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Relationship of Factors Causing Perinatal Death in Cianjur Regency

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ABSTRACT

The perinatal mortality rate is one of the biggest contributors to the high infant mortality rate. Most of the causes of perinatal mortality 2/3 come from preventable causes, including patient factors, health workers, referrals and health facilities. The purpose of this study was to analyze and explore the factors causing perinatal mortality, barriers to the referral process as well as recording and reporting. The research design used a sequential explanatory design with a combination method approach which was carried out in stages with a quantitative approach in the first stage, namely in the form of data collection from data recapitulation and perinatal verbal autopsy (OVP) as many as 287 perinatal deaths in Cianjur Regency in 2015. The second stage with a qualitative approach through deep interview. The results of this quantitative study showed that most of the perinatal deaths were preventable as many as 245 cases (85.4%) with a period of stillbirth 136 cases (47.4%) and early neonatal 151 cases (52.6%). Factors related to perinatal mortality were found in patient factors, namely basic education 85.4% (p=0.003), history of ANC 4 times 73.9% (p=0.056), and causes of infant mortality, namely stillbirth 47.3% and asphyxia 19.5% (p=0.001). The results of the qualitative study obtained education factors with basic education, history of ANC 4 times, causes of stillbirth and risky asphyxia, geographically in highland areas.

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1. Introduction

Health development should be seen as an investment to improve the quality of human resources (BAPPENAS n.d.) Health development is an inseparable part of national development that must be continuously pursued by the government (Nasional BPP 2009). One of the efforts to achieve the national goal is to reduce infant mortality. Babies become the focus of every health program because they are in a period of growth and development, and are always facing life threats such as illness and death. The degree of public health in Indonesia, one of which is described by the mortality rate. Indicators of child-related mortality are the Neonatal Mortality Rate (AKN), Infant Mortality Rate (IMR), and Toddler Mortality Rate (AKABA).(Kemenkes 2014)

Globally, the perinatal mortality rate in 2009, the number of stillbirths was 2.9 million and 50% occurred during the intrapartum period (Feresu et al. 2005). The highest perinatal mortality rate in the world is in African countries at 56 per 1,000 births, the second is in Asian countries at 47 per 1,000 births. (Michalow et al. 2015) Deaths during the perinatal phase account for nearly 40% of all infant deaths and 75% of all neonatal deaths (WHO 2006)

Based on the 2007 Basic Health Research (Riskesdas), the number of perinatal deaths in 33 provinces, namely stillbirths plus infant deaths aged 0-6 days, was recorded at 217 deaths. The proportion of stillbirths is quite high, namely 34.6% (75 deaths) of all perinatal deaths, the rest is infant mortality aged 0-6 days (also known as early neonatal infant mortality), amounting to 142 cases of death. The causes of death for infants aged 0-6 days were respiratory disorders (asphyxia)

of 35.9%, prematurity 32.4%, sepsis 12%, hypothermia 6.3%, bleeding disorders and jaundice 5.6%, postmaturity 2, 8% and 1.4% congenital malformations(BPdP n.d.)
Infant mortality in West Java in 2014 was 52 per 1,000 live births, which exceeded the national rate of 32 per 1,000 live births. The number of infant mortality cases in West Java in 2012 was ranked third in Indonesia, namely 4,650 cases. Based on the results of the preliminary study, in 2014 the number of infant mortality cases increased to 4,967 cases. The number of perinatal deaths was 2,563 cases, of which the number of stillbirths was 1,055 cases while the number of early neonatal deaths was 1,508 cases. The number of deaths may change because it is possible that there are cases of deaths that are not recorded and reported at the health office. The causes of infant mortality were low birth weight 31%, asphyxia 27.3%, and others 20.1%, with the number of births in West Java in 2014 was 954,141 (DKPJ 2014)

Perinatal deaths in Cianjur Regency in 2015 were 109 babies who died aged 0-2 days, 28 babies who died 3-7 days, and stillbirths as many as 130 cases with a total death of 267 cases. The highest cause was due to asphyxia 48 cases, LBW 40 cases, congenital abnormalities 5 cases, sepsis 9 cases, prematurity 7 cases, breast milk aspiration 6 cases (DKK 2015)

Newborn mortality is now a major obstacle to further reducing child mortality. Some of the causes of newborn death can be overcome (U n.d.). 2/3 of the causes of perinatal death are from preventable causes. The causes of perinatal death are divided into two causes, namely preventable causes of death defined as one of the causes that are assessed directly related to the cause of death, in other words, if the causal factors can be prevented then the possibility of death will not occur. Unpreventable death is an unavoidable cause of death after making every effort to prevent it from happening (Merali et al. 2014)

The number of perinatal mortality cases in Cianjur Regency from year to year continues to show a decline, although in 2015 there was a slight increase and is still the largest contributor to infant mortality. The number of perinatal deaths in Cianjur district in 2013 was 303 perinatal deaths, in 2014 there were 242 perinatal deaths and in 2015 there were 267 perinatal deaths. Perinatal mortality control will contribute greatly to reducing infant mortality. The decrease in perinatal mortality in developing countries, including Indonesia, will be largely determined by the management of maternal health during pregnancy, before delivery, during delivery and after delivery. Several studies have proven that perinatal survival is also influenced by a number of factors including maternal characteristics, demographics and social conditions, maternal reproductive health history, infant health conditions and living environment conditions.

2. Methods

To examine the analysis of the factors causing perinatal mortality in Cianjur Regency, the research approach used is a mixed methods research approach with a sequential explanatory design type of research, which is characterized by data collection and quantitative data analysis in the first stage, followed by collection and analysis of qualitative data at a later stage in order to strengthen the quantitative results carried out in the previous stage

The population in this study was families who had stillborn babies at gestational age above 28 weeks and babies who died before the age of seven days in Cianjur Regency in 2015. The sample in this study was total sampling, that is, the entire population was sampled. The subjects in this study were families and health workers associated with perinatal mortality, the person in charge of disability and reporting in Cianjur Regency. While the objects in this study were all data on stillbirths at gestational age above 28 weeks and infants who died before the age of seven days and recorded at the Cianjur District Health Office, in the form of recapitulation of death data documents, AMP documents (maternal perinatal audit)/OVP (perinatal verbal autopsy).

Data collection techniques of data collection and analysis of quantitative data in the first stage (data in the form of secondary data taken from the 2015 perinatal verbal autopsy (OVP) at the Cianjur district health office, followed by qualitative data collection and analysis in the second stage (data in the form of data primary data obtained directly by means of in-depth interviews with families, health workers, those in charge of recording and reporting), in order to strengthen the results of the quantitative research conducted in the first stage. (TS 2015)

In this analysis, statistical tests were carried out, with the comparative hypothesis of two independent samples (nominal), using chi squared two samples or Fisher exact probability. The probability value (p) is used in statistical hypothesis testing. In testing the hypothesis, the

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significance limit is used. The limit of significance used is <0.05. If p<0.05 then statistically significant relationship (Sugiono 2015).

The study was conducted in Cianjur Regency, West Java Province, from November to December 2016. In this study, the selection of districts/cities that will be used as research sites uses a cluster technique based on the highest number of perinatal deaths in 27 districts/cities of West Java Province.

3. Results and Discussion

3.1 Result

TABLE 1
FREQUENCY DISTRIBUTION OF FACTORS CAUSING PERINATAL DEATH THAT CAN BE PREVENTED IN CIANJUR REGENCY IN 2015

No	Category	Amount	
		n	%
1.	Patient Factor	54	22,1
2.	Patient Factors, Health Workers	87	35,5
3.	Patient Factor, Referral	53	21,6
4.	Patient factors, health workers, health facilities	21	8,6
5.	Factors of Patients, Health Workers, Referrals	15	6,1
6.	Patient Factors, Health Facilities, Referrals	11	4,5
7.	Factors of Patients, Health Workers, Health Facilities, Referrals	4	1,6
	Total	245	100

Table 1. shows that perinatal mortality is caused by a single cause, namely the patient factor of 54 cases (22.1%) which includes maternal characteristics, delay in recognizing danger signs in pregnancy, delivery especially in cases of sick babies, high trust in paraji, delays in decision making and multifactorial causes, most of the factors are patient and health workers with 87 cases (35.5%) which include factors of health workers lack of counseling to patients, there are still very few postnatal follow-up visits, lack of competence in asphyxia handling care; referral factors include delays 1, 2 and 3 caused by factors of patients and health workers. To minimize the occurrence of asphyxia, most of which are caused by low birth weight, it is necessary to carry out close supervision during pregnancy. During pregnancy, pregnant women can use the module to prevent LBW (Ningsih 2021).

TABLE 2
ANALYSIS OF THE RELATIONSHIP OF FACTORS CAUSING PERINATAL DEATH IN CIANJUR REGENCY IN 2015

No	Variable	Perinatal Death				Mark *p*
		Can't be prevented		Can be prevented		
		n	%	n	%	
1.	Death period					
	Stillborn	17	12,5	119	87,5	0,303
	Early Neonatal	25	16,6	126	83,4	
2.	Mother's Age					
	<20 years or >35 years	11	11,6	84	88,4	0,529
	20-35 years old	31	16,1	161	83,9	
3.	Education					
	Base	30	12,2	215	87,8	0,003
	Intermediate	12	32,4	25	67,6	
	Tall	0	0	5	100	
4.	parity					
	1 or 4 children	25	17,7	116	82,3	0,145
	2 – 3 kids	17	11,6	129	88,4	
5.	Birth distance					
	<2 years	5	14,7	29	85,3	1,000
	2 years	37	14,6	216	85,4	
6.	ANC Kunjungan visit					
	<4 times	16	21,3	59	78,7	0,056
	4 times	26	12,3	186	87,7	
7.	Maternal comorbidities					

	Exist	6	23,1	20	76,9	0,240
	There is not any	36	13,8	225	86,2	
8.	Complications of pregnancy and childbirth					
	There are complications	17	11,3	133	88,7	0,098
	No complications	25	18,2	112	81,8	
9.	Infant comorbidities					
	at risk	34	20,5	132	79,5	0,001
	No risk	8	6,6	113	93,4	
10.	Place of death					
	House	11	12,6	76	87,4	
	BPM	0	0	5	100	0,515
	Poned	1	5,3	18	94,7	
	PRAYER	1	25	3	75	
	RS	28	16,4	143	83,6	
11.	Initial service place					
	House	24	16,2	124	83,8	
	BPM	10	9,9	91	90,1	0,332
	Poned	7	20,6	27	79,4	
	RS	1	25	3	75	
12.	Reference case					
	Not a Reference	13	13,8	81	86,2	0,788
	References	29	15,0	164	85,0	
13.	First assistant					
	Raji	6	11,5	46	88,5	
	tocologist	19	13,7	120	86,3	0,628
	doctor	16	17,0	78	83,0	
14.	The last helper					
	Raji	3	13,6	19	86,4	
	tocologist	17	12,1	124	87,9	0,491
	doctor	21	17,2	101	82,8	

The results of the statistical test in table 2. show that there are three variables related to perinatal mortality, namely there is a relationship between education, ANC visits, and infant comorbidities with preventable perinatal mortality, because it has a p≤a value of 0.05, while there are 11 variables that are not related or have no relationship with perinatal mortality with p>a 0.05.

3.2 Discussion

Table 1. shows that perinatal mortality was caused by patient and health worker factors of 87 cases (35.5%) which included maternal characteristics, delay in recognizing danger signs in pregnancy, delivery especially in cases of sick babies, high trust in paraji, delays in in decision making; factors of health workers, namely the lack of counseling to patients, there are still very few post-natal follow-up visits, lack of competence in asphyxia handling care; Referral factors include delays 1, 2 and 3 caused by factors of patients and health workers.

In table 4.2. based on the results of statistical tests, obtained 3 related variables, namely education, ANC visits, and infant comorbidities.

Maternal education is one of the risk factors for perinatal mortality. If you look at the data from this study, there are 85.4% (245 cases) with elementary school education (SD) and junior high school (SMP) which means 9 years of compulsory education that has not been completed. If it is associated with the mother as the perpetrator of childbirth and the parent of the child, this knowledge allows the mother to know and understand so that she can make the right decisions regarding the best ways for her child to give birth.

ANC visits can be a risk factor for perinatal mortality. If you look at the data from this study, there are 26.1% (75 cases) who are at risk. If seen, ANC is one way to be able to detect early deliveries that are at risk for complications or other birth risks that have an impact on the fetus. In pregnancy, the health of the mother giving birth and the fetus that is conceived cannot be separated. Almost every pregnant woman who has health problems will have an impact on the health of the fetus she contains. ANC can be used as an early detection measure for pregnant women.

Causes of infant comorbidities are one of the factors that have a causal relationship with perinatal mortality as evidenced by the results of statistical tests. The percentage of perinatal mortality contributed by causes of infant comorbidities with stillbirths was 136 cases (47.3%) and asphyxia was 56 cases (19.5%). Causes Concomitant infant disease can be caused by several factors,

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including a history of maternal pregnancy with complications, a history of births in which long labor and delivery with additional procedures, and a history of newborns such as birth trauma and prematurity. One respondent said that he had received a birth referral by a paraji, a patient with clinical signs that looked yellow all over his body who had to be referred to a hospital with a diagnosis of interikneonatorum (Kreamer V), but the family refused to be referred and asked to be treated at the puskesmas only, his condition was getting worse and finally died. This is an inappropriate decision making that causes death.

4. Conclusion

Based on the results of the study, there was a relationship between education, ANC visits, and infant comorbidities with perinatal mortality.

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