

Maternal Mortality in Mojokerto District: 2017

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Abstract

Maternal mortality reflect the population health and quality of live accros nation. Maternal mortality defined as the death of a women while pregnant or within 42 days of termination of pregnancy (Chalid, 2017). According IDHS 2012, maternal mortality rate in Indonesia increased by 359 per 100.000 live births. This study conducted to describe the number of maternal mortality and maternal mortality causing factors in Mojokerto District in 2017.

The descriptive epidemiology study among 47 women who died during pregnancy, giving birth, and puerperium in 2017. Secondary data was collect from moratlity report and descriptive statistic was carry out to analize the data.

The maternal mortality number in Mojokerto regency in 2017 was 29 and MMR were 174 per 100,000 live births. The main influencing factors of maternal mortality were post partum hemorrhage, preeclampsia/eclampsia and other causes. The age of maternal mortality highest between aged 20-35 years and mostly occur at referral hospitals.

Keywords: Maternal mortality, causative factors

1. Introduction

Improving maternal health is the priority of Indonesian government. Many programs have been made to improve maternal health. Quality of maternal and child health reflect the status of population health and quality of life accros nations. A qualified generation will be born form healthy mother. However, Maternal Mortality Rate (MMR) in Indonesia is still high. Depites the progress made toward reduction in MMR since past thirty years, but many women still die during and following pragnancy and chilbirth. So it need cooperation of many parties, in-depth problem assessment, and specific program to achieve a lower in maternal mortality.

Maternal mortality defined as the death of a women while pregnant or within 42 days of

termination of pregnancy (Chalid, 2017) (Chalid, 2017). Based on World Health Organization (WHO) as many as 830 pregnant and childbirth women die every day. The overwhelming majority of maternal deaths each year occur in developing country such as Africa, Haiti, Guyana, Bolivia, Nepal, Myanmar, India and Indonesia (Nurizka and Wahyono, 2018).

In 1990 to 2013 the East Asia region, South Asia and North Africa has reduced MMR by 65%, 64% and 57%. Sub Saharan Africa has reduced MMR by 49%, approximately 3.6% decrease in maternal mortality rate every year. It is still far below the 5.5% annual decline required for achieving the 2015 Millennium Millennium Development Goals (MDGs) (Maro, el, 2016). Whereas from the MDGs baseline which began in 1990, Indonesian MMR is

actually better than some other countries in the Asian region. In 1990, MMR in Indonesian was 390 per 100,000 live births, lower than Cambodia, Myanmar, Nepal, India, Bhutan, Bangladesh and Timor Leste.

According the IDHS 2012, there was an increase in MMR by 359 per 100,000 live births compared to Cambodia (208 per 100,000 live births), Myanmar by 130 per 100,000 live births, Nepal by 193 per 100,000 live births, India by 150 per 100,000 live births, Bhutan is 250 per 100,000 live births, Bangladesh is 200 per 100,000 live births. The Sustainable Development Goals target, by 2030, all countries should reduce MMR in 70 per 100,000 live births it will be very difficult for Indonesia to achieve the global average MMR target (Saputra and Nurizka, 2015).

Maternal mortality rates in East Java have increased in 5 years, 83 per 100,000 live births in 2008; 90.7 per 100,000 live births in 2009; 101.4 per 100,000 live births in 2010; 104.3 per 100,000 live births in 2011; and 97.43 per 100,000 live births in 2012. Therefore this situation need immediate intervension to reduce high level of MMR. The objective of this study was to describe the number of maternal mortality and maternal mortality causing factors in Mojokerto District in 2017.

Methods

This type of research was descriptive epidemiology research with a quantitative approach. The research variables were maternal mortality and maternal mortality causing factors in mojokerto in 2017. The sample size was 29. The criteria used for sampling consist of inclusion and exclusion criteria. The inclusion criteria were mothers who died in the Mojokerto District caused by pregnancy or childbirth related complication during January – December 2017. Exclusion criteria were women who died during and following pregnancy and childbirth caused by accidents. Researchers collected data using

secondary data with a check list as a research instrument. Data processing techniques include editing, coding, sorting, data entry, cleaning data, tabulating. Data is analyzed using univariate analysis.

Results

In 2017, 29 women die during pregnancy and childbirth and MMR was 174 per 100,000 live births (Figure 1). According the data, the highest maternal mortality occur on January and July.

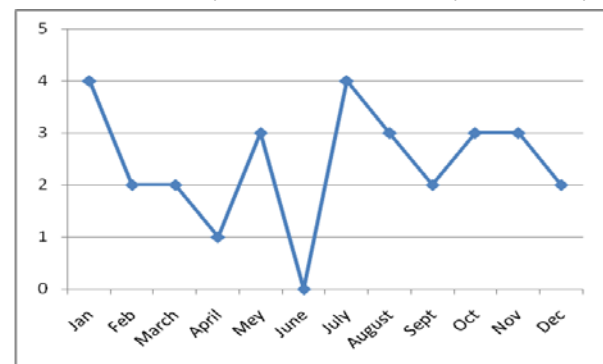


Figure 1. Trend of maternal mortality at Mojokerto district, 2017

Table 1. Age, Period, and place of maternal mortality in Mojokerto, 2017

Respondent	%
Age (years)	
< 20	3,4
20 – 35	86,2
>35	10,4
Period	
Pregnancy	6,9
Labor	10,3
Puerperium	82,8
	100,0
Place	
General Hospital	
Private Hospital	48,3
PHC	34,5
Patient's home	3,4
Journ	6,9
	6,9

From the above data, we found mostly maternal mortality occurred during puerperium and showed maternal mortality had occurred at general hospital (48,3%).

Maternal mortality in Mojokerto district in 2017 caused by Post partum hemorrhage (10%), Pre-eclampsia/ eclampsia (35%) and other causes (55%). Other causes include sepsis, heart disease, chronic kidney failure, cancer, tuberculosis, embolism and others (figure 2).

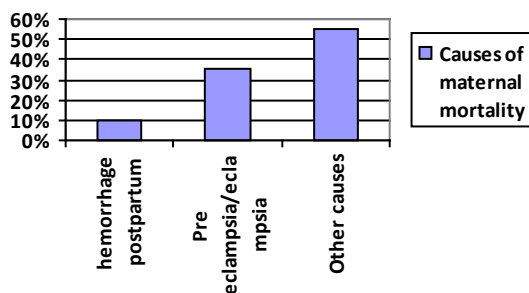


Figure 1. Causes of maternal mortality at Mojokerto district, 2017

Discussion

This study showed maternal mortality in Mojokerto in 2017 was 174 per 100,000 live births. Most causes of maternal mortality was due to postpartum hemorrhage, preeclampsia/eclampsia and other causes. Maternal mortality mostly occurred during puerperium and in the general hospital.

According to research by Bauserman *et al*, 2015 that maternal mortality rates are associated with several factors including low maternal education, irregularity in prenatal visits, delivery with cesarean section, hemorrhage and hypertension. Post partum hemorrhage is one of the main causes of maternal mortality. The estimated level of blood loss for the diagnosis of postpartum haemorrhage, which is a vaginal birth case, has an estimated blood loss amount ≥ 500 mL, and loses ≥ 1000 mL of blood in Sectio Caesarea (SC). Risk factors associated with the incidence of postpartum hemorrhage include

maternal characteristics (maternal age, gravida, parity, smoker, drug use etc), obstetric history, complications of pregnancy and uterine atony (Lisonkova *et al*, 2016). According to research Nyfløt *et al*, 2017 that in general the etiology of post partum hemorrhage is uterine atony and placental abnormalities, with the most dominant risk factor is a history of post partum hemorrhage in a previous pregnancy, taking anticoagulant medication, anemia of pregnancy, assisted reproductive technology, uterine fibroma, multiple pregnancy and severe pre-eclampsia or HELLP syndrome.

Pre-eclampsia is defined as the condition of a pregnant woman with high blood pressure (systolic 140 mmHg or diastolic 90 mmHg, or an increase in systolic 30 mmHg or 15 mmHg diastolic) at ≥ 20 weeks gestation and proteinuria (< 300 mg/day). Diagnosis of pre eclampsia based on blood pressure measurement and urine laboratory examination. Laboratory tests for the measurement of protein in urine include urine dipstick tests, a comparison of the amount of protein and creatinine in urine in 24 hours. Eclampsia is a seizure that first appears before or during labor, or within 48 hours of delivery, and / or coma that is not related to other cerebral conditions in women with signs and symptoms of preeclampsia (Bilano *et al*, 2014).

Etiology of preeclampsia is very complex, abnormal placenta plays a major role in the incidence of preeclampsia. Abnormal placenta causes inadequate maternal spiral artery invasion by trophoblast tissue, resulting in impaired uteroplacental blood flow and placental ischemia, causing oxidative stress and disruption of the syncytial architecture. The release of proinflammatory substances into the maternal circulation system will trigger a systemic inflammatory response. This is followed by an acute phase response, metabolic response, and changes in acute phase protein levels. In addition,

syncytiotrophoblast releases several proinflammatory mediators into the maternal circulation. The combination of hypoxia and systemic inflammation causes maternal endothelial dysfunction (Melanie Griffin & Andrew H Shennan, 2014).

Pregnancy in most women with heart disease has a favourable maternal and fetal outcome. However, pregnant women with heart disease do remain at risk for other complications including heart failure, arrhythmia, stroke, heart failure, obstetric complications such as preeclampsia and neonatal complications such as premature birth and infant mortality. At 34-36 weeks of pregnancy, there is an increase Heart activity characterized by an increase in the frequency of the heart rate and pulse an average of 88 times per minute. In a normal heart it is not a problem, but in women with heart disease, it can cause decompensation of cordis. this condition can cause maternal mortality (Aeni, 2013). Poor and incomplete antenatal examinations increase the risk of maternal mortality due to delays in handling detection of pregnancy complications. Good quality antenatal care will reduce the risk of complications in pregnancy and maternal mortality. The quality of antenatal care is seen from the quality of visits by pregnant women and antenatal care performed by health workers (Syalfina, 2017).

Based on maternal age, maternal mortality in Mojokerto district that mostly occurred in mothers aged 20-35 years, while based on the place of maternal mortality, most mothers died in general hospitals Maternal mortality at the age of 20-35 years in Mojokerto regency despite being of reproductive age and the safest age category for pregnancy but the low quality of antenatal care is a cause important for maternal mortality. This situation is exacerbated by the low socioeconomic level, the unequal position between men and women.

This result is different from Putri study (2018) that mothers who are at risk (<20 years or>

35 years) are 6 times more at risk than those who are not at risk (20-35 years). Maternal mortality under the age of 20 years higher than the age of 20-29 years. Maternal mortality will increase after 30-35 years of age. Healthy reproduction period for women 20-35 years.

The result of this study may help Mojokerto government, health office, society organization, midwife organization, and nongovernment organization to design comprehensive toward reducing maternal mortality in the study area and, by extension, the entire country. Health education and mass enlightenment should be strengthened to create a great awarness on pregnancy complications (Chasanah, 2015). Optimizing integrated antenatal care, classes of pregnant women, improving the skills of cadres in Posyandu to sreening danger signs of pregnancy expected in reducing maternal mortality.

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