The Correlation of Mother’s Age with Types of Labor on Maternity Mothers in Patut Patuh Patju West Lombok Hospital

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ABSTRACT

Background: Age is considered important because it determines the prognosis in childbirth, because it can cause pain (complications) for both mother and fetus. Pregnancy At the age of less than 20 years will be easier to experience complications, in the age group over 35 years is 3 times higher than the healthy reproductive age group (20-35 years).

Methods: This research design is a cross sectional study. The population of this study were all mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok for the period of January 1 to June 30 in 2020 as many as 2,503 people. The sampling technique used is simple random sampling, with a total sample of 345 people. Data analysis using Chi Square analysis.

Results: The age of the mother who gave birth at the Patut Patuh Patju Hospital, West Lombok, was mostly of healthy reproductive age, ie 20-35 years by 72.8%. The type of delivery in the mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok, the majority of mothers who gave birth normally, amounted to 60.6%. The results of the analysis obtained that the value of X²count is smaller than X²tabe1 (2.360<5.591) and the p-value of 0.307 The contingency coefficient (t) is 0.08.

Conclusion: There is no relationship between maternal age and type of delivery in mothers who give birth at Patut Patuh Patju Hospital, West Lombok for the period January 1 to June 30 2016.

1. Introduction

Every woman wants the labor process to run normally and give birth to a perfect baby. The labor process is influenced by three factors that play a role, namely the power to push the fetus out (power) which includes uterine strength (his), abdominal wall muscle contraction, diaphragm contraction and ligament action, other factors are fetal factors (passanger) and birth canal factors (passage). His condition is normal, there are no disturbances due to abnormalities in the location or shape of the fetus and there are no abnormalities in the size and shape of the birth canal, so the delivery process will take place normally. However, if one of these three factors is abnormal, for example a condition that causes inadequate his strength, abnormalities in the baby or abnormalities in the birth canal, labor cannot proceed normally so it is necessary to immediately give birth with measures such as vacuum extraction, forceps, induction of labor and surgery. Caesarean to save the soul of the mother & baby in her womb. This is in accordance with the National Strategic Plan contained in the key message Making Pregnancy Safer (MPS), namely: every delivery is assisted by trained health personnel, every obstetric and neonatal complication receives adequate services.

Action delivery is a midwifery procedure where active action is taken by the rescuer to complete labor, if the delivery process cannot run normally.

Delivery actions are carried out to assist the delivery process that is experiencing complications, so as to reduce the risk of maternal and infant mortality which in turn can reduce MMR and IMR in Indonesia. According to WHO (World Health Organization), the average standard of caesarean section...
in a country is around 515%. In Indonesia the percentage of caesarean section is about 5%. In government hospitals the average is 11%, while in private hospitals it can be more than 30% (Winknyosastro, 2006). According to Bensons and Pernolls, the mortality rate for caesarean section is 40-80 per 100,000 live births. This figure shows the risk is 25 times greater than vaginal delivery.

The incidence of operative delivery has increased globally, especially in caesarean section deliveries. There are several facts about maternal morbidity associated with the incidence of operative delivery. Some of the morbidities include the incidence of obstructed labor, late delivery, bleeding and other complications of pregnancy and childbirth. According to data from the Patut Patuh Patju Hospital, West Lombok in 2020, this morbidity is a contributor to high maternal mortality, which is 28% for bleeding cases and 24% for other labor complications. 55% of bleeding cases are caused by cesarean delivery. Therefore, childbirth by action indirectly contributes to the cause of maternal death.

Age is considered important because it determines the prognosis of childbirth, because it can cause pain (complications) for both mother and fetus. The optimal reproductive age for a mother is between 20-35 years. At the age of less than 20 years, the reproductive organs have not functioned perfectly so that if pregnancy and childbirth occur, it will be easier for complications to occur. Young pregnant women also have a tendency to have immature mental development so that they are not ready to become mothers and accept their pregnancy. This can result in obstetric complications that can increase maternal and perinatal mortality. The risk factor for difficult delivery in mothers who have never given birth in the age group of mothers under 20 years and in the age group above 35 years is 3 times higher than in the healthy reproductive age group (20-35 years) (Arisjulyanto, el al., 2021).

According to preliminary study data obtained from February 7 to February 14, 2020, from 50 mothers who gave birth by surgery, the age of 620 teams: 15-30 yrs:20=40%, >35 yrs:15-30%). Based on the results of the preliminary study, researchers are interested in conducting research on the relationship between age and type of delivery in mothers who give birth at Patut Patuh Patju Hospital, West Lombok in 2020.

2. Methods

This research is a type of research that uses analytical descriptive method. In descriptive research, researchers will only describe or describe certain variables in a study without looking for relationships between variables. However, in analytical research, researchers not only describe but have analyzed the relationship between variables.

So in this study, researchers will describe or describe and analyze the relationship between variables, namely the independent variable is the age of the mother who gave birth at the Patut Patuh Patju Hospital, West Lombok Period I January to June 30, 2020. While the dependent variable is the type of delivery in mothers who give birth in Hospital Patut Patuh Patju Hospital, West Lombok in 2020.

This study uses a cross-sectional approach, which is a research that is carried out for a moment, meaning that the object of research is observed only once and there is no treatment for the respondent. The population in this study were all mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok from January I to June 30, 2020 a total of 2,503 patients. The sample or respondents in this study were mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok during the period from January I to June 30, 2020, which was a total of 345 people. The sampling technique used in this study was the Simple random sampling technique.

The variables used in this study are:
1. The independent variable (independent variable) is the age of the mother.
2. The dependent variable (the dependent variable) is the type of delivery.

3. Result and Discussion

This study was conducted to determine the relationship between maternal age and the type of delivery in mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok in 2020. The respondents of this study were mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok, for the period I January to 30 June 2020. The overall sample was 345 respondents. Characteristics of respondents in this study were observed based on age, parity, occupation and type of delivery. The
results of the descriptive analysis of the characteristics of the respondents in this study can be seen in Table 1 below:

Table 1 Frequency Distribution of Maternal Characteristics Giving Birth at Patut Patuh Hospital, West Lombok in 2020.

### a. Characteristics of Respondents

1) **Mother's Age Category**

Frequency distribution of respondents based on the age category of mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok in 2020 (n=345)

<table>
<thead>
<tr>
<th>Category Age Mother</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20</td>
<td>46</td>
<td>13.3</td>
</tr>
<tr>
<td>20-35</td>
<td>251</td>
<td>7.28</td>
</tr>
<tr>
<td>&gt;35</td>
<td>48</td>
<td>13.9</td>
</tr>
<tr>
<td>Total</td>
<td>345</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Based on Table 1 it is known that the characteristics based on the age of the respondents show that most of the mothers aged 20-35 years as many as 251 people (72.8%).

2) **Category Type of Childbirth**

Frequency distribution of respondents based on the type of delivery of mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok in 2020 (n=345)

<table>
<thead>
<tr>
<th>Gender</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>209</td>
<td>60.6</td>
</tr>
<tr>
<td>Action</td>
<td>136</td>
<td>39.4</td>
</tr>
<tr>
<td>Total</td>
<td>345</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Based on the table above, it shows that most of the mothers gave birth normally as many as 209 people (60.6%).

3) **Parity Category**

Frequency distribution of respondents based on parity of mothers who gave birth at Patut Patuh Patju Hospital, West Lombok in 2020 (n = 345).

<table>
<thead>
<tr>
<th>Last education</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primipara</td>
<td>175</td>
<td>50.7</td>
</tr>
<tr>
<td>Multipara</td>
<td>158</td>
<td>45.8</td>
</tr>
<tr>
<td>Grandemultipara</td>
<td>12</td>
<td>3.5</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The table above shows that according to the parity of mothers who gave birth, it is known that most of the mothers were primiparous as many as 175 people (50.7%).

4) **Job Category**

Frequency distribution of respondents based on the work of mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok in 2020 (n = 345).

<table>
<thead>
<tr>
<th>Last education</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working</td>
<td>34</td>
<td>9.9</td>
</tr>
<tr>
<td>Doesn't work</td>
<td>311</td>
<td>90.1</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Based on the table above shows that most of the mothers do not work as many as 311 people (90.1%).

b. Data analysis
1) Univariate Analysis

Univariate analysis in this study serves to analyze each variable, namely maternal age and type of delivery. The results of the univariate analysis of research variables are as follows.

a) Mother's Age

The age of the mother giving birth is one of the factors that affect the course of the labor process. Mother's age can be seen in Table 5 below.

<table>
<thead>
<tr>
<th>Category Age Mother</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20</td>
<td>46</td>
<td>13.3</td>
</tr>
<tr>
<td>20-35</td>
<td>251</td>
<td>72.8</td>
</tr>
<tr>
<td>&gt;35</td>
<td>48</td>
<td>13.9</td>
</tr>
<tr>
<td>Total</td>
<td>345</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Based on the results of the analysis, it is known that most of the age of the mothers who gave birth, namely the reproductive age of 20-35 years as many as 251 people (72.8%). A small proportion of mothers who gave birth at the age of QO years were 46 people.

b) Childbirth Category

Data Types of labor are various processes of expulsion of the products of conception (fetus and uri). The type of delivery is categorized on a nominal scale with two categories, namely normal and surgical. The results of the univariate analysis of the type of labor can be seen in Table 6 below.

<table>
<thead>
<tr>
<th>Gender</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>209</td>
<td>60.6</td>
</tr>
<tr>
<td>Action</td>
<td>136</td>
<td>39.4</td>
</tr>
<tr>
<td>Total</td>
<td>345</td>
<td>100.0</td>
</tr>
</tbody>
</table>

2) Bivariate Analysis

Bivariate analysis was conducted to prove the research hypothesis. The hypothesis proposed in this research reads that there is a relationship between maternal age and the type of delivery in mothers who give birth at Patut Patuh Patju Hospital, West Lombok. 2020. The results of the bivariate analysis of this study can be seen in Table 7 below.

<table>
<thead>
<tr>
<th>Maternal age</th>
<th>Type of delivery</th>
<th>X²</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 20</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>20-35</td>
<td>153</td>
<td>44.3</td>
<td>98</td>
</tr>
<tr>
<td>&gt;35</td>
<td>25</td>
<td>7.2</td>
<td>23</td>
</tr>
<tr>
<td>Amount</td>
<td>209</td>
<td>60.6</td>
<td>136</td>
</tr>
</tbody>
</table>

The cross tabulation above shows that 31 (9.0%) women with QO years experienced normal delivery, while 15 (4.3%) women gave birth with surgery. 153 (44.3%) mothers with reproductive age 20-35 years who experienced normal delivery, while 98 (28.4%) mothers gave birth with surgery. Mothers with age> 35 years who gave birth normally as many as 25 (7.2%) people, while 23 (6.7%) people gave birth by surgery.
The proof of the research hypothesis was carried out Bivariate analysis was an analysis used to determine the relationship between the independent variable (mother's age) and the dependent variable (type of delivery) at Patut Patuh Patju Hospital, West Lombok in 2020, using the data analysis method formula with the X2 test (Chi Square).

To test the significance of the difference in proportion or frequency, use the formula:

\[
\chi^2 = \frac{(O - E)^2}{E}
\]

where X2 is the calculated value, O is the observed value, and E is the expected value.

Based on the statistical test, the value of X2 calculated is 2.360 with a significance of 0.307 while the value of x2 table df=2 is 5.591. The results showed that the X2 value was smaller than the X2 table value (2.360 < 5.591) and the p-value (0.03 > 0.05) it could be concluded that there was no relationship between maternal age and type of delivery in mothers who gave birth at Patut Patuh Patju Hospital, West Lombok in 2005-2020.

C. Discussion
1. The age of the mother who gave birth at the Patut Patuh Patju Hospital West Lombok

Age is the length of time she lived or existed (since she was born or was held). -35 years were 251 (72.8%), while mothers who gave birth <20 years were 46 (13.3%) and mothers who gave birth >35 years were 48 (13.9%). The results of this study are in line with research conducted by Ariyanti (2012) where 143 people who gave birth at the age of mothers who were not at risk (20-35 years) mostly experienced normal deliveries as many as 95 people (66.4%) and a small portion experienced surgical delivery as many as 48 people (33.6%).

Pregnant women who are too young or too old will usually experience many complications in childbirth. The size of the young age is when the mother gives birth at the age of 20 years and the old when above 35 years. At the age of the mother less than 20 years in the womb, the reproductive organs have not functioned perfectly. As a result, if pregnant women at this age may experience prolonged or obstructed labor, because the size of the baby's head is larger so it cannot pass through the pelvis. In addition, the strength of the muscles — perineal muscles and muscles — of the abdominal muscles have not worked optimally so that prolonged or obstructed labor often occurs which requires actions such as vacuum extraction and forceps.

Saying that there is a relationship between maternal age and labor, the results of the study found 133 deliveries by vacuum extraction (95.68%) and forceps as many as 6 (4.31%). While for women giving birth with forceps the following characteristics are between 20 - 35 years old.

According to ii in his research, the majority of mothers gave birth by sectio caesarea as many as 19 cases (63.3%), based on age the most were at the age of 20-35 years, 14 cases (46.7%). From the results of some of these studies, it can be seen that the age of the mother affects the action at the time of delivery. A person who lives a normal life can be assumed that the older he gets, the more experience he has, the wider his knowledge, the deeper his expertise and the more stable his wisdom (Notoadmodjo, 2010). Age affects the reproductive process, this usually happens because they are not physically ready, physically and mentally so that it can indirectly affect the fetus it contains (Kasan, 2010).

Maternal age <20 years and >35 years Women who are less than 20 years old or more than 35 years old, have a high risk of getting pregnant, because it will endanger the health and safety of pregnant women and their fetuses, are at risk of bleeding and can cause the mother to experience anemia and can cause abnormal delivery or through the act of childbirth. Maternal age can be grouped into three: a) <20 years, b) high-risk age 20-35 years, c) healthy reproductive age>35 years, high-risk age (72.7%).

Based on the results of the study, it can be seen that from 345 mothers who gave birth, the majority of respondents were in the age range not at risk, namely 20-35 years as many as 251 (72.8%), while mothers giving birth with an age <20 or >35 years as many as 48 (13.9%). The results of this study are in line with research conducted by Ariyanti (2012) where 143 people who gave birth at the age of mothers who were not at risk (20-35 years) mostly experienced normal deliveries as many as 95 people (66.4%) and a small portion experienced surgical delivery as many as 48 people (33.6%).
2. Types of delivery in mothers who gave birth at the Patut Patuh Patju Hospital West Lombok in 2020.

Based on the results of the study, the types of labor in mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok in the period January 1 to June 30, 2020, were 209 (60.6%) mothers who gave birth normally and 136 (39.4%) mothers who gave birth by means of delivery.

Normal delivery (spontaneous) is the process of the birth of a baby on the back of the head (LBK) with the mother’s own power, without the help of tools and not injuring the mother and baby which generally lasts less than 24 hours. Normal delivery is the process of expulsion of the fetus that occurs at term (37-42 weeks), born spontaneously with a back of the head presentation that lasts no more than 18 hours without complications for both mother and fetus.

This research is in line with the research conducted by Kusumawati (2006) at dr. Moewardi in 2005 recorded the total number of births as much as 1,469, of which most experienced normal deliveries as many as 738 (50.2%). Meanwhile, deliveries with complications requiring surgery were 731 (49.8%).

An action delivery is a delivery that cannot run normally spontaneously or does not walk alone, because there are indications of complications so that delivery is carried out by providing action using assistive devices. Labor is the process of opening and thinning of the cervix and the fetus descending into the birth canal. Birth is the process by which the fetus and membranes are pushed out through the birth canal.

Action delivery is delivery that cannot run normally spontaneously or does not walk alone, because there are indications of complications so that delivery is carried out by providing action using assistive devices. Every delivery has risks to both the mother and fetus, in the form of pain to the risk of death. If both the mother and the fetus are in a condition that causes complications in labor, then to immediately save both of them, it is necessary to immediately give birth with an action, namely vaginal delivery with certain assistive devices, such as forceps, vacuum extraction, or abdominal surgery, namely cesarean section. Vaginal delivery with forceps or vacuum extraction is performed if the conditions for vaginal delivery are met and if there are indications of complications so that delivery is carried out by providing action using assistive devices.

Based on the results of the cross tabulation of the relationship between the mother’s age and the type of delivery in mothers who gave birth, there were 209 (60.6%) respondents who gave birth normally and as many as 136 (39.4%) respondents who gave birth by means of delivery.

This study also examines whether there is a relationship between maternal age and the type of delivery in mothers who give birth, and from the results of the study it is known that the value of $x^2$ table df = 2 is 5.591. The results of the study show that the calculated $x$ value is smaller than the $x^2$ table value (2.360 < 5.591) and the p-value > 0.5, it can be concluded that there is no relationship between maternal age and type of delivery in mothers who gave birth at Patut Patuh Patju Hospital, West Lombok in the period January 01 to June 30, 2020, and the contingency coefficient value is 0.082.

Maternal age is the optimal reproductive age for a woman between the ages of 20-35, below and above that age will increase the risk of pregnancy and childbirth, because the development of reproductive organs is not optimal, emotional and psychological maturity is lacking, and physiological functions are not optimal, so that more frequent unwanted complications in pregnancy. On the other hand, older maternal age has occurred.

Decline in physiological and reproductive functions in general, resulting in more frequent adverse effects on infants. According to Stone (2012), the age of the mother who is getting older can also be at risk for complications of decreasing spontaneous labor.

The results of the research above are the same as the research conducted by Yuliana (2012) with the title Relation of Risk Factors with Labor Complications in Maternal Childbirth in North Gorontalo Regency with the results of Ilji Chi Square. The value of $x^2$ — count < p-value (3.688 < 5.702) and p-value (0.16) > 0.05, so that the conclusion is that there is no relationship between maternal risk factors and childbirth complications.

This research is also supported by the results of research conducted by Anggripta (2009) with the title Relationship of Maternal Characteristics in Childbirth with Delivery Complications at Medan...
Amplas Public Health Center, with the results of Pearson Chi Square between maternal age and labor complications obtained p value 0.05 (p = 0.371) so it can be concluded that there was no statistically significant relationship between maternal age and labor complications.

Research conducted by Setyowati (2010) with the title Relationship of Maternal Age with Sectio Caesarea Delivery Incidence at RSUD dr. Soetomo Surabaya, from the results of the study, the majority of mothers who gave birth were aged 20-35 years by 56.7%, and the results of statistical tests with OR values (1.800) showed that there was no significant relationship between maternal age and the incidence of sectional labor. Caesarea. Age at risk, based on this analysis, is a predisposing factor and not a major variable in risk factors for childbirth complications. This is certainly not new data, but only one of the results of the calculation that does not bring out the significance of risk factors from many studies on the age factor with operative delivery.

The results of this study are similar to those proposed by Mutiara and Yusad (2011). They found that there was no significant relationship between age and the incidence of surgical delivery (OR=0.64; 95% CI 0.25-1.62). They also stated that there were fewer mothers with unhealthy reproductive age (>35 years) (31.7%) compared to the number of mothers with healthy reproductive age (20-35 years) (68.3%).

At the age of under 20 years, a woman’s reproductive function has not developed perfectly, while at the age of 35 years it has decreased (Saifudin, 2008). At the age of <20 years, the body’s growth is not optimal. Likewise with the growth of reproductive organs, namely the uterus undergoes uterine hypoplasia and experiences pelvic narrowing (Wahyudi, 2003), a fragile perineum is usually found in grandemultipara which can trigger labor complications and cause labor to be ended with action. Other contributing factors that can affect the delivery process in addition to parity and maternal age include previous obstetric history, very close pregnancy intervals, history of disease and so on.

4. Conclusion

Based on research conducted on mothers who gave birth at the Patut Patuh Patju Hospital, West Lombok for the period January 1 to June 30, 2020, the conclusions in this study are as follows.
1. There is no relationship between maternal age and type of delivery in mothers who give birth.
2. The majority of mothers who gave birth were of healthy reproductive age, ie 20-35 years as many as 251 (72.8%) respondents.
3. The majority of mothers who gave birth were normal as many as 209 (60.6%) people.
4. The majority of parity mothers who gave birth were primiparous as many as 175 (50.7%) respondents.
5. The majority of mothers who gave birth were those who did not work as many as 311 (90.1) respondents.

References
Mulyawati, I.; Azam, M.; dan Ningrum, D.N.A. 2011. Faktor-Faktor yang Berhubungan dengan Tindakan
Wiknjosastro, H. Ilmu Bedah Kebidanan. Penerbit Yayasan Bina Pustaka