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FACTORS CAUSING THE RISK OF HYPERTENSIVE PREGNANT WOMEN MORTALITY: SOLVING COMPLICATIONS, HEALTH SERVICES, AND ECONOMIC STATUS

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ABSTRACT

Keywords:
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The mortality of hypertensive pregnant women was a complication of obstetrics or pregnancy. It was caused by several factors such as low health services and economic status. This study was purposed to analyze the relationship between the mortality of hypertensive pregnant women and its factors. In addition, this study evaluated the mortality of pregnant women in 38 districts/cities in East Java. The Pearson correlation test was used in this study to analyze the secondary data from 2019-2021 East Java Health Profile and Central Bureau of Statistics report. Furthermore, data processing analysis was conducted by using the Health Mapper and SPSS applications. It was found that there was a relationship between the coverage of solving obstetric complications and the mortality of hypertensive pregnant women in 2021 (p<0.001), there was a relationship between the coverage of health services for pregnant women (K4) and the mortality of hypertensive pregnant women in 2021 (p<0.001), and there was a relationship between the number of poor people with hypertensive maternal deaths in 2021 (p<0.001). Besides, the coverage of obstetric complications solving, coverage of health services for pregnant women (K4), and number of poor people were related to the mortality of hypertensive pregnant women. There was a need for an intervention program of activities which must be carried out by paying more attention to the health of pregnant women, especially for people with hypertension.

ABSTRAK

Kata kunci:
*komplikasi,
kesehatan,
hipertensi,
kematian,
kebidanan.*

Kematian ibu hamil hipertensi merupakan salah satu komplikasi kebidanan atau kehamilan. Kematian ibu hamil hipertensi disebabkan oleh beberapa faktor seperti rendahnya pelayanan kesehatan dan status ekonomi. Penelitian ini bertujuan menganalisis hubungan antara kematian ibu hamil hipertensi dengan faktor-faktornya. Penelitian ini mengevaluasi kematian ibu hamil di 38 kabupaten/kota di Jawa Timur. Uji korelasi Pearson digunakan dalam penelitian ini untuk menganalisis data sekunder dari Profil Kesehatan Jawa Timur Tahun 2019-2021 dan dari laporan Badan Pusat Statistik Provinsi Jawa Timur Tahun 2019-2021. Pengolahan data dilakukan dengan aplikasi Health Mapper dan SPSS. Adanya hubungan antara cakupan penanganan komplikasi kebidanan dengan kematian ibu hamil hipertensi pada tahun 2021 (p<0.001), adanya hubungan antara cakupan pelayanan kesehatan ibu hamil (K4) dengan kematian ibu hamil hipertensi pada tahun 2021 (p<0.001), dan adanya hubungan antara jumlah penduduk miskin dengan kematian ibu hamil hipertensi pada tahun 2021 (p<0.001). Cakupan penanganan komplikasi kebidanan, cakupan pelayanan kesehatan ibu hamil (K4), dan jumlah penduduk miskin berhubungan dengan kematian ibu hamil hipertensi. Diperlukan adanya intervensi program kegiatan yang harus dilakukan, yaitu lebih memperhatikan kesehatan ibu hamil, khususnya pada penderita hipertensi.

INTRODUCTION

According to the American Heart Association (AHA) in 2017, hypertension is known as the increase of chronic blood pressure in the artery. It is a condition in which persistently increased pressure in the arteries at diastolic and systolic blood pressures of 80 mmHg and 130 mmHg (1).

According to the World Health Organization (WHO) in 2021, 94% of maternal deaths occur in countries with low and lower middle income. The woman passed away from complications during

and after pregnancy and childbirth. Heavy bleeding (mostly after childbirth), infection (mostly after delivery), hypertension during pregnancy (pre-eclampsia and eclampsia), complications from childbirth, and unsafe abortion account for nearly 75% of all maternal deaths (2).

Complications of pregnancy or obstetrics are emergencies which occur during the process of pregnancy and childbirth which cause death to the mother and baby. Thus, pregnancy complications are events which bring negative impact for pregnant women and their future babies (3).

The main causes of death include low resources, bleeding, hypertension, infection, and other comorbidities suffered by the mother before pregnancy. Hypertension is a complication of obstetrics or pregnancy. By establishing a trusting relationship with the mother, identifying life-threatening complications, preparing for birth, and providing education, pregnancy care is used to ensure healthy outcomes for pregnant women and their unborn children (4).

Pregnancy-related hypertension is a non-communicable disease that results in maternal death. Diseases which are not contagious (NCDs) are chronic non-communicable diseases (5).

Hypertension in pregnancy is the most common complication in pregnancy which forms a triad with bleeding and infection. It affects 10% of pregnancies and makes a significant contribution to maternal and perinatal mortality. It is assessed that the pervasiveness of hypertension in ladies of conceptive age comes to 7.7%. Pregnancy disorders such as hypertension in pregnancy, pre-eclampsia and eclampsia will complicate pregnancy up to 10%. Hypertension in pregnancy is the second highest cause of maternal death after bleeding in Indonesia. Almost 30% of maternal deaths in Indonesia are caused by hypertension in pregnancy (6).

The condition of blood pressure in gestational hypertension is that the diastolic and systolic pressures rise by 15 mm Hg and 30 mm Hg above the baseline value or when the blood pressure reaches 140/90. It is known that there is a strong connection between the high risk of pregnant women's age and the incidence of hypertension in pregnancy based on the research conducted at the Batu Aji Health Center in Batam in 2020 (7).

Decreasing the rate of hypertension in pregnancy will reduce the morbidity and mortality of the mother or fetus. Hypertension in pregnancy should be given more attention so that the risks which might occur can be avoided. The diagnosis of hypertension in pregnancy can be established in pregnant women >20 weeks of gestation (trimester 3) with systolic pulse >140 mmHg and diastolic >90 mmHg (8).

People diagnosed with hypertension often experience somatic symptoms and have a lower quality of life. The risk factors of hypertension are also related to behavior or lifestyle including consuming foods which contain lots of salt and fat, not consuming enough fruits and vegetables, consuming alcohol at dangerous levels, and not doing enough exercise (9).

Based on the Indonesian Ministry of Health 2018, there are five biggest causes of maternal death: bleeding (28%), hypertension in pregnancy (25%), infection (11%), prolonged or obstructed labor (5%), and abortion (5%) (10).

The obstetrics services or complications are an effort to reduce maternal and infant mortality and are for pregnant, maternity, or postpartum women to provide competent health workers at the basic and referral service levels with protection and definitive treatment in accordance with standards (11).

Antenatal Care (ANC) is a component of health services for pregnant women as an effort to reduce maternal and infant mortality. ANC visits are visits by pregnant women to get ANC services to a midwife or doctor as early as possible when the mother feels that she is pregnant. The *K1* visit is the first visit for pregnant women with health workers regardless of gestational age to receive antenatal care. *K4* visits are services for pregnant women with at least four pregnancy check-ups done once in the second trimester and twice in the third trimester (12).

The government in Indonesia has set a target to achieve a reduction of maternal mortality rate (MMR) in Indonesia. The government has a target of 95% antenatal service coverage for *K1* and 90% antenatal service coverage for *K4*. This is considered to play a role in determining the regularity of antenatal care until the *K4* coverage is in line with the target, that is 100% (4).

Based on the data obtained from the Health Profile of East Java Province in 2021, the coverage of the *K1* pregnant woman's visit was 98.50% while the coverage of *K4* is 90.50%. The *K1* coverage rate has increased compared to 2020, which is 97.70%, while *K4* has decreased compared to 2020, which is 90.94%. East Java Province for the *K4* indicator has not reached the target according to the Minimum Service Standards (MSS) which is 100%. The scope of obstetrics complications services in 2021 also decreased. The coverage of obstetrics complications treated reached 97.7% in 2020. Meanwhile, in 2021 the coverage of obstetrics services will reach 94.3%. Even though it has reached the target of 80%, there will still be a decline in 2021 (13).

Pregnancy complications were also influenced by socioeconomic factors. Those economic barriers affect the existence of obstetrics complication that makes pregnant women unable to carry out the advice given by the health workers. Low socioeconomic status will affect the mother's dietary habit and low ANC visits. One of the predisposing factors for high risk pregnancy was poverty. Furthermore, it allows pregnant women to be hindered from carrying out the routine pregnancy checks. Early diagnosis in pregnancy checks is one way to prevent complications due to high-risk pregnancies (14).

Low socioeconomic status including education, employment, and income, are the problems which affect K4 visits of pregnant women in Indonesia. Based on the research conducted at the Matraman District Health Center, East Jakarta, in 2019, there was a strong connection between socioeconomic status and ANC visits (15).

According to the information from the Central Bureau of Statistics of East Java Province in 2019-2021, the number of poor people has increased every year. The number of poor people in East Java Province increased to 116.29% in 2020 and to 120.33% in 2021. The Central Bureau of Statistics explains that East Java Province is the province with the highest number of poor people (16). It can be one of the factors in the occurrence of mortality of pregnant women with hypertension.

By using a Geographic Information System (GIS), a disease's (or a case's) distribution pattern and risks can be determined during the mapping process. It is a system that can process data about conditions or geographic locations. GIS studies the relationship between location, environment, and disease incidence in health sector (17).

The mapping and analysis process will produce attribute data and spatial data. More accurate disease distribution data (a case) support the service health to find the ways of dealing with disease (a case) (18). According to the previous description, this study is purposed to map the distribution of maternal mortality with hypertension and describe the relationship between maternal mortality with hypertension and the coverage of obstetrics complications handling, health services for pregnant women (*K4*), and poor residents in East Java Province 2019-2021.

METHODS

The type of research used is analytic observational research using a cross-sectional study design. This research is intended to analyze the relationship between the independent variables and the dependent variable at the same time. The independent variables were studied including the management of obstetric complications, health services for pregnant women (*K4*), and the poor in East Java in 2019, 2020 and 2021. The dependent variable was the death of hypertensive pregnant women in East Java Province in 2019, 2020 and 2021.

The data used are secondary data. The secondary data were collected from 38 districts/cities which can be accessed directly from the East Java Province Health Profile Book and the reports from the Central Bureau of Statistics for East Java Province in 2019, 2020 and 2021. The East Java Province Health Profile Book contained extremely in-depth data on maternal hypertension mortality from 38 regencies and cities in East Java Province in 2019, 2020 and 2021 with coverage of solving complications in obstetrics and coverage of services for pregnant women's health (*K4*). Based on the report of the Central Bureau Statistics, there were data regarding the number of poor people in East Java Province in 2019, 2020 and 2021. Thus, the explanations above support the

secondary data needed in this study.

Descriptive data analysis was conducted by using the health mapper version 4.3 with the product version 4.03. This application was developed by the World Health Organization (WHO) for monitoring and health mapping and which aims to meet information needed of the infectious diseases throughout the program at national and global level. The variable data were presented in a distribution map region. The data were tested for normality first by using the Kolmogorov-Smirnov test.

All variables were tested for normality then were tested by using the correlation test with α = 5%.

RESULTS

Correlation between Coverage of Solving Complications in Obstetrics, Maternal Health Services (*K4*), and Poor Residents in 2019-2021 with Hypertension Maternal Mortality

Figure 1 shows that the scope of solving complications in obstetrics in 2019-2021 had decreased. It was different from the availability of health care to pregnant women (*K4*) which had fluctuated where there was a decrease in 2020, but an increase of 0.05% in 2021. Based on information from the Central Bureau of Statistics of East Java Province in 2019-2021, the number of poor people has decreased every year.

Table 1. Results of Frequency Analysis of Solving Complications in Obstetrics, Health Services for Pregnant Women (*K4*), and Economic Status 2021

| Characteristics Variable	N	%
Management of Obstetric Complications		
Experiencing an increase in the obstetric complications solving	10	26.3%
No improvement	28	73.3%
Health Services for Pregnant Women (*K4*)		
Experiencing an increase in health services for pregnant women (*K4*)	5	13.2%
No improvement	33	86.8%
Poor Residents		
There has been an increase in the number of poor people	38	100%
No improvement	0	
Hypertensive Pregnant Women's Mortality		
Experiencing an increase in the number of deaths of hypertensive pregnant women	8	21.1%
No improvement	30	78.9%
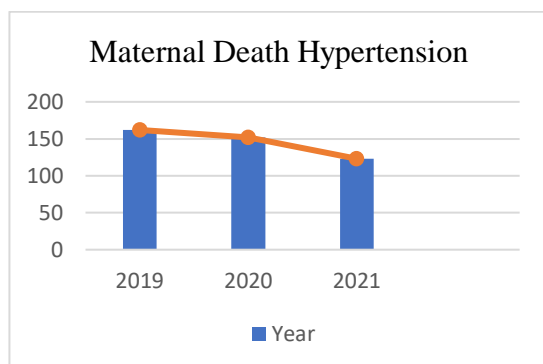
Figure 1. The Hypertension Maternal Mortality, Coverage of Obstetrics Complications Solving, Health Services for Pregnant Women (*K4*), and Number of Poor People in 2019-2021

The Distribution and Relationship between Obstetrics Complications Treatment Coverage and Maternal Mortality

East Java Province faced 162 cases of maternal mortality hypertension with the coverage of solving complications in obstetrics of 125,036 or 100.4% in 2019. East Java Province faced 152 cases of maternal mortality with hypertension with coverage of solving complications in obstetrics of 120,764 or 97.7% in 2020. East Java Province faced 123 cases of maternal death with hypertension with a coverage of solving complications in obstetrics of 110,395 or 94.3% in 2021. Besides, six districts/cities (10.7%) of 38 rules/urban areas in East Java Province have low inclusion of maternity care complexities,

trailed by an increase in maternal mortality with hypertension, including Malang Regency, Jombang Regency, Madiun Regency, Lamongan Regency, Gresik Regency, and Malang City.
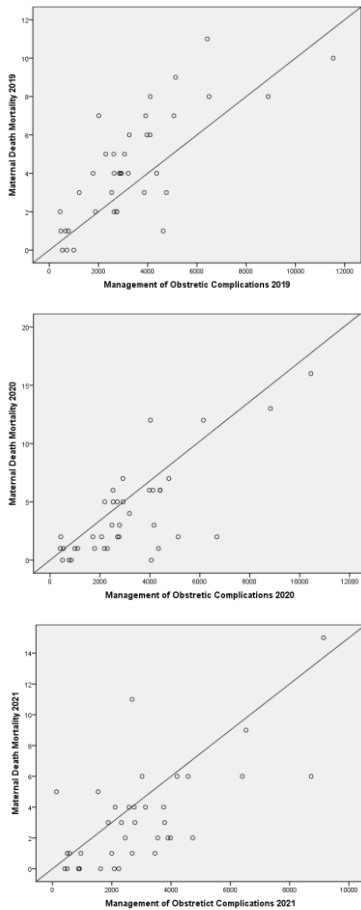

Figure 2. Correlation Graph of Obstetric Complications Treatment Coverage with Hypertension Pregnant Materna5,7

l Mortality 2019 (a), 2020 (b), 2021 (c)

The Pearson correlation test revealed that the amount of coverage of the solving complications in obstetrics in 2019 with the deaths of pregnant women with hypertension in 2019 was 0.000<0.05. It means that there was a strong connection between the deaths of pregnant women with hypertension and the management of obstetrics complications. The correlation coefficient was 0.762, which means that the level of strength of the correlation/relationship was very strong. The correlation coefficient was positive, which showed 0.762, and the direction of the relationship between the variables was positive.

The results of the Pearson correlation test stated that the coverage of solving complications in obstetrics in 2020 with the death of pregnant women with hypertension in 2020 was 0.000<0.05. It means that there was a strong connection between the death of pregnant women with hypertension and the management of obstetrics complications. The correlation coefficient was 0.755 which means that the level of the strength of the correlation/relationship was very strong. The correlation coefficient was positive (0.755). In addition, the direction of the relationship between the variables was positive as well.

The results of the Pearson correlation test stated that the scope of solving complications in obstetrics in 2021 with the deaths of pregnant women with hypertension in 2021 was 0.000<0.05, which means that there was a strong connection between the deaths of pregnant women with hypertension and the management of obstetrics complications. The correlation coefficient was 0.681. It means that the level of strength of the correlation/relationship was strong. The correlation coefficient was positive, which was 0.681. So, the direction of the relationship was positive as well.

The Distribution and Relationship between Maternal Health Service Coverage (*K4)* and Maternal Mortality

East Java Province faced 162 cases of hypertensive pregnant women with maternal health service coverage (*K4*) of 568,300 or 91.2% in 2019. Besides, East Java Province faced 152 cases of maternal mortality with hypertension with the coverage of maternal health services (*K4*) of 556,435 or 90% in 2020. Furthermore, East Java Province faced 123 cases of maternal mortality with hypertension with coverage of maternal health services (*K4*) of 536,732 or 90.05% in 2021. In addition, eight regencies/cities (21.05%) of 38 regencies/cities in East Java have low coverage of maternal health services (*K4*) followed by an increase in maternal mortality cases of hypertension, including Malang Regency, Banyuwangi Regency, Jombang Regency, Madiun Regency, Lamongan Regency, Gresik Regency, Bangkalan Regency, and Malang City.
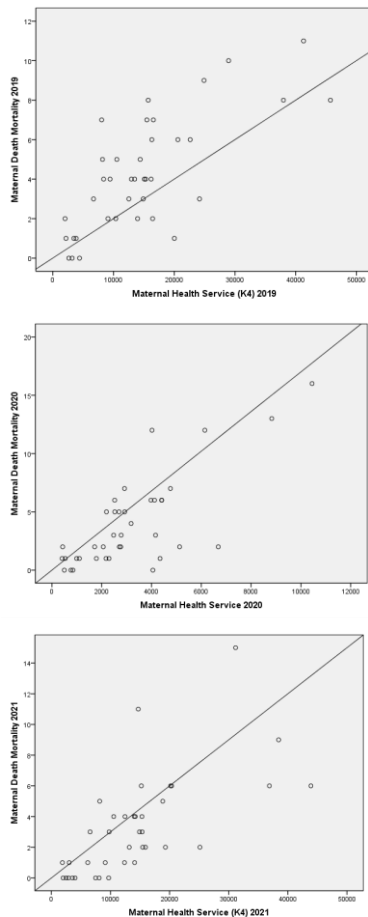
Figure 3. Correlation Graph of Maternal Health Care Coverage (*K4*) with Hypertension Maternal Mortality 2019 (a), 2020 (b), 2021 (c)

The results of the Pearson correlation test stated that the coverage of health services for pregnant women (*K4*) in 2019 with maternal mortality with hypertension in 2019 was 0.000<0.05, which means that there was a strong connection between the deaths of pregnant women with hypertension and health services for pregnant women (*K4*). The correlation coefficient was 0.74. It means that the level of strength of the correlation/relationship has a strong relationship. The correlation coefficient was positive, which was 0740. So, the direction of the relationship was positive as well.

The results of the Pearson correlation test stated that the coverage of health services for pregnant women (*K4*) in 2020 with the death of pregnant women with hypertension in 2020 was 0.000<0.05, which means that there was a strong connection between the mortality

of pregnant women with hypertension and health services for pregnant women (*K4*). The correlation coefficient was 0.622, which means that the level of strength of the correlation/relationship was strong. The correlation coefficient was positive 0.620. In addition, the direction of the relationship between the variables was also positive.

Furthermore, the results of the Pearson correlation test stated that the service coverage the health of pregnant women (*K4*) in 2021 with the death of pregnant women with hypertension in 2021 was 0.000<0.05, which means that there was a strong connection between the death of pregnant women with hypertension and health services for pregnant women (*K4*). The correlation coefficient was 0.670, which means that the level of strength of the correlation/relationship is strong. The correlation coefficient was positive which was 0.670; the direction of the relationship between the variables was positive as well.

The Distribution and Relationship between the Mortality of Hypertensive Pregnant Women and The Number of Poor People

East Java Province faced 162 cases of hypertensive pregnant women with a poor population of 108.21% in 2019. East Java Province faced 152 cases of the mortality of pregnant women with hypertension with a total poor population of 116.29% in 2020. East Java Province faced 123 cases of the mortality of pregnant women with hypertension with a total poor population of 120.33% in 2021. Furthermore, eight districts/cities (21.05%) of 38 districts/cities in East Java Province experienced an increase in the number of poor people followed by an increase in the cases of mortality of hypertensive pregnant women, including Malang Regency, Banyuwangi Regency, Jombang Regency, Madiun Regency, Lamongan Regency, Gresik Regency, Bangkalan Regency, and Malang City.

The results of the Pearson correlation test stated that the number of poor people in 2019 and the cases of hypertensive maternal mortality in 2019 was 0.000<0.05, which means that there was a strong connection between the mortality of hypertensive pregnant women and the number of poor people. The correlation coefficient was 0.635, which means the level of strength of the relationship was

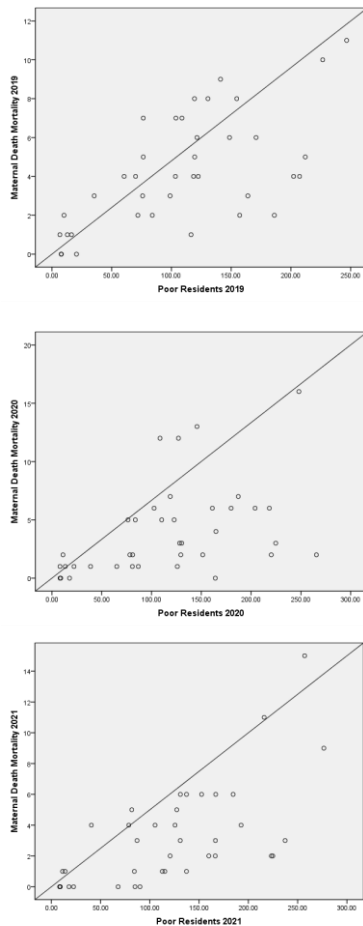strong. Furthermore, the correlation coefficient was positive which means it was unidirectional.

Figure 5. Correlation Graph of Number of Poor People with Hypertension Maternal Mortality 2019 (a), 2020 (b), 2021 (c)

The results of the Pearson correlation test stated that the number of poor people in 2020 and the cases of hypertensive maternal mortality in 2020 was 0.007<0.05, which means that there was a strong connection between the mortality of hypertensive pregnant women and the number of poor people. The correlation coefficient was 0.428, which means the level of the relationship strength was quite strong. The correlation coefficient was positive which means it was unidirectional.

The results of the Pearson correlation test stated that the number of poor people in 2021 and the cases of hypertensive pregnant women in 2021 was 0.000<0.05, which means that there was a strong connection between the mortality of hypertensive pregnant women and the number of poor people. The correlation coefficient was 0.651, which means the level of strength of the relationship was strong. The

correlation coefficient was positive which means it was unidirectional.

DISCUSSION

The Distribution of Hypertension Maternal Mortality and Treatment Coverage of Obstetrics Complications

The incidence of maternal mortality tends to decrease every year from 2019-2021. Table 2 shows the correlation between the coverage of obstetrics complications and maternal mortality with hypertension in 2019-2021. According to the research conducted at Tamalate Makassar Health Center in 2021, classes for pregnant women is one form of solving complications in obstetrics whose implementation can prevent the risk and severity of the risk of pregnancy complications in pregnant women (19).

Pregnant women who have high risk factors need to be screened, provided quality antenatal care, and provided Information, Education, and Communication (IEC) to them, their husbands, and families about possible complications which occur. The number of complications is influenced by many risk factors; it means that the more risk factors which exist in pregnant women, the more likely it is to experience complications (20).

Midwives in providing health services, especially in cases of complications, always start from the cognitive domain in the sense that the midwife knows about the stimulus in the form of material/obstetric knowledge which is obtained theoretically so that it creates new knowledge with good knowledge which means the midwives can directly shape behavior in providing services, so that, the patients feel satisfied and are always motivated to do something recommended by midwives in daily life. The research in Ogan Komering Ulu Regency stated that there was an influence of health workers with the achievement of solving complications in obstetrics , such as length of work, knowledge of midwives, and attitudes of midwives (21).

According to the research conducted at Independent Practice of Midwife (*Praktik Mandiri Bidan/PMB*) Hj. Dince Safrina in 2020, which treats pregnant women with anemia, it was known that anemia is also an obstetrics complication. The number of red blood cells, or hemoglobin, is lower than

normal in this condition. This can cause health problems for pregnant women. The handling of obstetrics complications was also carried out in pregnant women with complications of anemia, where the pregnant women were given obstetrics care twice, the results obtained were an increase in Hb in the pregnant women (22).

Handling of obstetrics complications is very important for pregnant women, in order to detect pregnancy complications, treat, and prevent severity and death. There were six of 38 regencies/cities in East Java Province still experiencing a reduction in the handling of obstetrics complications.

According to the explanation above, it was known that the reduction was due to the influence of health workers with the achievements of solving complications in obstetrics, such as length of work, knowledge of midwives, attitudes of midwives, as well as low support and knowledge of pregnant women and their families. This study concluded the importance of solving complications in obstetrics to reduce maternal mortality with hypertension since the higher the coverage of obstetrics complications, the lower the number of maternal deaths with hypertension.

The Distribution of Hypertension Maternal Mortality and Maternal Health Service Coverage (*K4*)

The mortality of pregnant women with hypertension tends to decrease because the coverage of health services for pregnant women (*K4*) fluctuates every year during 2019-2021. The low level of health services for pregnant women (*K4*) was influenced by some factors. The factors include the lack of knowledge of pregnant women about antenatal care as the cases occurred in Bengkulu Selatan Regency, the lack of husband and family support for pregnant women, and the lack of exposure of pregnant women to the media (23).

In addition, the study was also conducted in the city of Pontianak, where health facilities and the role of health workers were a factor in the low level of health services for pregnant women (*K4*). The better the health facilities at the Pontianak City Health Center, the better the behavior of pregnant women. Otherwise, the worse the health facilities at the Pontianak City Health Center, the worse the

behavior of pregnant women (24).

Based on the research conducted at Lima Kaum I Health Center of Tanah Darat Regency in 2019, it was known that the distance of health facilities which are far from home was also a factor causing low health services for pregnant women. Not all residents can easily get health services. Thus, for more equitable and widespread, the health centers need to be supported by the additional health centers (25).

The importance of health services (*K4*) will provide benefits for pregnant women and babies so that they can detect complications early, in order to avoid a high risk of complications to death in pregnant women and infants. There were eight out of 38 regencies/cities in East Java Province still experiencing a reduction in the health services for pregnant women (*K4*).

Based on the description above, it was known that the reduction was influenced by factors such as the lack of husband and family support for pregnant women. Besides, the pregnant women were not exposed to the media. Furthermore, the health facilities and the role of health workers, the low level of health services for pregnant women, as well as the distance of health facilities which was far from home were also factors which influenced the reduction of health service for pregnant women (*K4*). This study concluded the importance of services for pregnant women's health (K4) to reduce the mortality rate of pregnant women with hypertension because the higher the coverage of health services for pregnant women (*K4*), the lower the number of deaths of pregnant women with hypertension.

The Mortality Distribution of Pregnant Women with Hypertension and Number of Poor People

The mortality of pregnant women with hypertension tends to increase because the number of poor people has increased every year during 2019-2020. Based on the research conducted at Denpasar Barat in 2018, it was known that low socioeconomic status will affect the mother's dietary habit and low ANC visits. So that, it can increase the case of mortality of hypertensive pregnant women (14).

Eight out of 38 regencies and cities in East Java Province, Malang Regency,

Banyuwangi Regency, Jombang Regency, Madiun Regency, Lamongan Regency, Gresik Regency, Bangkalan Regency, and Malang City, experienced an increase in the number of poor people followed by an increase in the cases of maternal mortality with hypertension. Thus, this study concluded that the higher the number of poor people, the higher the number of cases of mortality of pregnant women.

CONCLUSION AND SUGGESTIONS

Conclusion

There was a strong connection between the death of pregnant women with hypertension and the scope of solving complications in obstetrics. Cases of deaths of hypertensive pregnant women tend to increase in the areas with low coverage of complications. In addition, there was a strong connection between the death of hypertensive pregnant women and the coverage of health services for pregnant women (*K4*). The cases of maternal mortality with hypertension tend to increase in areas with low coverage of maternal health services (*K4*). There was also a strong connection between the mortality of hypertensive pregnant women and the number of poor people; the mortality of hypertensive pregnant women tends to increase in the areas with a high number of poor people. According to previous research, it was also related to other factors such as lack of education, lack of family and husband support, lack of adequate health services, and so on. The intervention activity programs need to be conducted with more attention to the health of pregnant women by conducting hypertension screening and education.

The results of the analysis showed that the three risk factors had a relationship with the mortality of hypertensive pregnant women. Thus, the related institution needs to take more attention to solve it. Furthermore, the results of this analysis can be used as a reference for planning, monitoring, and evaluating the implementation of the development of a program, especially in the health and economic sectors.
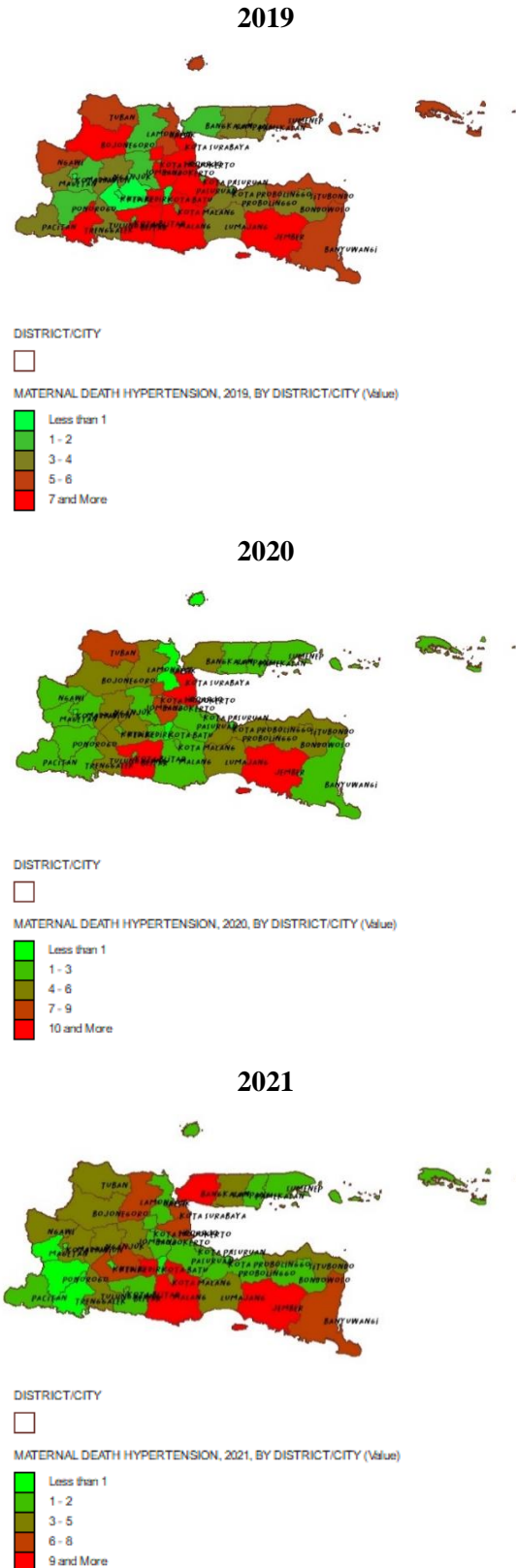

Figure 6. Map Distribution of Hypertensive Pregnant Women Mortality in East Java in 2019, 2020 and 2021

Suggestion

The researchers should comprehend the topic which will be researched by increasing literature studies related to the focus of the topic which will be researched. The researcher suggests future readers or researchers to develop or add related variables to expand the aspects studied, so that the causes of the occurrence of hypertension pregnant women can be known in more detail.

ACKNOWLEDGMENT

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