Characteristics overview of mother with perinatal death at Dr. Soetomo Hospital in 2015

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ABSTRAK

Tujuan: mengetahui distribusi frekuensi kematian perinatal dan gambaran karakteristik ibu ditinjau dari umur, paritas, usia kehamilan dan komplikasi kehamilan di RSUD Dr.Soetomo Surabaya tahun 2015.
Bahan dan Metode: Penelitian deskriptif dengan mengumpulkan data pasien yang mengalami kematian perinatal pada bayi yang lahir dari Januari hingga Desember 2015 di RS Dr. Soetomo, Surabaya. Teknik sampling yang digunakan adalah total sampling. Sampel dalam penelitian ini harus memenuhi kriteria: ibu dari bayi dengan kematian perinatal di Rumah Sakit Dr. Soetomo mulai Januari hingga Desember 2015.
Hasil: Dari hasil penelitian terdapat 206 kematian perinatal dari 1018 kelahiran di RSUD Dr. Soetomo Surabaya selama tahun 2015, dimana 58% di antaranya lahir hidup dan 42% lahir mati. Sebagian besar kematian perinatal dijumpai pada usia kehamilan preterm yakni sebanyak 78%, dimana terbanyak pada usia kehamilan 28-< 37 minggu (58%). Kematian perinatal terbanyak pada bayi dengan berat badan lahir kurang dari 1500 gram, yakni sebanyak 53% dari seluruh kematian perinatal dan bayi dengan berat badan lahir 1500-2500 gram sekitar 29%. Kematian perinatal terbanyak dijumpai pada multigravida (54%) dan pada bayi dengan ibu yang mengalami komplikasi kehamilan preeklampsia (35%), diikuti kematian bayi pada ibu dengan komplikasi non obstetri (23%).
Simpulan: Kematian perinatal di RSUD DR Soetomo terutama terjadi pada wanita multigravida, usia 16-35 tahun, usia kehamilan 28-37 minggu, dan mengalami komplikasi preeklamsia.

Kata Kunci: kematian perinatal, umur, usia kehamilan, paritas, komplikasi ibu

ABSTRACT

Objectives: to determine the frequency distribution of perinatal mortality and maternal characteristic features in terms of age, parity, gestational age and pregnancy complications in Dr.Soetomo Hospital Surabaya in 2015.
Materials and Methods: A descriptive study conducted by collecting data on patients who experienced perinatal mortality of infants born from January to December 2015 in Dr. Soetomo, Hospital Surabaya. Samples were collected using total sampling. The samples must meet the following criteria: mothers of infants with perinatal mortality in Dr. Soetomo Hospital, Surabaya, from January to December 2015.
Results: There were 206 perinatal deaths out of 1018 births in Dr. Soetomo during 2015, of which 58% was live birth and 42% was stillbirth. Most of perinatal mortality found in the preterm gestational age as much as 78%, and gestational age 28-<37 weeks (58%). Most of perinatal mortality occured in infants with less than 1500 grams birth weight, which was as much as 53% of all perinatal deaths and infant whose birth weight from1500 to 2500 grams was about 29%. Most perinatal mortality found in multigravida (54%) and in infants whose mothers experienced preeclampsia in pregnancy complications (35%), followed by infant mortality in women with non-obstetric complications (23%).
Conclusion: Perinatal mortality in Dr. Soetomo Hospital was mostly found in multigravida mothers, 16-35 years old maternal age, 28-37 weeks gestational age and those with complications of preeclampsia.

Keywords : perinatal death, age, gestational age, parity, maternal complications

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INTRODUCTION

Infant Mortality Rate (IMR) is an indicator of the welfare of a nation that reflects the level of public health concern. Reducing infant mortality is one of the Millennium Development Goals (MDG's) 2015 to reach 23 per 1,000 live births. Every year eight million babies are estimated stillborn or die within the first month of life. Most of these deaths occur in developing countries. According to WorldHealth Organization (WHO), the risk of death in developing countries in the neonatal period is greater than in developed countries, which is 10 times higher than in developed countries. Efforts to reduce IMR and achieve the MDG's targets will not be possible without a reduction in perinatal mortality rate.[1]

In Indonesia, the infant mortality rate is still relatively high. Based on data from Indonesian Demographic and Health Survey (IDHS) in 2012, the infant mortality rate was 32 deaths per 1,000 live births. 2According to data from the Basic Health Research in 2007, the cause of perinatal 0-7 days mortality mostly was respiratory disorders (35.9%), prematurity (32.4) and sepsis (12%). Meanwhile, according to Sarimawar Djaja (2003) about the characteristics of the mother before and during pregnancy, neonatal deaths occur in women in 20-39 years age group ,delivered the first child and whose maternal parity 3 and above. While 7.5% neonatal mortality occured in mothers who experienced health problems while pregnant, especially pregnant women with anemia.[3]

Based on the description above, researchers had interest in researching maternal factors associated with perinatal mortality, especially age, parity, gestational age and pregnancy complications. The author chose Dr. Soetomo for research on a variety of considerations. Besides being a referral center and education, Dr. Soetomo is also the largest hospital in East Java and the surrounding area. With its function as a government hospital, Dr. Soetomo serves patients of all aspects of society. Thus it is expected to represent samples taken for research purposes.

MATERIALS AND METHODS

This research is a descriptive study conducted by collecting data of patients who experienced a perinatal mortality in infants born from January-December 2015 in hospitals Dr.Soetomo. The sampling technique used is total sampling. The sample in this study had to meet the criteria; mothers of infants with perinatal mortality in Dr. Soetomo Hospital commencing from January to December 2015 in Dr. Soetomo Hospital.

The variables of this research were maternal age, parity, gestational age and pregnancy complications suffered by the mother. The data analysis is further processed by univariate analysis, done by making the tabulation in the form of tables, images and narration. As an operational definition, the perinatal mortality is the number of stillbirths plus early neonatal deaths. Stillbirth is the birth of the conception in a state of death at 20 weeks upwards or birth weight above 500 grams. Early neonatal death is the death of live-born infants in the first 7 days after birth. Age is a time unit that measures the time of any object or creature that is measured in units of years since the patient was born. Parity is the number of children who have been born by a mother both born alive or stillborn. The gestational age is a measure of the length of time a fetus is in the uterus whereas the pregnancy complications are health problems that occur in the mother or fetus during pregnancy.

RESULTS AND DISCUSSION

In Dr. Soetomo Hospital from January-December 2015 there were 206 perinatal deaths out of 1018 births in Dr. Soetomo Hospital in other words, the perinatal mortality rate in Dr. Soetomo Hospital 2015 was approximately 202.4. It is quite high when compared to the perinatal mortality rate reported in some teaching hospitals in Indonesia, which ranged from 77.3 to 142.2 per 1000 births. Perinatal mortality is death occurring at 20 weeks up to 7 days after birth including late fetal deaths and early neonatal mortality. Problems of newborns are closely related to the mother's health problems. Although the diagnosis and cause of death of mother and baby is different, but the underlying cause of death is about the same, namely the inability in the early detection of pregnancy problems and lack of access to care of mother and newborn.[4]

Age of mother during pregnancy affects the fetus development in the womb. Pregnancy that is too young or too old or over 35 years old are at greatest risk even can causedeath of the fetus.[5] However, in cases of perinatal mortality in Dr. Soetomo that can be seen from Table 2, the greatest perinatal deaths occured in women with productive age of 20-35 years (73%). This may occur because of other factors that affect the incidence of preterm labor in addition to the age of the mother, such as preeclampsia, premature rupture of membranes, a disease that can trigger preterm labor, such as other non-obstetric diseases, as well as maternal nutrition.[6]

Table 1. Frequency distribution of perinatal mortality

Period	Birth	Stillbirth	Early Neonatal Death	Perinatal death	Perinatal Mortality Rate
2015	1018	87	119	206	202.4

Table 2. The frequency distribution of perinatal deaths by age of mother

Mother's age	Stillbirth		Born alive		Total	
	N	%	N	%	n	%
<16 yrs	2	2%	2	2%	4	2%
16-35 yrs	61	70%	89	75%	150	73%
> 35 yrs	24	28%	28	24%	52	25%
Total	87	100%	119	100%	206	100%

Table 3. Frequency distribution of perinatal mortality based on maternal parity

Parity	Stillbirth		Born alive		Total	
	N	%	N	%	N	%
Primigravida	35	40%	46	39%	81	39%
Multigravida	47	54%	65	55%	112	54%
Grandemulti	5	6%	8	7%	13	6%
Total	87	100%	119	100%	206	100%

Table 4. Frequency distribution of perinatal mortality based on gestational age

Pregnancy Age	Stillbirth		Born alive		Total	
	N	%	N	%	N	%
<28 wk	19	22%	22	18%	41	20%
28-37 wk	43	49%	77	65%	120	58%
37-40 wk	20	23%	17	14%	37	18%
> 40 wk	5	6%	3	3%	8	4%
Total	87	100%	119	100%	206	100%

The younger the age of first time pregnancy, the greater the risk. At teen age mothers are still in growth, the event of pregnancy will affect her fetus. This is because you still need calories for growth. Beside that, the physical condition of the uterus and pelvis have not been optimally developed thus increasing the risk of morbidity and mortality in pregnancy, childbirth and the baby. Pregnancy with maternal age over 35 years tends to have a degenerative disease. Physically decreased maternal health conditions affect the state of the uterus and vascularization in the uterus area and increase medical complications in pregnancy and childbirth.[5]

Based on this research, there was 6% perinatal mortality in mothers with grandemultiparity. These data differ from previous researches stating that grandemulti had higher risk of neonatal death. Grandemulti mothers and fetus were at risk of health problems. This is due to the decreasing of physiological and reproductive function in general. The vascularity decreased, as degeneration in the scar of placental implantation onthe wall of the endometrium caused nutritional deficiencies and oxy-genationof the conception that can trigger premature labor.[6] The risk of early neonatal death can also be found in infants who were born to mothers with primigravida, because of the pelvis tissue stiffness and low knowledge of pregnancy and childbirth.[7]

During 2015, in Dr. Soetomo the highest perinatal mortality in infants were found in gestational age below 37 weeks (78%). This supports another research con-ducted by Ponkapadang (2014) which found that 75% of perinatal mortality was caused by prematurity. This is because premature babies tend to have difficulty to adapt to life outside the womb due to the immaturity of organ systems.[8]

Based on Table 5, the perinatal mortality in Dr. Soe-tomo was the greatest in infants with birth weight <1500 g (53%) followed by 1500-2500 grams birth weight (29%). This means that perinatal mortality in Dr. Soetomo Hospital Surabaya in 2015 was mostly found on infant with <2500 gram birth weight which was about 82% of the subjects. Infants with <2500 g birth weight were at risk of perinatal death due to imperfect organ function and unstable body condition. Those babies require neonatal intensive care.

The need for training of health care workers in anticipa-tion of an increase in the perinatal mortality rate due to preterm birth and low birth weight, such as indication of a referral should already considered since the baby still in the womb. Actions and treatments of high-risk pregnancy or childbirth complications will greatly affect the survival and quality of child develop-ment in the future if the child is spared from death in the neonatal period.

One of the factors associated with perinatal death was complications of pregnancy of the mother. According to Table 6, perinatal mortality was mostly found in infants whose mothers experienced preeclampsia (35%), fol-lowed by non-obstetric complications, premature rupture of membranes and PPI.

Table 5. Distribution of the frequency of perinatal mortality based oninfants' birth weight

Birthweight	Stillbirth		Born alive		Total	
	N	%	N	%	N	%
<1500 gr	42	48%	67	56%	109	53%
1500-2000 gr	15	17%	25	21%	40	19%
2000-2500 gr	7	8%	14	12%	21	10%
> 2500 gr	23	26%	13	11%	36	17%
Total	87	100%	119	100%	206	100%

Table 6. Distribution of the frequency of perinatal mortality based maternal complications of pregnancy

Pregnancy age	Stillbirth		Born alive		Total	
	N	%	N	%	N	%
PE	32	37%	41	34%	73	35%
PROM	9	10%	35	29%	44	21%
PPI	16	18%	18	15%	34	17%
Non Obstetrics	25	29%	23	19%	48	23%
Not clear	5	6%	2	2%	7	3%
Total	87	100%	119	100%	206	100%

Notes: PE: Preeclampsia; PROM: Membranes Premature Rupture of the Membrane; PPI: Partus Prematurus Imminens

To prevent perinatal deaths caused by preeclampsia early diagnosis of preeclampsia in pregnant women and prevention of the progression to further complications are needed. Antenatal examination is required on a regular basis and integrated with attention to the risk factors for preeclampsia; weight gain, increased blood pressure, and proteinuria in urine examination. The efforts to improve neonatal health cannot be separated from the efforts to improve maternal health, improvement of the quality of human life is influenced by the quality of human since inside the womb, being born and in their growth and development.

CONCLUSION

Efforts to reduce IMR and achieve the Millennium Development Goals (MDGs) for children who were born alive would not be possible without a decrease in the numbers of perinatal mortality. Perinatal mortality rate was 202.4 per 1,000 live births in Dr. Soetomo. Perinatal Mortality in Dr.Soetomo hospital was mostly found in these maternal characteristics; multigravida, 16-35 years oldmaternal age, 28-37 weeks gestational age and women with complications of preeclampsia.

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