

The Difference of Fetus Heartbeat Regularity in Pregnant Women who do and do not do Pregnancy Exercises in the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District

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Abstract

Doing exercises during pregnancy is very helpful for fetal health which can be monitored through fetal heartbeat. This research aims to know the difference of fetal heartbeat regularity in pregnant women who do and do not pregnancy exercises in the working area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District. This research type is analytic survey with Cross Sectional Study approach. There are 30 pregnant women used as the research samples. The independent variable is pregnant women and the dependent variable is fetal heartbeat. The data analysis uses chi square statistic test. Regular fetal heartbeat has the highest percentage, which is 53,3%, if compared to irregular fetal heartbeat, which is 46,7%. The research result shows that there is a difference between fetal heartbeat regularity to pregnant women who do and do not do pregnancy exercises in the working area of Bongomeme Bongomeme Sub-District Gorontalo District.

Keywords: *Pregnancy Exercises, Fetal Heartbeat, Pregnant Women*

1.0 INTRODUCTION

Infant mortality rate in Indonesia in 2012 reached 32 per 1000 live birth, in 2013 decreased into 25 per 1000 live birth meanwhile in 2015 the infant mortality rate showed 22,23 per 1000 live birth (Ministry of Health Republic of Indonesia, 2015). One of the causes of fetal death is fetal heartbeat problem. Babies who were born dead reached 93% because of heartbeat abnormality due to lack of oxygen given by the mother to fetal through the placenta. When the fetal lacks of oxygen then it is called hypoxia (Forikes Voice Health Research Journal, 2011). Besides fetal heartbeat abnormality hypoxic events like tachycardia can occur to babies who were born in a premature state. Premature babies who tend to have higher heartbeat because of the delay in parasympathetic nerve maturity (Mutmainnah, 2016).

To overcome that matter, one of the ways is by joining pregnancy exercises. Pregnancy exercises are very important in preparing the birth process of pregnant women because of physical changes and psychology changes that they experience. With a fit and healthy body, pregnant women can still do daily routine tasks, reduce stress because of the anxiety they experience during confinement (Mutmainnah, 2016). The purpose of this research is to know the difference of fetal heartbeat regularity in pregnant women who do and do not do pregnancy exercises in the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District.

2.0 METHODOLOGY

This research is analytical survey research by using Cross Sectional Study approach. In this research, the difference of fetal heartbeat regularity in pregnant women who were given and were not given pregnancy exercises at the age of 29 – 40 weeks will be found. The research is done in the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District at the date of 17th July - July 2018. The independent variable in this research is pregnancy exercises, meanwhile the dependent variable in this research is fetal heartbeat. The population in this research is all trimester III pregnant women in the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District. The last data in accordance with pregnant women register in May are 58 people. There are 30 people who are divided into 15 pregnant women in intervention group, meanwhile the other 15 pregnant women as the control group. The sampling technique used is non-probability sampling, which is purposive sampling with sample determination using inclusion and excusion criteria. Inclusion criteria is : Women in a normal pregnancy; Single pregnancy; and Pregnant Women who are willing to participate in the research, proved by informed consent. Exclusion criteria is: Pregnant Women who suffer systemic disease and Pregnant Women who are willing to participate in the research. The instruments used to independent variable in this research are observation sheet, meanwhile the dependent variables are doppler and observation sheet. The data analysis uses statistic test, which is Chi Square Test.

3.0 DISCUSSIONS

3.1 Respondent General Description

1. Respondent Age

Table 1

Respondent Distribution According to Age in the Working Area of Community Health Centre Sub-District Gorontalo District

No.	Age	n	%
1.	< 20 years old	4	13,3
2.	20 s/d 35 years old	24	80,0
3.	> 35 years	2	6,7
Total		30	100

Source : Primary Data, 2018

Table 1 shows that the respondent in the age group between 20 until 35 years old is the highest percentage, which is 80,0%. Meanwhile the lowest percentage is in the age group > 35 years old, which is 6,7%.

3.2 Respondent Education

Table 2

Respondent Distribution According to Education in the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District

No.	Education	n	%
1.	Primary School	6	20,0
2.	Junior High School	5	16,7
3.	Senior High School	13	43,3
4.	College	6	20,0
Total		30	100

Source : Primary Data, 2018

Table 2 shows that the respondent with Senior High School education is the highest percentage, which is 43,3%. Meanwhile the lowest percentage is in Junior High School Education, which is 16.7%.

3.3 Pregnant Women Exercises

Table 3

Respondent Distribution According to Pregnant Women Exercises Implementation In the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District

No.	Pregnant Women Exercises	N	%
1.	Doing (Intervention)	15	50,0
2.	Not Doing (Control)	15	50,0

Source : Primary Data, 2018

Total	30	100
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Based on that table shows that there are 15 respondents (50%) groups who do pregnancy exercises (intervention group) and there are 15 respondents (50%) groups who do not do pregnancy exercises (control group).

3.4 Univariate Analysis

1. Analysis of Fetal Heartbeat Regularity in Intervention Group

Table 4

Regularity of Fetal Heartbeat in Pregnant Women who Do Pregnancy Exercises in the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District

Fetal Heartbeat	n	%
Regular	12	80,0
Irregular	3	20,0
Total	15	100

Source: Primary Data, 2018

Based on that table it is known that regular fetal heartbeat in intervention group has the highest percentage, which is 80%, if compared to irregular fetal heartbeat which is 20%.

3.5 Analysis of Fetal Heartbeat Regularity in Control Group

Table 5

Regularity of Fetal Heartbeat in Pregnant Women who Do Not Do Pregnancy Exercises in the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District

Fetal Heartbeat Regularity	n	%
Regular	4	26,7
Irregular	11	73,3
Total	15	100

Source: Primary Data, 2018

Based on that table it is known that irregular fetal heartbeat in control group has the highest percentage, which is 73.3%, if compared to regular fetal heartbeat which is 26,7%.

3.6 Analysis of Fetal Heartbeat Regularity in Both Group

Table 6

Regularity of Fetal Heartbeat in Pregnant Women of Both Groups. In the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District

Fetal Heartbeat	n	%
Regular	16	53,3
Irregular	14	46,7
Total	30	100

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Source :
Primary
Data,
2018

Based on the table it is known that a regular fetal heart rate distributed in both groups is the highest percentage of 53.3%, compared to an irregular fetal heart rate of 46.7%.

3.7 Bivariate Analysis

Table 7

The Difference of Fetal Heartbeat in Pregnant Women who Do and Do Not Do Pregnancy Exercises in the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District

Pregnancy Exercises	Regularity of Fetal Heartbeat				Total		Asymp Sig (2-sided) (P Value)	χ^2 Count
	Regular		Irregular		n	%		
	N	%	N	%				
Doing	12	80,0	3	20,0	15	100	0,003	8.571
Not Doing	4	26,7	11	73,3	15	100		
Total	16	53,3	14	46,7	30	100		

Source : Primary Data, 2018

Table 7 shows that the respondents of pregnant women who get pregnancy exercises with regular fetal heartbeat has the highest percentage, which is 80% if compared to irregular heartbeat which is 20%. Meanwhile the respondents of pregnant women who do not get pregnancy exercises with irregular fetal heartbeat has the highest percentage, which is 73,3% if compared to regular heartbeat.

The research result with Chi Square Test shows that there is a difference between fetal heartbeat regularity in pregnant women who do and do not do pregnancy exercises in the Working Area of Bongomeme Community Health Center Bongomeme Sub-District Gorontalo District.

Doing exercises during pregnancy is very useful for the fetal health which can be monitored through fetal heartbeat. According to Pranowowati (2014) women who do pregnancy exercises regularly, the fetal heartbeat will gradually become better because when they do pregnancy exercises the heart will pump blood stronger because maternal blood circulation enters fetal blood circulation so that the fetal will get the benefits too. When doing oxygen supply exercises, pregnant women will have more so that blood that is rich of O₂ will enter the fetal. The heart will become stronger if trained, and if the heart has become stronger, heartbeat will decrease. Therefore, the heart does not need to work too hard to pump the same amount of blood. In other words, the heart workload will become lighter.

Seeing the fetal heartbeat control group tends to be low even though most of the frequency of fetal heartbeat is normal but based on the calculation of fetal heartbeat regularity is less regularly. According to Pranowowati (2014) this is because most respondents are housewives who don't do much heavy activities and spend more time staying at home. Therefore, the fetal heartbeat not used to being trained for heavier activities than usual. So that when pregnant women do heavier activities than usual the fetal heartbeat must adapt first to respond from the activities done by the pregnant women. This is what makes the fetal heartbeat irregular.

4.0 CONCLUSION

And the conclusions obtained from this research are as follows:

1. Regular fetal heartbeat in intervention group has the highest percentage, which is 80%, if compared to irregular fetal heartbeat which is 20%.
2. Irregular fetal heartbeat in control group has the highest percentage which is 73,3%, if compared to regular fetal heartbeat which is 26,7%.
3. Regular fetal heartbeat distributed on both groups have the highest percentage which is 53,3%, if compared to irregular fetal heartbeat which is 46,7%.
4. There is a difference between fetal heartbeat regularity in pregnant women who do and do not do pregnancy exercises in the Working Area of Bongomeme Community Health Centre Bongomeme Sub-District Gorontalo District.

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