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ANTENATAL CARE (ANC) VISIT FREQUENCY IN THE THIRD TRIMESTER AND PRETERM EVENTS IN PUSKESMAS PONDOH AND JUNTINYUAT IN INDRAMAYU REGENCY BETWEEN 2014-2016

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ABSTRACT

***Background**: World Health Organization (WHO) estimates that 15 million babies are born preterm every year and this number continues to increase. Several risk factors for preterm are identified as mother's lifestyle such as smoking, malnutrition, weight gain during pregnancy, and drug use or other factors such as socioeconomic status. In 2015, WHO reported more than 300.000 women died from pregnancy-related causes and 2.6 million babies were still born worldwide with half occurring during the third trimester. Antenatal Care (ANC) in the third semester aims to identify fetal position and identify complication during pregnancy and screen for pre-eclampsia, infection of the reproductive organs and urinary tract, and plan for delivery. The ANC in the third semester is crucial in keeping pregnant mother healthy throught pregnancy and delivery.*
***Aim**: To find out the relationship between third trimester Antenatal Care (ANC) visit frequency and preterm birth event at Puskesmas Pondoh and Juntinyuat in Indramayu regency between 2014-2016.*
***Methods**: This was observational analytic study with cross-sectional approach. The sampling technique in this research was done by total sampling with 100 respondens. Data were collected from maternal cohort book and control card of pregnant women. The data were analyzed using Chi-square test and Prevalence Ratio.*
***Results**: This study found that the proportion of pregnant mothers with insufficient third trimester ANC was 38% and the number of mothers delivering preterm baby was 32%. Statistical analysis showed that there was a statistical significance between third trimester ANC visit frequency and preterm labor with p=0,000 (p<0,05) and women with insufficient ANC visit have 40 times higher risk of preterm baby compared to mothers who has sufficient ANC visit (PR=40,60; CI95%=11.699-140.8862) in Puskesmas Pondoh and Juntinyuat Indramayu District 2014-2016.*
***Conclusion**: Having less than 4 ANC visit in the third trimester may increase the risk of delivering preterm babies. Pregnant women are advised to do ante natal care monthly of a minimum 4 times during the third trimester.*

***Keywords**: Antenatal Care, Preterm, Puskesmas, Indramayu*

INTRODUCTION

Infant mortality is one of the key indicators in increasing overall population health. One of the Millennium Development Goals (MDGs) is to lower neonate and infant mortality [1]. In 2015, WHO reported more than 300,000 women died from pregnancy-related causes and 2.6 million babies were still born worldwide, with half of the death occurred during the third trimester [2]. Infant mortality rate in Indonesia is 34 per 1000 live births and is still higher than 2015 MDGs goal of 23 per 1000 live

births. West Java remains as one of the provinces with the higher neonatal deaths [3]. Based on West Java Child Health Program report from 2010-2012, there were 3,624 cases of neonatal deaths and 465-infant deaths. The West Java's Indramayu regency health authority in 2012 reported 2,315 of neonatal and infant deaths and 44 maternal deaths [4, 5]. The incidence of preterm labor in general is about 6-10% [6].

Many of these adverse outcomes can be prevented by improving quality of healthcare during pregnancy and childbirth. Antenatal care (ANC) provides a platform for critical healthcare function including health promotion, prevention, screening, and diagnosis of diseases [2]. Implementing timely and appropriate evidence-based practices during ANC can improve maternal and foetal health as well as providing positive pregnancy experience.

Universal access to antenatal care is one of the key indicators in the 2015 MDG 5. The 2012 World Health Organization (WHO) recommends at least four visits with evidence-based interventions through goal-oriented clinic visits, known as the focused antenatal care (FANC) [7]. A new guidance from WHO in 2016 recommends a minimum of eight antenatal care visits between the pregnant woman and the healthcare providers with the first visit during the first 12^{th} weeks of gestation with following contacts at 20^{th}, 26^{th}, 30^{th}, 34^{th}, 36^{th}, 38^{th}, and 40^{th} weeks of gestation [2]. A report in 2017 showed that Indonesia has shown a nominal increase in antenatal care coverage from 93% to 96% in the Indonesian Demographic and Health Survey 2012 [8]. RISKESDAS (Indonesian Basic Healthcare Research) report in 2013 showed that although 95.4% of pregnant mothers receive their first antenatal care, only 83.5% of mothers completed the recommended of minimum 4 times during their pregnancy [9]. Due to large contribution of maternal and neonatal death to West Java, this study aims to find out the effect of third trimester antenatal care visits and preterm events in West Java Indramayu regency.

METHODS

The method used for this research was observational analytic study with cross-sectional approach. The population were 100 mothers who delivered babies at Puskesmas Pondoh and Puskesmas Juntinyuat at Indramayu Regency from 2014 to 2016. Preterm delivery data and Antenatal Care data were collected from maternal cohort book and control card of pregnant women at the respective Puskemas with multiple pregnancies excluded. Subjects were considered to have sufficient antenatal care visit if the subjects have four or more ANC visits during the third trimester. The data were analysed using Chi-square test and Prevalence Ratio.

RESULTS

Characteristic of Respondents

Table 1. Characteristic of Respondents

NO	Characteristics	Amount (n)	Percentage (%)
1	Antenatal Care visit frequency		
	Sufficient	62	62
	Insufficient	38	38
2	Preterm Delivery		
	Term	68	68
	Preterm	32	32

Table 1 showed 38% of pregnant mothers with insufficient antenatal care visit and 32% cases of preterm delivery.

Bivariate analysis
The effect of third trimester Antenatal care and preterm events were analysed using Chi-square test using significance level of $p<0.05$.

Table 2. Effect of third trimester Antenatal care and preterm events

ANC visit Frequency	Preterm delivery (n/%)		Total	p-Value	PR	CI 95%
	Yes	No				
Sufficient	4	58	62	.000	40.60	11.699-140.8862
Insufficient	28	10	38			
Total	32	68	100			

Pregnant mothers with insufficient antenatal care visit have 40 times higher probability of having preterm delivery compared to pregnant mothers with sufficient antenatal care visit (PR=40.60, CI95%=11.699-140.8862) with p=0.000 ($p<0.05$).

DISCUSSION

Preterm delivery is associated with adverse outcome in pregnancy such as stillbirth, low and very low birthweight, neonatal death, and maternal death. Indonesian Ministry of Health recommends a minimum of 4 antenatal care visits throughout the pregnancy with minimum one visit during the first trimester, one visit during the second trimester, and two visits during the third trimester [9].

The first visit, termed K1, is recommended at least once before 12th week of pregnancy and aims to diagnose and calculate the age of pregnancy. The second visit, termed K2, is recommended at least once before the 28th week and aims to identify complication during pregnancy and screen for pre-eclampsia and infection of the reproductive organs and urinary tract. The third visit, termed K3, is recommended between the 29th week and 36th week and aims to identify foetal position and identify complication during pregnancy and screen for pre-eclampsia and infection of the reproductive organs and urinary tract. The final visit, termed K4, is recommended before delivery and aims to plan for delivery.

However, based on the findings of this study, two antenatal care visits during the third trimester may not enough, as lack of antenatal care visit below four times in the third trimester may increase the risk of mothers having preterm events by more than 40 times. This may be due to signs of dangers in pregnancy or delivery missed such as pre-eclampsia, bleeding, premature rupture of membrane, and intra uterine growth retardation. A cohort study in Finland showed that similar findings with non- or under-attendance at antenatal care carries a substantially elevated risk of severe adverse pregnancy outcome [10].

A new guidance from WHO in 2016 recommends a minimum of eight antenatal care visits between the pregnant woman and the healthcare providers with the first visit during the first 12th weeks of gestation with following contacts at 20th, 26th, 30th, 34th, 36th, 38th, and 40th week of gestation [2]. Increasing maternal and foetal assessments to detect complications, improving support and communication between healthcare providers and pregnant women, increases the likelihood of positive pregnancy outcomes. It is recommended for pregnant mothers to have at least one antenatal care visit monthly during the third trimester and one visit just before delivery to ensure that mothers have adequate care and a positive pregnancy experience. Future work can include other factors such as socio-economic status, history of infection and immunization, nutrition to obtain a clearer picture of risk factors for preterm births.

CONCLUSION

In conclusion, the result of this study showed that lack of third trimester ante natal care may increase the risk of delivering preterm babies. Pregnant women are advised to do Antenatal care monthly of a minimum 4 times during the third trimester.

CONFLICT OF INTEREST

The authors declare no conflict of interest

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