ANALYSIS OF CHARACTERISTICS OF INFANT DEATH RATE (2015-2019) IN UPTD PUSKESMAS JAPARA KUNINGAN DISTRICT, 2020

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Abstract

Infant mortality is a death incident that occurs in newborns up to <1 year of age. Infant mortality is measured as the infant mortality rate, which is the number of deaths for children under 1 year of age per 1000 births. According to WHO, the infant mortality rate in Indonesia reaches 27/1000 live births. Based on the health profile of West Java, the number of infant deaths in 2017 reached 3.4 / 1000 live births. In the UPTD Puskesmas Japara there are 34 cases of infant mortality. Infant mortality is caused by several factors, including maternal age, education, birth attendants, and parity. The research objective was to determine the analysis of the characteristics of the incidence of infant mortality in 2015-2019 at the UPTD Puskesmas Japara, Kuningan Regency.

The research method used was quantitative with a retrospective design, taken from secondary data 2015-2019, the population in the study was all infant deaths in the UPTD Puskesmas Japara, amounting to 34 people. Selection of a sample of 34 people using the total sampling technique. The statistical test technique uses the Chi Square test.

The results showed that there was a relationship between parity (p-value = 0.006) and there was no relationship between maternal age (p-value = 0.129), education (p-value = 0.156), birth attendants (p-value = 0.781) and death. babies in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency.

It can be concluded that the incidence of infant mortality occurs in some mothers with no risk age, some mothers with primary education, some mothers with multiparity parity. Suggestions for health centers are expected to increase the priority of health programs in an effort to reduce the incidence of infant mortality.

Key words: Infant mortality, age, parity, education, birth attendant.

Introduction

Population development both in quality and quantity is influenced by many factors, one of which affects population development is the level of mortality. Infant mortality is one of the three demographic components in addition to fertility and migration which affects the number, structure and composition of the population of an area. Apart from influencing the total population structure and composition, the mortality rate is also used as an indicator related to the degree of health and human development. Increasing the degree of health is carried out by reducing the mortality rate, especially infant mortality, maternal mortality and under-five mortality rates (Wijayanti, 2017)

Public health status indicators in general can be seen from (Siti Malati. Umah, 2014):

1. Life expectation.
2. Infant and under-five mortality rates are decreasing.
3. Low birth babies: babies born to mothers weighing 2500 grams or less are around 14% are expected to decrease to a maximum of 7% in the future
4. Morbidity.

Infant mortality is death that occurs in infants either in the womb or outside the womb or after the baby is born. Infant Mortality Rate (IMR) is the number of infant deaths within the first 28 days of life per 1000 live births. The infant mortality rate according to WHO (World Health Organization) in ASEAN (Association of South East Asia Nations) countries such as in Singapore 3 per 1000 live births, Malaysia 5.5 per 1000 live births, Vietnam 18 per 1000 live births, and Indonesia 27 per 1000 live births. 1000 live births (Kemeskes RI, 2016). According to the SDGs (Sustainable Development Goals) 2015 to 2030, the number of neonatal deaths will be reduced to 12 per 1,000 live births (Kementrian Kesehatan RI, 2014).

Until now, IMR is still the highest cause of the total number of children under five who died in the first 5 years of life and from the last report, IMR is still 32 deaths per 1000 live births (UNICEF, 2001). Through the Decree of the Minister of Health of the Republic of Indonesia Number HK.02.02/MENKES/52/201 concerning the Strategic Plan of the Ministry of Health for 2015-2019, one of the goals of health indicators is to reduce infant mortality from 32 to 24 per 1000 live births (Kemenkes, 2015).

Based on the health profile of West Java, the number of infant deaths in 2017 reached 3.4 / 1000 live births (Dinas Kesehatan Provinsi Jawa Barat, 2017).

Some of the results of research related to neonatal mortality are Mahampang, 2010, which states that the risk factors associated with the incidence of perinatal mortality in Batang Regency are maternal education, maternal knowledge, parity, LBW, asphyxia, and congenital abnormalities (Mahampang, 2011).

According to (Kurniawan, 2018) states that maternal factors (age, parity, complications in pregnancy and childbirth), midwife factors (midwife knowledge and skills of midwives), and infant factors (gestational age, birth weight, and other complications) in infants are all related significant towards neonatal mortality.

In research (Tjahjowati, 2019) education of mothers, some who experience neonatal mortality are elementary and junior high school education by 68 (75.6%) compared to

mothers who have high school and academy education by 22 (24.4%). The behavior and knowledge of better health among highly educated mothers. The higher the level of education, the easier it is to receive the information received.

Based on research (Tjahjowati, 2019) stated that neonatal mortality occurred mostly in primigravida and grandemultipara at 37 (41.1%) compared to neonatal mortality that occurred in multigravida 53 (58.9%). The optimal pregnancy is the second to the fourth pregnancy.

Primiparous and grandemultipara mothers have many risk factors for neonatal death. This will be even worse in cases with short gestation intervals.

Based on the data that the researchers obtained from the Japara Health Center regarding the incidence of IMR during a period of 5 years, namely from 2015-2019. In 2015 there were 7 cases of infant mortality, in 2016 as many as 6 cases, in 2017 as many as 4 cases, in 2018 as many as 7 cases, while in 2019 there were 11 cases with various causes of death and the highest incidence of infant mortality occurred in 2019, namely As many as 11 cases, some of the factors that will be analyzed by researchers include maternal age mother's education, parity and birth

level of education is closely related to the level of health. This is due to the attendants. The purpose of this study was to analyze the characteristics of the incidence of infant mortality rates in 2015-2019 at Japara Health Center.

Method

This type of research is analytic research, analytical survey is a survey or research that tries to explore how and why health phenomena occur according to (Notoatmodjo, 2012)

The research design in this study is retrospective, which means it is a study that concerns how risk factors are studied using a retrospective approach (Badriah, 2012).

The sample in this study is all cases of AKB incidence from 2015-2019 in UPTD Puskesmas Japara Kuningan Regency as many as 34 people. Sampling in this study used the total sampling technique, the independent variable in this study were characteristics (maternal age, education, parity, birth attendant), while the dependent variable in this study was the incidence of infant mortality.

The instrument in this study was a check list sheet by means of measuring to see reports of infant mortality

Results

Univariate Analysis

1. Description of maternal age in 2015-2019 at Japara Public Health Center, Kuningan District in 2020

Table 1. Distribution of Maternal Age Frequency 2015-2019 at UPTD Puskesmas Japara Kuningan Regency in 2020

Usia Ibu	Frekuensi (F)	Persentase (%)
Tidak Beresiko	19	55,9
Beresiko	15	44,1
Total	34	100

Source: 2020 research results

Based on the table above, it can be seen that 34 people mostly have no risk category as many as 19 people (55.9%)

2. of education 2015-2019 at the Japara Public Health Center, Kuningan Regency in 2020.

Table 2. Distribution of Education Frequency in 2015-2019 at UPTD Puskesmas

Japara Kuningan Regency in 2020

Education	Frequency (F)	Percentage (%)
primary school	23	67,6
Junior high school	5	14,7
Senior High School	5	14,7
College	1	2,9
Total	34	100

Source: 2020 research results

Based on the table above, it can be seen that 34 people mostly have education in the SD category as many as 23 people (67.6%).

3. Descriptions of childbirth assistants in 2015-2019 at Japara Public Health Center, Kuningan Regency in 2020

Table 3. Distribution of Delivery Assistance Frequency in 2015-2019

at UPTD Puskesmas Japara Kuningan Regency in 2020

Childbirth Helper	Frequency (F)	Percentage (%)
health workers	33	97,1
not a health worker	1	2,9
Total	34	100

Source: 2020 research results

Based on the table above, it can be seen that almost all deliveries were assisted by health workers, as many as 33 people (97.1%).

4. Portrait of Parity in 2015-2019 at the Japara Health Center, Kuningan Regency in 2020

Table 4. Distribution of Parity Frequency in 2015-2019 at UPTD Japara Health Center, Kuningan Regency in 2020

Parity	Frequency (F)	Percentage (%)
Primipara	12	35,3
Ultiparous	22	64,7
Total	34	100

Source: 2020 research results

Based on the table above, it can be seen that 34 people were mostly parity in the multiparous category of 22 people (64.7%).

5. Description of the incidence of infant mortality in 2015-2019 at Japara Public Health Center, Kuningan District in 2020

Table 5. Distribution of Frequency of Infant Mortality in 2015-2019 at Puskesmas Japara, Kuningan Regency in 2020

Infant Death	Frequency (F)	Percentage (%)
IUFD	12	35,3
low newborn	8	23,5
congenital abnormalities	2	5,9
Premature	1	2,9
Asphyxia	1	2,9
Etc	10	29,4
Total	34	100

Source: 2020 research results

Based on the table above, it can be seen that most of the 34 people who died were caused by IUFD as many as 12 people (35.3%).

Bivariate Analysis
1. The relationship between maternal age and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency in 2020

Table 6. The relationship between maternal age and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency in 2020

Age	Infant Death												Total		P value
	IUFD		low newborn		congenital abnormalities		Premature		Asphyxia		Lain-lain		Total		P value
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	
Risk	6	31,6	7	36,8	0	0	0	0	0	0	6	31,6	19	100	0,129
Not risk	6	40	1	6,7	2	13,3	1	6,7	1	6,7	4	26,7	15	100	

Source: 2020 research results

Based on the table above, it is known that the age of the mother is not at risk of experiencing the incidence of infant death caused by IUFD as many as 6 people (31.6%), LBW by 7 people (36.8%), and other causes as many as 6 people (31, 6%).

The results of statistical tests using the Chi Square test on a computer program obtained an insignificant value, namely 0.129> P value 0.05, it can be concluded that there is no relationship between maternal age and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency.

2. The relationship between education and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency in 2020.

Table 7. The relationship between education and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency in 2020

Education	Infant Death												Total		P Value
	IUFD		BBLR		congenital abnormalities		Prematur		Asfiksia		Etc		Total		P Value
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	
primary school	10	43,5	4	17,4	0	0	1	4,3	0	0	8	34,8	23	100	
Junior high school	0	0	3	60	1	20	0	0	1	20	0	0	5	100	0,156
Senior high school	1	20	1	20	1	20	0	0	0	0	2	40	3	100	
College	1	100	0	0	0	0	0	0	0	0	0	0	1	100	

Source: 2020 research results

Based on the table above, it is known that mothers who experience infant mortality with primary school education caused by IUFD are 10 people (43.5%), LBW is 4 people (17.4%), premature 1 person (4.3%) and causes others as many as 8 people (34.8%).

The results of statistical tests using the Chi Square test on a computer program obtained an insignificant value, namely 0.156> P value 0.05, it can be concluded that there is no relationship between maternal education and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency.

3. The relationship between birth attendants and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency in 2020

Table 7. The relationship between birth attendants and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency in 2020

health workers	Infant Death												Total		P value
	IUFD		BBLR		congenital abnormalities		Prematur		Asphyxia		Lain-lain				
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	
health workers	12	36,4	8	24,2	2	6,1	1	3,0	1	3,0	10	27,3	33	100	0,781
not a health worker	0	0	0	0	0	0	0	0	0	0	1	100	1	100	

Source: 2020 research results

Based on the table above, it is known that the birth attendants by health workers were 33 people with the cause of death of IUFD as many as 12 people (36.4%), BBLR as many as 8 people (24.2%), congenital abnormalities as many as 2 people (6.1%), premature 1 person (3.0%), 1 person asphyxia (3.0%), and other causes as many as 10 people (27.3%).

The results of statistical tests using the Chi Square test on a computer program obtained a P value of 0.781> a P value of 0.05 so that there is no relationship between birth attendants and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency.

4. The relationship between parity and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency in 2020.

Table 9. The relationship between parity and the incidence of mortality babies in 2015-2019 at UPTD Puskesmas Japara Kuningan Regency in 2020

Parity	Infant Death												Total		P value
	IUFD		BBLR		Kel.kongenital		Prematur		Asfiksia		Lain-lain				
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	
Primi para	8	66,7	0	0	1	8,3	1	8,3	1	8,3	1	8,3	12	100	
Multiparous	4	18,2	8	36,4	1	4,5	0	0	0	0	9	40,9	22	100	0,006
Grande multiparous	0	0	0	0	0	0	0	0	0	0	0	0	0	100	

Source: 2020 research results

Based on the table above, it is known that Multipara mothers who experienced infant mortality incidence caused by IUFD were 4 people (18.2%), LBW was 8 people (36.4%), 1 person (4.5%) congenital abnormalities, and causes others as many as 9 people (40.9%).

The results of statistical tests using the Chi Square test on a computer program obtained a significant value, namely 0.006> P value 0.05, it can be concluded that there is a relationship between parity and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency.

Discussion

1. The relationship between maternal age and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara Kuningan Regency in 2020

The results of statistical tests using Chi square obtained P value 0.129> 0.05 P value, it can be concluded that there is no relationship between maternal age and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara Kuningan Regency in 2020, the results of this study are not In line with research conducted by Budiati (2016), it shows a relationship between maternal age and infant mortality.

According to (Mahampang, 2011), Maternal age that is not related to infant mortality is because pregnant women at the age of <20 years or> 35 years routinely check their pregnancies at health facilities and are diligent in seeking information, either consulting village midwives or reading books about pregnancy, so the risks associated with the incident infant mortality between <20 years or> 35 years with the same age group 20-35 years.

The difference in this study is due to differences in the characteristics

of respondents as well as geographic location, socio-culture around which can affect the incidence of infant mortality in UPTD Puskesmas Japara, Kuningan Regency.

2. The relationship between education and the incidence of infant mortality in

2015-2019 at UPTD Puskesmas Japara, Kuningan Regency in 2020

The results of statistical tests using Chi quare obtained a P value of 0.156> a P value of 0.05, it can be concluded that there is no relationship between education and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara Kuningan Regency in 2020.

The results of this study are different from the results of research conducted by Mahampang (2011) which shows a P value of 0.006 <0.05 where Ha is accepted, meaning that there is a relationship between education and the incidence of infant mortality.

According to (Umah, 2014), said that although the results of the statistical analysis of his research did not find any relationship between maternal education and infant mortality, in his research it was found that the number of neonatal deaths was higher in mothers with low education.

In another study, it was found that mothers who did not experience education tended to live more in areas with a travel time of more than 1.5 hours to health service facilities compared to mothers with education. (Umah, 2014) This will be exacerbated by the problem of travel time to low-educated maternal health services.

This is not in accordance with the theory which states that mothers with low education have a high risk of infant

mortality, due to other factors such as the limitations of researchers in collecting secondary data for research.

3. The relationship between birth attendants and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, Kuningan Regency in 2020.

The results of statistical tests using Chi Square obtained a P value of

0.781> a P value of 0.05, it can be concluded that there is no relationship between birth attendants and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara Kuningan Regency in 2020.

The results of this study are supported by (Kurniawan, 2018) that research conducted on 75 respondents who gave birth at the Boyolali Health Center showed a P value of 1,000> 0.05 where Ha was rejected, meaning that there was no relationship between birth attendants and the incidence of infant mortality.

Birth attendants need special skills in obstetric care. Delivery will take place safely and smoothly if it is carried out by a professional health worker. Deliveries that are assisted or accompanied by health personnel are considered to meet the requirements of sterilization and are safe, because if the mother experiences complications of childbirth, then first aid or treatment at referral can be immediately carried out (Mahampang, 2011).

4. The relationship between parity and the incidence of infant mortality in 2015-2019 at the UPTD Puskesmas Japara, Kuningan Regency in 2020.

The results of statistical tests using Chi Square obtained a P value of

0.006 <P value 0.05, it can be concluded that there is a relationship between parity and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara Kuningan Regency in 2020.

Parity is the number of live births a woman has (BKKBN, 2016). According to (Kurniawan, 2018) parity can be divided into primiparous, multiparous, and grandemultipara.

The results of this study are in accordance with the research conducted (Kurniawan, 2018) shows that there is a relationship between parity and infant mortality.

The results of this study indicate that mothers with parity of more than 1 have a risk of incidence of the same infant mortality rate as mothers who have parity of 1 child because according to (Kementrian Kesehatan, 2012) quoted by (Umah, 2014) High parity is related to the weakening of the mother's uterus due to stretching of the uterus due to the presence of the fetus.

Conclusion

The results of the research that have been carried out are some mothers who are not at risk, some of the mothers' education is elementary school, almost all deliveries are assisted by health personnel, and some mothers have multiparity parity, and there is no relationship between maternal age and the incidence of infant mortality in 2015-2019. At UPTD Puskesmas Japara, Kuningan Regency in 2020 there is also no relationship between education and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara, there is no relationship between birth attendants and the incidence of infant mortality in 2015-2019 at UPTD Puskesmas Japara.

There is a relationship between parity and the incidence of infant mortality in 2015-2019 at the UPTD Puskesmas Japara, Kuningan Regency in 2020.

Suggestion

This research is expected to be used as input for health centers to increase the priority of health programs in an effort to reduce the incidence of infant mortality.

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