Description Of Maternal Characteristics And Causes Of Maternal Deaths In Serang District In 2022

Fifi Musfirowati[a]*, Lukmanulhakim[b], Innama Sakinah[c]
[a] DIII Nursing, Faletehan University
[b] Nursing Science Study Program, Faletehan University
[c] Prodi S 1Midwifery, Faletehan University
*Corresponding Author: fifimusfirowati01@gmail.com

ARTICLE INFORMATION	ABSTRACT
Article history Received 06 May 2024 Revised 08 may 2024 Accepted 11 May 2024 *Keyword* maternal death, maternal characteristics, causes of death	*Worldwide, maternal mortality remains a concern, with developing nations such as Indonesia being particularly affected. Goals: In Banten Province, Serang Regency has the highest rate of maternal fatalities. One of the most significant measures of the state of public health is the maternal mortality rate, or MMR. One measure that characterizes women's health is maternal mortality. The purpose of this study is to characterize the traits of mothers in Serang Regency as well as the reasons behind their deaths. Methods: This study employs a cross-sectional approach, survey methodology, and analytical descriptive research. Using the Total Sampling technique, 52 people made up the sample in this study. Findings: According to the study's findings, bleeding accounted for 8 cases (15.4%) of maternal deaths, pre/eclampsia for 20 cases (38.5%), PROM for 1 case (1.9%), and other causes. as many as 23 cases (44.2%), followed by a majority of people who were either under 20 or over 35, with 15 cases (28.8%) and 37 cases (71.2%) for those who were between the ages of 20 and 35; parity <1 or >4 children, with 25 cases (48.1%) and those with parity 2-3, with 27 cases (51.9%); ANC visits increased the number of cases by more than six times, to 31 cases (59.6%), and by less than six times, to 21 cases (40.4%), non-health worker birth attendants as many as 11 cases (21.2%), and healthConclusions: To evaluate the causes of death, comprehensive mortality data are required. Sufficient evaluation offers valuable insights for enhancing future management and policy formulation.*

Introduction

In Indonesia, efforts to improve the health status of mothers and children is one of the priority programs, because maternal and child health problems are still one of the main problems in the health sector. According to UNICEF, every three minutes somewhere in Indonesia a child under t Since maternal and child health issues continue to rank among the top issues facing the health sector, improving the health of mothers and children is one of Indonesia's top priorities. UNICEF estimates that a child under five dies in Indonesia every three minutes, and that a woman dies from childbirth or other pregnancy-related causes every hour.

In addition, a woman passes away at the age of five and every hour from childbirth or other pregnancy-related causes. The Maternal Mortality Rate (MMR) is a useful tool for evaluating the quality of a nation's health care system, particularly with regard to issues pertaining to the health of women and children. Targeting maternal mortality is one of the Sustainable Development Goals (SDGs) for the period of 2015–2030 is expected to address all of the global development gaps in both developed and developing nations (Rini et al. 2020).

Reducing the death rate and incidence of illness in mothers and children has been the focus of efforts to improve the health status of these populations, according to the World

Health Organization. In an attempt to expedite this, measures have been taken to enhance the standard of care and guarantee the availability of referral and maternal health services. Initiatives to improve the health of mothers and children have been put into action.

The program focuses on efforts to reduce maternal and child mortality rates. Maternal deaths show a measure of the progress and success of maternal health efforts, which means that the mother's health status can be seen, so that the risk of death can be detected early. One of the most significant measures of the state of public health is the maternal mortality rate, or MMR. This MMR details the number of women who passed away during pregnancy, childbirth, and the postpartum period (i.e., 42 days after giving birth) as a result of pregnancy disorders or their treatment (apart from accidents or incidental cases). without accounting for the number of live births per 100,000 pregnant women. Research on maternal mortality is deemed significant as it serves as a gauge of a nation's health status, as the mean maternal mortality rate (MMR) reveals the effectiveness and caliber of medical care.

In 2017, Indonesia had the highest Maternal Mortality Rate (MMR) in the world, with 177 deaths for every 100,000 live births. Compared to a decade ago, when there were over 200 deaths for every 100,000 live births, this ratio is better. Indonesia continues to have the highest MMR in Southeast Asia, coming in at number three. The Maternal Mortality Rate (MMR), which measures the number of women who die every day worldwide from complications related to pregnancy or childbirth, is still high, according to the World Health Organization (WHO). Maternal mortality rates are 462/100,000 live births in developing countries and 11/100,000 live births in developed countries (Melani&Nurwahyudi., 2020).

More intensive measures are required to address the Maternal Mortality Rate (MMR) in Banten province, as it remains well short of reaching the Sustainable Development Goals. Globally, there are 303,000 maternal deaths per year, according to WHO (2019). According to the ASEAN Secretariat (2020), there are 235 maternal deaths for every 100,000 live births in the region. From 2015 to the beginning of 2017, there was a decline in the infant and maternal death rate during childbirth, according to the Indonesian Health Demographic Data Survey (SDKI). based on information taken from According to the Ministry of Health's official website, there were 32,007 infant deaths in 2016 compared to 33,278 in 2015. In the meantime, 10,294 infant deaths were reported as of the middle of 2017. Concurrently, the rate of maternal death during childbirth decreased, rising from 4,999 instances in 2015 to 4,912 cases in 2016. In the meantime, the rate of maternal death fell sharply to 1,712 cases in 2017 and 2022 (IDHS, 2017)

According to the Banten Health Service in 2018, the number of MMR for Banten Province that year was 247 cases. Based on a preliminary study of survey data in 2022, the Banten Province Health Office recorded 193 cases of MMR, the highest in the Serang Regency area at 52 cases of maternal death. Most of the deaths were due to bleeding in 48 cases, hypertension, 51 cases, infection in 10 cases, abortion in 1 case, metabolic disorders in 3 cases, heart disease in 23 cases, etc. 57 cases. In Indonesia, research has been conducted on the factors that cause maternal deaths, but not many have looked at each district or city individually regarding the factors that cause deaths. Because basically each region has different justification for causal factors, one of the selected regions is Serang Regency where based on survey data in 2022 the provincial government recorded 193 cases, the highest number of cases of maternal mortality in Serang Regency was 52 cases of maternal death. (Banten Health Service, 2022). Based on the above background, the research is interested in conducting research on "Description of maternal characteristics regarding the causes of maternal death in Serang Regency in 2022" because maternal death is an indicator of the nation and an indicator of health status, and in Serang Regency it is ranked first in the largest cause of death in Banten Province. The aim of this research is to determine the frequency distribution of causes of maternal death and determine

the characteristics (age, parity, ANC visits, birth attendants, and place of delivery) of the causes of maternal death in Serang Regency in 2022

Methods

The research methodology used is the analytical descriptive research method, which tries to give a systematic, factual, and accurate picture of the facts by examining the status of a class of events, a group of people, objects, conditions, or a way of thinking in the present. -the characteristics, attributes, and connections among the phenomena under study. This approach seeks to present a comprehensive image of a phenomenon before offering an interpretation based on a careful examination of the study's variables (Nazir, 2014). This study design is cross-sectional, and the methodology is a survey or cross-sectional research that aims to investigate the how and why of this phenomenon. A study design known as the cross-sectional approach involves making measurements or observations all at once or simultaneously.

This research will be conducted in Serang Regency. This research will be carried out in May-June 2023. The population in this research is a large number of subjects who have certain characteristics, certain characteristics which are applied by researchers to study and then draw conclusions. The population in this study is the number of maternal deaths in Serang Regency in 2022, namely 52 cases. The sampling technique in this research uses a total sampling technique, namely taking all or part of the population as a research sample. The sample in this study is all maternal deaths in Serang Regency recorded from January to December 2022. So the sample size in this study is 52. The measuring tool or instrument used to collect data in this study is a data collection format which contains the number of deaths maternal. The inclusion criteria in this study were maternal death data that was completely recorded at the health service.

Results

Univariate Analysis

Univariate analysis was carried out with the aim of determining the frequency distribution of each variable studied. These variables included maternal age, parity, ANC visits, birth attendant, place of delivery, cause of death, and maternal death. The results of the univariate analysis will be presented in table form as follows:
Description of the causes of maternal deaths in Serang Regency in 2022

Table 1 Frequency distribution of causes of maternal death in Serang Regency in 2022

Cause of Maternal Death	N	%
Bleeding	8	15,4 %
Pre/eclampsia	20	38,5 %
Premature rupture of membranes	1	1,9 %
Etc. (heart, sepsis, covid, hepatitis, meningitis, dengue fever)	23	44,2 %
Total	**52**	**100 %**

Based on table 5.2, the causes of maternal death were caused by bleeding in 8 cases (15.4%), pre/eclampsia in 20 cases (38.5%), PROM in 1 case (1.9%), and others in 23 cases (44. .2%).

Description of maternal characteristics (age, parity, ANC visits, birth attendant, place of delivery) on the causes of maternal death in Serang Regency in 2022

Table 2 Frequency Distribution of Maternal Deaths based on age, parity, ANC visits, birth attendant and place of delivery in Serang Regency in 2022

No	Variable	N	%
1.	Maternal age <20 years and >35 years 20-35 years		
		15	28,8 %
		37	71,2 %
2.	Parity <1 or >4 children 2-3 children		
		25	38,1 %
		27	51,9 %
3.	ANC visit		
	>6 times	31	59,6%
	<6 times	21	40,4 %
4.	Childbirth Assistant		
	Non-health worker	11	21,2 %
	Health worker	41	78,8 %
5.	Place of Delivery		
	House	11	21,2 %
	PRAYER	8	15,4 %
	Public health center	2	3,5 %
	Hospital	31	59,6 %

Based on table 5.2, the majority of those aged <20 or >35 years were 15 cases (28.8%), and those aged 20-35 years were 37 cases (71.2%), parity <1 or >4 children were 25 cases (48.1%) and those with parity 2-3 were 27 cases (51.9%), ANC visits >6 times were 31 cases (59.6%), and <6 times were 21 cases (40.4%), non-health worker birth attendants were 11 cases (21.2%) and health workers were 41 cases (78.8%), birthing places at home were 11 cases (21.2%), DOA were 8 cases (15.4%), community health centers 2 cases (3.8%), and hospitals as many as 31 cases (59.6%).

Discussion
Description of the causes of maternal deaths in Serang Regency in 2022
a. Maternal Death
    Maternal or maternal death is death during pregnancy or within the 42 day period after the end of pregnancy, resulting from all causes related to or aggravated by the pregnancy or its management. The high maternal mortality rate is one of the things that needs to be given more attention. The indicator commonly used in maternal mortality is the maternal mortality ratio, namely the number of maternal deaths in 100,000 live births (Madya et al., 2020).
This maternal mortality rate reflects the obstetric risks faced by women every time they become pregnant. High maternal mortality rates are found in countries with middle and low incomes such as developing countries. The high maternal mortality rate in developing countries is mostly related to political and social problems, especially issues of poverty and the status of women.
b. Causes of Maternal Death

Based on the research results, it can be seen that from table 5.1 the majority of those who experienced bleeding were 8 cases (15.4%), pre/eclampsia 20 cases (38.5%), PROM 1 case (1.9%), etc. as many as 23 cases (44.2%). Of these causes of death, it is very dangerous for pregnant women and the fetus in their womb. The causes of maternal death can be found to be different for each mother. In this research, there are other factors such as heart disease, sepsis, Covid, hepatitis, meningitis, dengue fever which are risk factors for maternal death, heart disease will be more severe during pregnancy because it can affect fetal growth disorders. The main complaints include feeling tired quickly, heart palpitations, shortness of breath accompanied by blueness, leg edema and complaining about an inappropriate increase in the size of the uterus.

This is in line with previous research on risk factors for maternal mortality in Pati Regency which states that a history of disease influences maternal mortality, where mothers with a history of disease increase the risk of maternal death by around 27.74 times greater than mothers who do not have a history of disease. Research on risk factors for maternal death in Cilacap also shows that a history of maternal disease influences maternal death with an odds ratio (OR) of 210.2, where mothers who have a history of disease before pregnancy have a risk of 210.2 times greater than those with mothers who have no history of disease before pregnancy (Jayanti et al., 2016).

Maternal or maternal death is an indicator that describes the health status of the mother, especially pregnancy or which is aggravated by pregnancy or due to inappropriate handling and is not caused by accident or coincidence. Researchers say that cases of maternal bleeding are the main problem in the field of obstetrics to date, together with cases of pre/eclampsia which constitute the triad of causes of major maternal deaths in both developed and developing countries.

The results of other researchers stated that postpartum bleeding is an estimate of the time of death which is estimated to only last 2 hours, while antepartum bleeding takes approximately 12 hours, therefore it is very important to recognize it early and provide immediate treatment. (Simanjuntak, 2020). For a long time, postpartum hemorrhage has been defined as blood loss of 500 ml or more after the fetus and placenta are born (end of the second stage) in vaginal delivery or more than 1000 ml in caesarean section delivery. Meanwhile, atepartum bleeding is bleeding that occurs after the 28th week of pregnancy, one of which is placental abruption where the normal placenta separates from its attachment before the fetus is born and placenta previa, the lower segment of the placenta sinks under the uterus, causing the mother to bleed heavily and lose a lot of blood. This will have a bad impact that can lead to death.

The causes of direct maternal death in Indonesia are dominated by postpartum hemorrhage, hypertension/eclampsia, and infection. Preeclampsia is initially a mild illness throughout pregnancy, but at the end of pregnancy there is a risk of seizures known as eclampsia. Preeclampsia is a disorder with unknown causes specifically in pregnant women. This form of syndrome is characterized by hypertension and proteinuria that occurs after the 20th week of pregnancy. Eclampsia is pre-eclampsia which is characterized by seizures. Eclampsia that is not properly controlled can result in permanent disability or can even cause death of the mother and baby (Octaviani Laput et al., 2016.).

This research is in line with Nova Muhani showing that pregnant women with severe pre-eclampsia who experience eclampsia have a 12 times higher risk of death compared to those who do not experience eclampsia. The results of this study are in line with previous research which stated that mothers with severe pre-eclampsia which was worsened by seizures increased the maternal mortality rate 10 times. This research explains that the incidence of

eclampsia during the antepartum period is 15 times more risky for maternal death compared to the incidence of eclampsia during the intrapartum and postpartum periods. It is also similar to other studies that mothers who experience seizures do not have an increased risk of maternal death (OR = 1.3). Seizures are a marker of the severity of preeclampsia which requires intensive treatment. Mothers with severe pre-eclampsia with diastolic blood pressure ≥ 120 mmHg have a 7.4 times higher risk of death, while mothers with diastolic blood pressure 110 – 119 mmHg have a 5.2 times higher risk of death, when compared with diastolic blood pressure < 100 mmHg. The results of this study are in line with other studies, but in other studies the OR is lower. That mothers with severe pre-eclampsia and diastolic blood pressure ≥ 110 mmHg have a 3.1 times higher risk of death. 11 Other research states that blood pressure ≥ 110 mmHg only has a 1.3 times higher risk of maternal death (95% CI 0.5 – 4.5).

Premature Rupture of Membranes (KPD) is an obstetric problem that can cause complications in the mother such as intrauterine infection which can lead to chorioamnionitis, placental abruption, and also sepsis. Infection in the mother can occur in the event of premature rupture of the membranes due to the rupture of the amniotic membranes and making it easy for bacteria to enter the uterus and reproduce. The development of these bacteria will occur more quickly in a warm and wet environment. The possibility of infection will increase in cases of prolonged premature rupture of membranes, because bacteria will have a longer time to multiply (Irwan & Yusuf, 2019). This research is in line with research by Dhinda regarding Premature Rupture of Membranes (KPD) which states that ketubah or rupture of the amino membranes before the appearance of signs of labor is observed 1 hour before birth occurs. PROM occurs because the membranes are torn, appearing after 28 weeks of pregnancy in 8 to 10% of women who are more than 40 weeks pregnant are at risk of PROM. So premature rupture of membranes is the rupture of the membranes before birth. (Puspita et al., 2021)

Description of maternal characteristics (age, parity, ANC visits, birth attendant and place of delivery) on the causes of maternal death in Serang Regency in 2022

Based on table 5.3, the majority of those aged <20 or >35 years were 15 cases (28.8%), and those aged 20-35 years were 37 cases (71.2%), parity <1 or >4 children were 25 cases (48.1%) and those with parity 2-3 were 27 cases (51.9%), ANC visits >6 times were 31 cases (59.6%), and <6 times were 21 cases (40.4%), non-health worker birth attendants were 11 cases (21.2%) and health workers were 41 cases (78.8%), birthing places at home were 11 cases (21.2%), DOA were 8 cases (15.4%), community health centers 2 cases (3.8%), and hospitals as many as 31 cases (59.6%).

a. Mother's Age

In this study, those aged <20 years and >35 years have a high risk if they become pregnant because at the age of under 20 years the reproductive organs are not ready to have sex or conceive so that if pregnancy occurs there is a risk of experiencing high blood pressure (because the body is not strong) , premature birth, low birth weight and risk of cervical cancer. Furthermore, pregnancies aged over 35 years also include a high risk of getting pregnant, because women's reproductive organs have weakened, many diseases occur, such as heart disease, high blood pressure, diabetes mellitus, so women must prioritize or think about getting pregnant at that age. According to the BKKBN, the healthy age for pregnancy and childbirth is 20 to 30 years. More or less than this age is at risk, a woman's readiness to get pregnant and give birth and to have children is determined by the readiness of 3 things, namely physical, mental, emotional, psychological preparation and socio-economic preparation.

Age or age is a unit that measures the time of existence of an object or living creature, whether alive or dead. Age is also an individual's age which is calculated from the time he was born until his birthday. In the reproductive age range (20-34 years), many people plan pregnancy in this

age range, because it is considered the safest. However, as we know, the incidence of pregnancy is a risk, although this age range is a safe age range for pregnancy, but with the increasing incidence of pregnancy, the risk of death will increase. (Aulia et al., 2019).

Healthy reproduction is the ideal time period for a mother to become pregnant and give birth, namely between the ages of 20 and 35 years (BKKBN, 2008). Even though it is an ideal period, every pregnancy has a risk of complications. According to Mardiani & Purnomo (2018), pregnant women have a risk of experiencing complications during pregnancy, while women who are not pregnant do not have this risk. This condition was emphasized by Manuaba (2008) who stated that the majority of obstetric complications related to maternal death cannot be prevented or predicted. Based on the results of studies, the high maternal mortality rate in Serang Regency shows that many maternal deaths occur at reproductive age, in contrast to existing theory, namely that the risk is higher at too young and old ages. This is because there are other factors that influence the occurrence of death at that age, such as the mother's history (Jayanti, et al., 2016).

b. Parity

Parity <1 (never given birth/having just given birth for the first time) and parity >4 have higher maternal mortality rates. Parity < 1 if the mother's age is young will be at risk because the mother is not ready medically or mentally, whereas parity above 4 and the mother's age is old physically the mother experiences a decline in reproductive function to undergo pregnancy. However, if the second and third pregnancies occur in undesirable circumstances with close pregnancies, this can increase the risk of maternal death. Based on the number of births, the most deaths were among mothers with the second number of births, while the fewest were among mothers with >4 births.

At parity 2-3 children, maternal deaths are higher than <1 or > 4 children, possibly due to the distance between pregnancies in the mother, because the distance between pregnancies is also a factor that must be considered in pregnant women. These results are not in line with the 4T theory in the "too many" category which explains that the number of births (too many > 3 children) is a contributor to maternal mortality. Based on this, it is possible that there are other causes that influence maternal mortality besides the number of births but have not been studied, namely distance pregnancy itself. The mother must get sufficient rest time for at least 2 years to restore the mother's health before the mother experiences the next pregnancy (Wijono, 2008).

In this study, according to theory, birth spacing of less than 18 months or more than 59 months is significantly associated with an increased risk of adverse perinatal births, such as premature birth, LBW, and IUGR. Close birth spacing is also associated with an increased risk of premature rupture of membranes, placental abruption and placenta previa, as well as the possibility of uterine rupture in women who attempt to give birth vaginally after a previous caesarean delivery. Meanwhile, birth spacing of more than five years is associated with an increased risk of preeclampsia (Aulia et al., 2019).

According to researchers' assumptions, parity is an important factor in determining the fate of the mother and fetus both during pregnancy and childbirth. Because the large number of births has individual implications, but also what is more important is the social implications. Then the family also has responsibility for this in determining the number of children.

c. ANC visit

Antenatal care (ANC) services are pregnancy checks to optimize the mental and physical health of pregnant women, so that they are able to face childbirth, the postpartum period and prepare for breastfeeding and the return to normal reproduction. Antenatal examinations are carried out in accordance with standards, namely midwifery service standards, these standards include

anamnesis or interview, physical examination, routine and special laboratory examinations, as well as general and special interventions (according to the risks found in the examination). Antenatal care services are provided periodically during pregnancy for the mother and the fetus she is carrying to ensure that the pregnant mother can go through pregnancy, labor and the postpartum period and give birth to a healthy baby. (Manuaba, 2010).

According to the researchers' assumption, ANC is expected to help in early detection of danger signs in the mother so that possible complications in the mother so that possible complications that may occur during pregnancy, childbirth and postpartum can be identified early so that treatment can be prepared.

ANC visits are planned examinations in the form of observation, education and medical treatment for pregnant women and are provided by professional staff (health workers) with a visit frequency of 6 times. According to the Indonesian Minister of Health No. 21 of 2021, the frequency of ANC visits is at least 6x during pregnancy with 2x visits in the first trimester (gestation age 0-12 weeks), 1x in the second trimester (gestation age 12-28 weeks), 3x in the third trimester (gestation age 28 weeks until delivery).

In terms of ANC visits, the influencing factors include predisposing factors, enabling factors and reinforcing factors. Predisposing factors are factors that make it easier for a person's behavior to change. Predisposing factors for pregnant women in making ANC visits consist of age, education level, occupation, parity, knowledge and attitudes of pregnant women. Enabling factors are factors that facilitate behavior or actions. Factors that enable pregnant women to visit ANC consist of distance from residence, family income, and existing information media facilities. Reinforcing factors are factors that encourage or strengthen the occurrence of health behavior. Strengthening factors that influence mothers' behavior in making ANC visits are husband's support, family support, and attitudes and support from health workers.

There were several cases in this study where ANC visits had an impact on maternal mortality, possibly because even though the mothers had regular ANC visits, they did not receive at least 10T services. There are some mothers who do not carry out pregnancy checks or only carry out pregnancy checks when they have complaints/are about to give birth, this could also be due to pregnancy at too old or too young an age so they are embarrassed to have a pregnancy check, new residents whose population identity has not been registered and who do not make ANC visits. in local midwives which results in health workers or mothers not recognizing that there are complications that accompany pregnancy. In cities and districts in Banten Province, various efforts have been made to capture high risk cases through community participation, namely the existence of Maternal and Child Health Motivator (MKIA) cadres in each village. who carry out home visits to register new pregnant women. However, there are still village midwives who do not carry out home visits to screen for high risk cases and provide IEC to mothers who do not carry out pregnancy checks so that the mothers are not aware of any complications that accompany pregnancy (Musfirowati, 2023).

d. Childbirth Assistant

Assisted delivery by health workers is a safe delivery service carried out by competent health workers (Minister of Health of the Republic of Indonesia, 2014). Coverage of birth assistance by health workers illustrates the ability of MCH program management to assist childbirth according to standards. Of the 52 cases of maternal death that occurred in Serang Regency, more than 70% of births were assisted by health workers. This shows that awareness and understanding in the community is starting to grow about the meaning of midwives as helpers in clean and safe births.

According to the researcher's assumption, the high number of maternal deaths caused by health workers as first birth attendants is due to delays in making decisions regarding referrals so that

by the time they arrive at the primary health facility or referral health facility the mother's condition is already in a critical condition. Even though the mother has received treatment from health workers, if the mother arrives in critical condition there is little chance of the mother surviving. First aiders play an important role in early detection of emergency signs, establishing a temporary diagnosis, and stabilizing patients by carrying out pre-referral measures. It is hoped that emergencies that are handled first by health workers can help improve the mother's condition so that her condition does not get worse.

This research is in line with previous research in the case of birth attendants, there was a delay which influenced the incidence of maternal death, because it was late in recognizing danger signs and making the decision to seek help. When an emergency occurs, mothers tend not to be able to decide because they may be in pain, so it is necessary to provide education to husbands and families regarding danger signs and make quick and appropriate decisions.

This research is in line with previous research where the family's quick and precise response in decision making is also influenced by the family's view of the seriousness of the condition, the availability of fees for referral and costs during treatment and views about the quality of service in health facilities. Apart from the patient and family, the decision to refer must also be made by health workers in accordance with their authority. Health workers, especially midwives, must be able to recognize the signs of Potential Obstetric Emergency (APGO), Obstetric Emergency (AGO), and Obstetric Emergency (AGDO) so that referrals can be made on time so that it is hoped that this can reduce cases of maternal death due to delays. in making referrals (Aulia et al., 2019.).

e. Place of Delivery

The place of birth is one of the factors that can influence the psychology of the mother giving birth. Inappropriate choice of birthing place and birth attendant will have a direct impact on the mother's health. There are at least two choices of place to give birth, namely at the mother's house or at a health service unit. The ideal place to give birth is a health facility with equipment and personnel ready to help if at any time birth complications occur. At least in health facilities such as community health centers that are able to provide PONED. Health facility birthing places have more complete facilities for caring for mothers and babies if they need further care, if problems occur after the birth process.

The decision on where to give birth is not only made by the mother giving birth, but the support of her husband, other family members such as mother-in-law and older children, advice from the midwife or doctor and support from neighbors are factors that strengthen the death of the mother giving birth.

The accuracy of the referral depends on the role of health workers in carrying out early detection of potential obstetric emergencies (APGO) in the form of detecting patient conditions that have the potential for emergencies, including age, parity, birth spacing, and past obstetric history. Early detection of obstetric emergencies (AGO) and obstetric emergencies (AGDO) such as preeclampsia/eclampsia, bleeding, infection, etc. Apart from that, the accuracy of referrals is also influenced by several factors, including the ability of health workers to provide information about danger signs and the implementation of referrals to families (Masturoh et al., 2018)

This research is in line with research conducted by Desti Nataria that the high number of deaths that occur in hospitals within 0–24 hours is related to delays in referral. Delays in referrals were mostly caused by delays in making the decision to refer, namely 67.6%, delays in reaching the referral site amounted to 8.8%, and delays in obtaining adequate treatment contributed 23.5%. Research conducted in Semarang City and Regency also showed the same results where delays in decision making were the biggest cause of maternal deaths, namely 53% and 83%. The slow decision making at the family level is caused by several factors including the family's low level

of education which results in a lack of family understanding of the health information provided and the family's ignorance about emergencies that occur in the mother and the treatment efforts that must be carried out by the family.

Conclusion

The causes of maternal death in Serang Regency in 2022 were caused by bleeding in 8 cases (15.4%), pre/eclampsia in 20 cases (38.5%), KPD in 1 case (1.9%), and others in 23 cases. (44.2%). Description of the characteristics of the causes of maternal death, the majority of those who experienced maternal death in Serang Regency in 2022 were based on age, with the most cases being 20-35 years, 37 cases (71.2%), then based on parity, 27 cases were experienced by parity 2-3 deaths (51 .9%), the majority of ANC visits were >6 times, 31 cases (59.6%), and death cases based on birth attendants received the highest number of birth attendants, namely 41 cases (78.8%), next place There were 11 cases of home birth (21.2%), 8 cases of DOA (15.4%), 2 cases of community health centers (3.8%), and 31 cases of hospital delivery (59.6%).

References

Dinas Kesehatan Banten . (2022).

Dewi Andariya Ningsih, Factors Contributing To Maternal Mortality In Tasikmalaya City, Siklus: Journal Research Midwifery Politeknik Tegal Volume 9, Issue 2 Pages 133-141. https://ejournal.poltekharber.ac.id/index.php/siklus/article/view/1789

Hidayat, A. A. (2017). *Metode Penelitian Keperawatan dan Kesehatan.* Jln. Raya Lenteng Agung No. 101.

Jannah, N. (2012). *Buku Ajar Asuhan Kebidanan.*

Manuaba, Chandranita, Ayu, I., Gde, & Bagus, I. (2013). *Ilmu Kebidanan. Penyakit Kandungan dan KB untuk Pendidikan Bidan.*

Nazir, M. (2014). *Metode Penelitian .* jakarta,Ghalia Indonesia.

Nur Amelia, S. W. (2019). *Asuhan Kebidanan Kasus Kompleks Maternal & Neonatal.* Jl. Wonosari Km. 6 Demblaksari Baturetno Banguntapan Bantul Yogyakarta.

Purwoastuti, T. E., & Sri Walyani, E. S. (2015). *Asuhan Kebidanan Kegawatdaruratan Maternal & Neonatal.*

Rukiyah, A., & Yulianti, L. (2019). *Asuhan Kebidanan Kegawatdaruratan Maternal dan Neonatal.*

Aulia, D., Farid Husin, O., Wirakusumah, F. F., Susiarno, H., Sukandar, H., Susandi, D., Kemenkes Semarang, P., Kedokteran, F., Padjadjaran, U., Slamet, R., Garut, K., & Octaviani, D. A. (2019). *Analisis Penyebab Kematian Maternal Di Kabupaten Garut (Studi Epidemiologi dalam Upaya Menurunkan Kematian Maternal di Provinsi Jawa Barat).*

Jayanti, K. D., Basuki N, H., & Wibowo, A. (n.d.). *Faktor yang Memengaruhi Kematian Ibu (Studi Kasus di Kota Surabaya)*

T., Erniyati Berkah Pamuji, S., Studi III Kebidanan, P. D., & Bhakti Mandala Husada Slawi, S. (2018). Keterlambatan Penyebab Kematian Maternal Di Kabupaten Brebes

Madya, W. A., Ciloto, B., Kementerian, K., & Ri, I. (2020). Gambaran Kesehatan Reproduksi Remaja di Panembong Girang Desa Mekarsari Cianjur Helvy Yunida. *JARTIKA) |*, *3*(2), 382–387. https://journal-litbang-rekarta.co.id/index.php/jartika

Nataria, D., Husin, F., Hidayat, Y. M., Sismayadi, D., Sukandar, H., & Wirakusumah, F. F. (2020). Analisis Penyebab Kematian Maternal di Kabupaten Cirebon. *Jurnal Kesehatan*, *11*(1), 22. https://doi.org/10.35730/jk.v11i1.465

J., Idyawati, S., Ricca Afrida, B., Putu Aryani, N., Hikmah Annisa, N., Kebidanan Jenjang, P. D., & Yarsi Mataram, S. (n.d.). *Faktor-Faktor Penyebab Infeksi Masa Nifas.* www.lppm-mfh.com

Irwan, H., & Yusuf Akademi Kebidanan Pelamonia Makassar Abstrak, H. (2019). Hubungan Antara Pekerjaan dan Usia Kehamilan Dengan Kejadian Ketuban Pecah Dini Di Rumah Sakit Umum Bahagia Makassar 2019. *Jurnal Kesehatan Delima Pelamonia*, *3*(2).

Octaviani Laput, D., Nggarang, B. N., & Rosniyati Dewi, I. (n.d.). *Hubungan Usia Ibu dengan Kejadian Preeklamsia Berat di Ruang Bersalin Blid RSUD dr. Ben Mboi Ruteng Tahun 2016*.

Puspita, D. F., Novianty, K., & Rahmadini, A. F. (2021). Faktor-Faktor Yang Berhubungan Dengan Kejadian Ketuban Pecah Dini Pada Ibu bersalin Di BPM Sri Puspa Kencana.Amd,Keb di Kabupaten Bogor. *Journal of Midwifery Care*, *2*(01), 1–10. https://doi.org/10.34305/jmc.v2i01.364

Putri, A. R. S. (2020). Pendidikan dan tempat tinggal ibu dengan kejadian perdarahan pada kehamilan di Indonesia. *Jurnal Riset Kebidanan Indonesia*, *4*(2), 38–42. https://doi.org/10.32536/jrki.v4i2.88

Respati, S. H., Sulistyowati, S., & Nababan, R. (2019). Analisis Faktor Determinan Kematian Ibu di Kabupaten Sukoharjo Jawa Tengah Indonesia. *Jurnal Kesehatan Reproduksi*, *6*(2), 52. https://doi.org/10.22146/jkr.43463

Rini, T., Lestari, P., Status, P., Ibu, K., & Bayi, D. (2020). *Pencapaian Status Kesehatan Ibu dan Bayi Sebagai Salah Satu Perwujudan Keberhasilan Program Kesehatan Ibu dan Anak.* https://www.guesehat.com/polemik-kesehatan-

Simanjuntak, L. (2020). Perdarrahan Postpartum (perdarahan paskasalin). In *Jurnal Visi Eksakta (JVIEKS)* (Vol. 1, Issue 1).

Tuzzahro, S. F., Triningsih, R. W., Toyibah, A., Program,), Terapan, S. S., Malang, K., Kebidanan, J., Malang, K., & Malang, K. (2021). *Hubungan Jarak Kehamilan dengan Kejadian Abortus*.

Vedy, H. I., & Ramadhian, M. R. (2017). *Multigravida Hamil 40 Minggu dengan HAP (Hemorrhage Antepartum) e.c Plasenta Previa Totalis* (Vol. 7, Issue 2).

Zeta Natasha, T., Ida Niara Program Studi Kesehatan Masyarakat, S., Ilmu Kesehatan, F., Pembangunan Nasional Veteran Jakarta Abstrak, U., & Zeta, T. N. (2022). Determinan Kematian Ibu Serta Upaya dalam Penurunannya; Studi Literatur Determinant of Maternal Mortality and Effort to Reduce It: Literature Study. In *Jurnal Ilmiah Kesehatan Masyarakat* (Vol. 14).

Akhmad Yanuar Fahmi; Rudiyanto; Annisa, N. N. (2020). Pengaruh aplikasi sidimes berbasis android terhadap pengetahuan ibu balita tentang stunting. 12(4).

Akhmad, Yanuar Fahmi; Rudiyanto; Annisa, Nur Nazmi;Badrul, M. (2019). Pendidikan dan Pelatihan Mindfulness Spiritual Islam pada Penghuni LAPAS Banyuwangi Tahun 2019. Jurnal STIKES Pemkab Jombang, 39–42.

Arifuddin, Y. W., Yanuar, A., & Pamungkas, F. (2018). The Effect of Ruqyah Syar'iyyah Therapy on Anxiety, Stress and Depression Among Health Science Students. 1.

Pamungkas, A. Y. F., Trianita, D., Damayanti, F. E., Qomariyah, A., Wahyuni, L. E. T., Munif, B., & Wirawati, W. A. (2021). A study on the relationship between banyuwangi government policy mall orang sehat mall of health people with the acceptance of the coronavirus disease 2019 vaccine in indonesian – implications for vaccination implementation policies. Open Access Macedonian Journal of Medical Sciences, 9, 1021–1025. https://doi.org/10.3889/oamjms.2021.7388

Yanuar, A., Dwidiyanti, M., & W, D. Y. (2018). Effectiveness of Mindfulness on Decreasing Stress in Health Professional Students : A Systematic Review. 1.

Yanuar, A., & Pamungkas, F. (2019). Hubungan Dukungan Sosial dengan Tingkat Stres pada Warga Binaan Pemasyarakatan Perempuan di Lembaga Pemasyarakatan. 2(2), 42–47.

Yanuar, A., Pamungkas, F., Trianita, D., & Wilujeng, A. P. (2022). Pengaruh OTOF (One Team Student One Family) terhadap Pengetahuan Ibu dengan Balita Mencegah Stunting. In Journal of Holistic Nursing and Health Science (Vol. 5, Issue 2). https://ejournal2.undip.ac.id/index.php/hnhs