37%), while those with fair knowledge were 6 (20%). In the early adulthood (26–35 years old) category, 6 respondents (20%)

had good knowledge and 5 (17%) had fair knowledge. In the late adulthood (36–45 years old) category, 1 respondent (3%) had good knowledge and 1 (3%) had fair knowledge. The Chi-square test result was p = 0.659.

For the education variable, respondents with elementary education had 0 (0%) good knowledge and 4 (13%) fair knowledge; junior high school 6 (20%) good and 3 (10%) fair; senior high school/vocational 8 (27%) good and 5 (17%) fair; and diploma/undergraduate 4 (13%) good and 0 (0%) fair. The Chi-square test result was p = 0.031.

For the gravidity variable, primigravida respondents with good knowledge were 3 (10%) and fair knowledge 4 (13%), while multigravida respondents with good knowledge were 15 (50%) and fair knowledge 8 (27%). The Chi-square test result was p = 0.290.

For the parity variable, primiparous respondents with good knowledge were 13 (43%) and fair knowledge 6 (20%), while multiparous respondents with good knowledge were 5 (17%) and fair knowledge 6 (20%). The Chi-square test result was p = 0.643.

For the occupation variable, homemakers with good knowledge were 15 (50%) and fair knowledge 11 (37%); farmers with good knowledge were 1 (3%) and fair knowledge 1 (3%); while midwives with good knowledge were 2 (7%) and fair knowledge 0 (0%). The Chi-square test result was p = 0.478.

Table 5.5 presents the cross-tabulation between age, education, gravidity, parity, and occupation variables and the level of knowledge after education regarding the danger signs of pregnancy.

Variable	**Level of knowledge**				**Frekuensi**	**Persentase**	**Chi-square Result**
	Before Education						
Umur	**Baik**	**%**	**Cukup**	**%**	**n**	**%**	
Late adolescence (17–25 years old)	18	60%	0	0%	18	60%	*p*-0.034
Early adulthood (26–35 years old)	10	33%	0	0%	10	33%	
Late adulthood (36–45 years old)	2	7%	0	0%	2	7%	
Total	**30%**	**100%**	**0%**	**0%**	**30%**	**100%**	
Education							
SD	4	13%	0	0%	4	13%	*p* -0.003
SMP	9	30%	0	0%	9	30%	
SMA/SMK	13	43%	0	0%	13	43%	
Diploma/Sarjana	4	13%	0	0%	4	13%	
Total	**30%**	**100%**	**0%**	**0%**	**30%**	**100%**	
Graviditas							
primigravida	7	23%	0	0%	7	23%	*p* -0.356
multigravida	23	77%	0	0%	23	77%	
Total	**30%**	**100%**	**0%**	**0%**	**30%**	**100%**	
Paritas							*p* -0.685

Primipara	19	63%	0	0%	19	63%	
Multipara	11	37%	0	0%	11	37%	
Total	**30%**	**100%**	**0%**	**0%**	**30%**	**100%**	
Occupation							
Houswife	26	87%	0	0%	26	87%	
Farmer	2	7%	0	0%	2	6%	*p* -0.848
Midwife	2	7%	0	0%	1	7%	
Total	**30%**	**100%**	**0%**	**0%**	**30%**	**100%**	

Table 5.4 shows that for the age variable, respondents in the late adolescence (17–25 years old) category with a good level of knowledge after education were 18 (60%), and those with fair knowledge were 0 (0%). In the early adulthood (26–35 years old) category, 10 respondents (33%) had good knowledge and 0 (0%) had fair knowledge. In the late adulthood (36–45 years old) category, 2 respondents (7%) had good knowledge and 0 (0%) had fair knowledge. The Chi-square test result was p = 0.034.

For the education variable, respondents with elementary education had 4 (13%) good knowledge and 0 (0%) fair knowledge; junior high school 9 (30%) good and 0 (0%) fair; senior high school/vocational 13 (43%) good and 0 (0%) fair; and diploma/undergraduate 4 (13%) good and 0 (0%) fair. The Chi-square test result was p = 0.003.

For the gravidity variable, primigravida respondents with good knowledge were 7 (23%) and fair knowledge 0 (0%), while multigravida respondents with good knowledge were 23 (77%) and fair knowledge 0 (0%). The Chi-square test result was p = 0.356.

For the parity variable, primiparous respondents with good knowledge were 19 (63%) and fair knowledge 0 (0%), while multiparous respondents with good knowledge were 11 (37%) and fair knowledge 0 (0%). The Chi-square test result was p = 0.685.

For the occupation variable, homemakers with good knowledge were 26 (87%) and fair knowledge 0 (0%); farmers with good knowledge were 2 (7%) and fair knowledge 0 (0%); while midwives with good knowledge were 2 (7%) and fair knowledge 0 (0%). The Chi-square test result was p = 0.848.

Discussions

Based on the age variable, the research conducted at the Barana Community Health Center showed that the frequency distribution by age was as follows: late adolescence (17–25 years old) accounted for 18 respondents (60%), early adulthood (26–35 years old) for 10 respondents (33%), and late adulthood (36 - 45 years old) for 2 respondents (7%).

After performing the Chi-square test before education, the obtained p-value was 0.070, indicating that there was no significant relationship between age and the level of knowledge about the danger

signs of pregnancy before education. After the education was provided, the p-value was 0.136, also showing no significant relationship between age and the level of knowledge after education. It can be concluded that before education, there was a relationship between the age of pregnant women and their knowledge of the danger signs of pregnancy, while after education, no relationship was found.

The appropriate age for a woman to become pregnant is between 20 and 30 years old. If a woman becomes pregnant at over 35 years old or under 20 years old, she is at higher risk of pregnancy-related complications. Women who become pregnant before the age of 20 face a higher risk because their reproductive organs are not yet fully mature, which may affect their function. Similarly, women aged over 30 also face increased risks. These risks include preeclampsia, eclampsia, spontaneous abortion, low birth weight (LBW), and premature birth (Dumilah, 2019).

This finding is consistent with the study by Ni Komang Tri Agustini (2022), which reported that most respondents (69 people or 86.3%) were 20–35 years old and categorized as low-risk, while 11 respondents (13.8%) were in the high-risk category based on age (<20 years and >35 years). The study concluded that there was no relationship between age and mothers' knowledge regarding the danger signs of pregnancy. This age range is considered the safest period for pregnancy, as women are more capable of understanding information about pregnancy risks. Conversely, high-risk pregnancies occur among women aged below 20 years or above 35 years (Santi, 2021).

Conclusion

1. Based on the results of the study conducted at Barana Community Health Center, entitled "The Relationship Between the Characteristics of Pregnant Women and the Level of Knowledge About the Danger Signs of Pregnancy Before and After Education in the Working Area of Barana Community Health Center in 2024," the following findings were obtained:

   Age: late adolescence (17–25 years old) – 18 respondents (60%), early adulthood (26–35 years old) 10 respondents (33%), and late adulthood (36–45 years old) 2 respondents (7%). Level of education: elementary school 4 respondents (13%), junior high school 9 respondents (30%), senior high school/vocational school – 13 respondents (44%), and diploma/undergraduate 4 respondents (13%). Gravidity: primigravida 7 respondents (23%), multigravida 23 respondents (77%). Parity: primiparous 19 respondents (63%), multiparous 11 respondents (37%). Occupation: homemakers – 26 respondents (86%), self-employed 0 (0%), farmers 2 respondents (7%), and midwives 2 respondents (7%).

2. The level of knowledge of pregnant women before education showed that 18 respondents (60%) had good knowledge and 12 respondents (40%) had fair knowledge. Meanwhile, the level of knowledge after education showed that 28 respondents (93%) had good knowledge and 2 respondents (7%) had fair knowledge.
3. The relationship between characteristics and the level of knowledge regarding danger signs of pregnancy before education was as follows:

   The age variable had a p-value of 0.070, indicating no significant relationship between age and the level of knowledge before education about the danger signs of pregnancy. The education variable had a p-value of 0.053, indicating no significant relationship between education level and the level of knowledge before education about the danger signs of pregnancy. The gravidity variable had a p-value of 0.511, indicating that there was a significant relationship between gravidity and the level of knowledge before education about the danger signs of pregnancy. The parity variable had a p-value of 0.462, indicating that there was a significant relationship between parity and the level of knowledge before education about the danger signs of pregnancy. The occupation variable had a p-value of 0.064, indicating no significant relationship between occupation and the level of knowledge before education about the danger signs of pregnancy.

RECOMMENDATIONS

1. For Barana Community Health Center

   It is recommended that the health center provide information to pregnant women about the danger signs of pregnancy during every antenatal visit. All pregnant women should be given the Maternal and Child Health (MCH) Handbook and reminded to read the section on pregnancy danger signs. The health center is also encouraged to train health cadres, strengthen health education activities, and conduct home visits for pregnant women who rarely visit the health center for antenatal check-ups.
2. For Future Researchers

   Future researchers are advised to enhance educational efforts by providing more comprehensive counseling or health education on the danger signs of pregnancy.

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