Determinants of Labour Complication in Indonesia (2017 IDHS Data Analysis)

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ABSTRACT

An inconclusive fetal condition, or what is known as fetal distress, is one of the birth complications that needs attention, such as irregular heartbeat, low amniotic fluid and asphyxia. The aim of this study was to determine factors associated with pregnancy complications. This study is an analysis of secondary data from the 2017 IDHS (Indonesian Health Demographic Survey 2017). The design of this research is a cross-sectional studyThe sample in this study had 49,627 inclusion and exclusion criteria. The data was analyzed using logistic regression. the results of this research a relationship between maternal age in the high risk category, maternal education in the low category, parity in the high category, utilization of antenatal care is in the bad category, the use of family planning in the non MKJP category and having pregnancycomplications with delivery complications. The determinants of labor complications were parity with high risk with OR = 1.53. It is also necessary to increase the partnership between traditional birth attendants and midwives and efforts to increase the socialization of risk factors and high risk to health cadres, traditional healers and pregnant women.

Keywords: birth attendant and place labor, complications of childbirth, data

BACKGROUND

There are still high cases of pregnancy complications which are actually expected to change reduction in cases of these complications. Even when compared with other countries, cases of childbirth complications in Indonesia are still very high. therefore there must be significant changes to reduce these cases. If the number of cases is not reduced, it is possible that there will be pregnant women who die during childbirth.

In previous research Childbirth is the process of expelling a baby from the womb who is already a month old, followed by the expulsion of the placenta and fetal membranes from the mother's body through the birth canal or other means, with or without assistance (mother's own strength) (Kurniarum, SiT et al. 2016). Labor complications are conditions that can endanger the safety of the mother and her baby in the delivery process which is influenced by close determinants, intermediate determinants and distant determinants (Nurfajriah 2018). The high number of maternal deaths in developing countries is caused by obstetric complications such as postpartum hemorrhage, eclampsia, and complications of miscarriage (Aeni 2013). According to data from the World Health Organization (WHO), the global maternal mortality rate in 2015 reached 216 per 100,000 live births or is estimated to be 303,000 deaths with the highest number of deaths in developing countries. Reached 302,000 deaths (WHO 2015). In developing countries the maternal mortality rate is 20 times higher than the maternal mortality rate in developed countries, which is 239 per 100,000 live births, while in developed countries it is only 12 per 100,000 live births (WHO 2019).

In Indonesia, the maternal mortality rate is still relatively high. The results of the 2012 IDHS report stated that the maternal mortality rate again increased from 228 in 2007 to 359 per 100,000 live births. Based on SUPAS data (2015), the maternal mortality rate has decreased to 305 per 100,000 live births. This figure is still four times higher than Indonesia's SDGs target targeted in 2030, which is 70 per 100,000 live births. The direct cause of maternal death is closely related to the condition of the mother's health during pregnancy, childbirth and the postpartum period. While the indirect causes are related to the social, economic, geographical and cultural behavior of the community, which are called Four Too (too young, too old in age, too many children and too close to pregnancy) and Tiga Late (too late in making a decision, too late to bring to a health facility), and delayed access to health services (Kemenkes RI 2016). Anwar, Saifuddin et al. (2018) shows that more than 90% of maternal deaths are caused by obstetric complications, and most of these complications occur in unexpected births during pregnancy. Accord SDKI (2007) the rate of childbirth complications in Indonesia is 47%. However, based on 2012 IDHS data, the birth complication rate was 46%, meaning the birth complication rate was only reduced by one percent. Based on the (SDKI 2017), the birth complication rate is 29%, which means the birth complication rate has decreased (71%) in 2017. The types of birth disorders are prolonged labor at 41%, bleeding at 7%, fever at 8%, seizures. 1%, the bladder ruptured more than 6 hours before birth in 16%, inability to push in 10%, anxiety or severe pain in 53%, and other complications in 5% (SDKI 2017).

Based on the results of research conducted by Nauli and Isnaeni (2017) factors related to the occurrence of childbirth complications include: maternal age at delivery, parity and a history of pregnancy complications. Furthermore, a study conducted by Ashar, Supadmi et al. (which states that the cause of childbirth complications is the presence of complications during pregnancy if controlled by the area of residence. Research conducted by Nurfajriah (2018) also mentions that factors that can influence childbirth complications include: nutritional status, history of pregnancy complications, pregnancy spacing and ANC utilization. The aim of this study was to determine factors associated with pregnancy complications

Previous researchers have conducted a lot of research regarding birth complications but cases continue to occur. In this study, researchers looked more broadly with more variables to

see what variables influence birth complications. it could be a variable that is not the main variable, but has a big influence. Therefore, this research can be a benchmark for future policy, that birth complications are not only based on the main variables.

METHODS

The 2017 SDKI research uses a descriptive analytical research design which is carried out using a cross sectional design with a quantitative approach, namely the variables studied measure the results and exposure of research participants at the same time (Setia 2016). This research is an analysis of secondary data from the SDKI (Indonesian Health Demographic Survey). 2017). The secondary data was reprocessed by researchers with further and specific analysis.

This research was located in 34 provinces throughout Indonesia, carried out from 24 July to 30 September 2017. The population in this study was the entire 2017 IDHS sample, namely all 51,220 married women aged 15-49 years (households and private blocks). The sample in this study had 49,627 inclusion and exclusion criteria. The inclusion criteria in the study were women aged 15-49 years, married, pregnant/giving birth to their last child in the last 5 years before the survey was conducted, experiencing or not experiencing childbirth complications. Meanwhile, the exclusion criteria are women who do not have complete data regarding signs of pregnancy and childbirth complications. In this study, researchers did not conduct interviews, only using secondary data from the 2017 IDHS.

This research was conducted using data collected from the 2017 Indonesian Health Demographic Survey (IDHS) with the interview method using a questionnaire to a sample of women 15-49 years of age who had been married. The questionnaire used in the IDHS has gone through a trial process for the Census Block n = 1,970 Households n = 49,250 Unmarried Adolescents 15-24 years old n = 24,625 Married Men n = 14,193 Primary Sample Unit n = 49,627 (Distribution of women who have ever been pregnant/delivered exists or no complications). In order to collect data, trainings have been carried out starting from the supervisory level, examiner and data collection. The training includes presentations in class, practice interviews and tests.

RESULTS

Univariate Analysis
Table 1. Frequency Distribution of Labor Complication

No	Labor Complications	Frequency	%
1	No	26.471	53,34
2	Yes	23.156	46,66
No	**Age**		
1	Low Risk	22,440	45,22
2	High Risk	27,187	54,78
No	**Education Level**		
1	High	9.124	18,39
2	Medium	27.340	55,09
3	Low	13.163	26,52
No	**Parity**		
1	Low Risk	43.006	86,66
2	High Risk	6.621	13,34
No	**Birth Interval**		
1	Low Risk	27.433	55,28
2	High Risk	22.194	44,72
No	**ANC**		
1	Good	13.537	27,28
2	Bad	36.090	72,72
No	**Birth attendant**		
1	Health Worker	40.906	82,43
2	Non Health Worker	8.721	17,57
No	**Place of Labour**		
1	Health Facility	39.449	79,49
2	Non Health Facility	10.178	20,51
No	**Mother's Work**		
1	Work	22.915	46,17
2	Doesn't work	26.712	53,83
Use Contraseption			
1	Not Using Contraseption	29.940	55,65
2	MKJP	3.497	8,51
3	Non MKJP	16.182	35,85
Total		49.627	100,0

Source: Secondary Data IDHS 2017 (Processed in 2021)

Based of the tabel showed that as many as 53.34% of mothers did not experience childbirth complications and as many as 46.66% of mothers experienced childbirth complications. The researcher assumes that almost half of women aged 15-49 years experience childbirth complications, because of the risk factors that cause these events. Then it shows that as much as 45.22% of the age of the mother is at low risk and as much as 54.78% of the age of the mother is at high risk. The researcher's assumption is that some of the mothers in Indonesia have a bad opinion about the age at which they are at high risk for giving birth. It shows that as many as 18.39% of mothers have higher education, as many as 55.09% mothers have secondary education and as many as 26.52% mothers have low education. The researcher assumes that mothers with higher education (18.39%) in Indonesia are still very lacking, due to the understanding of mothers in Indonesia that education has no effect on childbirth complications. It shows that as many as 86.66% of parity mothers are at low risk and as many as 13.34% are parity mothers are at high risk. The researcher assumes that mothers in Indonesia have a good understanding of the consequences of high-risk parity. It shows that as many as 55.28% of low-risk birth spacing and 44.72% of high-risk birth spacing. The researcher

assumes that the low-risk birth spacing (55.28%) occurs because mothers in Indonesia are good at managing pregnancy spacing. It shows that as many as 27.28% of ANC of good mothers and as many as 72.72% of ANC of poor mothers. The researcher's assumption is that the ANC is in the bad category (72.72%).

This occurs because the mother does not perform ANC examinations at least 4 times. showed that as many as 82.43% of mothers who gave birth were assisted by health workers and as many as 17.57% of mothers who gave birth were not assisted by health workers. The researcher assumes that there are mothers in Indonesia who still believe in giving birth assisted by non-health workers.

It shows that as many as 79.49% of mothers giving birth at health facilities and as many as 20.51% of mothers giving birth not at health facilities. The researcher assumes that there are still mothers in Indonesia (20.51%) who believe that deliveries carried out in non-health facilities are safe. It shows that as many as 53.25% of mothers come from urban areas and as many as 46.75% of mothers come from rural areas. The researcher assumes that mothers prefer to live in urban areas (53.25%) because it facilitates access to health services. shows that as many as 46.17% of mothers do not work and as many as 53.83% of mothers work. The researcher assumes that mothers work (53.83%) in order to help the family finances. The variable of family planning use shows that (55.65%) mothers in Indonesia do not use family planning and (35.85%) use non-MKJP family planning methods and then (8.51%) use MKJP family planning methods. Then the pregnancy complications variable explained that (14.11%) mothers in Indonesia did not experience pregnancy complications and (85.89%) had pregnancy complications.

Bivariate Analysis

Table 2. Determinants of Childbirth Complications in Indonesia

Determinants	Labour Complication				Total		OR	CI 95%	P-Value
	No		Yes						
	n	%	n	%	N	%			
Mother Age									
Low Risk	11.011	45,37	11.429	54,63	22.440	100			
High Risk	15.460	54,33	11.727	45,67	27.187	100	0,70	0,67-0,73	0,001
Education Level									
High	4.894	51,88	4.230	48,12	9.124	100			
Medium	14.670	50,50	12.670	49,50	27.340	100	1,06	0,99-1,13	0,114
Low	6.907	49,13	6.256	50,87	13.163	100	1,12	1,02-1,22	0,017
Parity									
Low Risk	23.515	51,06	19.491	48,94	43.006	100			
High Risk	2.956	44,20	3.665	55,80	6.621	100	1,32	1,23-1,42	0,001
Birth Interval									
Low Risk	14.692	50,53	12.741	49,47	27.433	100			
High Risk	11.779	50,08	10.415	49,92	22.194	100	1,02	0,98-1,06	0,410
ANC									
Good	4.179	27,99	9.358	72,01	13.537	100			
Bad	22.292	58,76	13.798	41,24	36.090	100	0,28	0,26-0,29	0,001
Birth attendant									
Health Worker	23.474	54,40	17.432	45,60	40.906	100			
Non Health Worker	2.997	30,86	5.724	69,14	8.721	100	2,67	2,50-2,86	0,001
Place of delivery									
Health Facility	22.862	55,39	16.587	44,61	39.449	100			
Non Health Facility	3.609	31,55	6.569	68,45	10.178	100	2,69	2,53-2,87	0,001
Type of Recidance									
Urban	13.711	49,47	12.714	50,53	26.425	100			
Rural	12.760	51,22	10.442	48,78	23.202	100	0,93	0,87-1,00	0,062
Mother Work									
Doesnt Work	13.290	54,13	9.625	45,87	22.915	100			
Work	13.181	46,98	13.531	53,02	26.712	100	1,33	1,27-1,40	0,001
Use Contraseption									
Not Use Contraseption	16.300	51.01	13.648	48,99	29.948	100			
MKJP	1.805	50,51	1.692	49,85	3.497	100	1,11	1,04-1,20	0,002
Non MKJP	8.366	49.29	7.816	50,71	16.182	100	1,11	1,07-1,15	0,0001
Pragnance Complication									
Doesnt Have Complication	3.783	51,81	3.290	48,19	7.073	100			
Have Complication	22.688	50,08	19.866	49,92	42.554	100	1,07	1,00-1,14	0,034

Source: Secondary Data IDHS 2017 (Processed in 2021)

Base on table it can be seen that the proportion based on maternal age, mothers with low risk age and not experiencing childbirth complications have a lower proportion (45.37%) compared to mothers with high risk age and not experiencing childbirth complications (54.33%). Meanwhile, mothers with high risk age and experiencing childbirth complications were lower (45.67%) compared to mothers with low risk age and experiencing complications

(54.63%). Obtained OR = 0.70. This means that mothers with a high risk age are at risk of experiencing childbirth complications by 0.70 times compared to mothers with a low risk age. Obtained a p value of 0.001 which indicates that there is an effect of maternal age with childbirth complications. Researchers assume that the age of the mother in the high-risk category is the stability of the body's condition not adequate at the age of <20 years, while the age of >35 years the mother's condition is no longer suitable or the mother's energy and mobility have decreased.

The proportion based on education, mothers with higher education and not experiencing childbirth complications was higher (51.88%) compared to mothers with secondary education (50.50%) and low education (49.13%). Meanwhile, mothers with low education and experiencing childbirth complications were higher (50.87%) compared to mothers with secondary education (49.50%) and higher education (48.12%). In secondary education obtained OR = 1.06. This means that mothers with secondary education are at risk of experiencing childbirth complications by 1.06 times compared to mothers with higher education. Obtained p value 0.114 which indicates that there is no effect of secondary education with childbirth complications. At low education obtained OR = 1.12. This means that mothers with low education are at risk of experiencing childbirth complications by 1.12 times compared to mothers with higher education. Obtained a p value of 0.017 which indicates that there is an effect of secondary education with childbirth complications. Researchers assume that mothers with low education are very familiar with childbirth complications, therefore most birth complications occur in mothers with low and middle education.

The proportion based on parity, mothers with low risk parity category and did not experience childbirth complications was higher (51.06%) compared to mothers who had high risk parity category and did not experience childbirth complications (44.20%). Meanwhile, mothers with high risk parity category and experiencing childbirth complications were higher (55.80%) compared to with parity mothers with low risk category and experiencing childbirth complications (48.94%). Obtained OR = 1.32. This means that mothers with high-risk parity are at risk of experiencing childbirth complications by 1.32 times compared to mothers with low-risk parity. Obtained a p value of 0.001 which indicates that there is an effect of parity with labor complications. The researcher assumes that mothers who have given birth too often will be prone to complications, because the condition of the body has been on the delivery table too often, and usually the stamina and endurance of the mother's body are disturbed.

The proportion based on birth spacing, mothers with low-risk birth spacing and not experiencing childbirth complications was higher (50.53%) compared to mothers with high-risk birth spacing and not experiencing childbirth complications (50.08%). Meanwhile, mothers with high-risk birth spacing and experiencing childbirth complications were higher (49.92%) compared to mothers with low-risk birth spacing and experiencing childbirth complications (49.47%). Obtained OR= 1.02. This means that the high-risk birth spacing is at risk of having childbirth complications by 1.02 times compared to mothers with low-risk birth spacing. Obtained a p value of 0.410 which indicates that there is no effect of birth spacing with labor complications. Researchers assume that the birth spacing is too close can increase the number of complications, not even just complications, it can also be other diseases, because the condition of mothers who have just given birth <2 years have had to give birth again.

The proportion based on ANC, mothers with good ANC category and did not experience childbirth complications was lower (27.99%) compared to mothers who had poor ANC category and did not experience childbirth complications (58.78%). Meanwhile, mothers with poor ANC category and experiencing childbirth complications were lower (41.24%) compared to mothers who had good ANC category and experienced childbirth complications (72.01%). Obtained OR= 0.28. This means that a bad ANC is at risk of having childbirth complications by 0.28 times compared to a good ANC. Obtained a p value of 0.001 which

indicates that there is an effect of ANC with labor complications. Researchers assume that mothers who do not perform ANC examinations are at risk of childbirth complications, because if the mother rarely performs automatic examinations, the mother does not know her body condition at the time of delivery.

DISCUSSION

Relationship of Maternal Age with Childbirth Complications

In this study, maternal age was the independent variable, indicating that the proportion based on maternal age, mothers who did not experience childbirth complications was higher in the age of mothers at low risk as much as 54.33%, compared to the age of mothers at high risk as much as 45.37%. Meanwhile, mothers who experienced childbirth complications were higher at the age of mothers who were at high risk as much as 54.63%, compared to the age of mothers who were at low risk as much as 45.67%. Obtained OR = 0.70. This means that mothers with a high risk age are at risk of experiencing childbirth complications by 0.70 times compared to mothers with an age of low risk. Obtained p value 0.001 which indicates that there is an effect of maternal age with childbirth complications.

According to research from Laila, Pasiriani et al. (2023) there is a relationship between age and childbirth complications (r=0.233; p<0.013). Subsequent research stated that mothers aged 20-35 years had a times less risk of experiencing childbirth complications compared to mothers aged under 20 years and over 35 years (Mariani and Vain 2019).

Women who are pregnant at a high risk age can cause complications for both the mother and the baby, because mothers who are too young less than 20 years of age still do not have reproductive organs with a uterus that is not yet perfect for pregnancy or childbirth, while mothers who are over 35 years old It is possible for complications to occur due to declining reproductive health and being unable to give birth (Hariyani, Murti et al. 2019). Then the SKRT-Surkernas study from Afifah, Tejayanti et al. (2016) explained that the maternal age <20 and >35 years amounted to 151,488 (21.2%) and obtained a p-value of 0.0001, which means that there is a significant relationship between maternal age and delivery complications and the (OR) 1.31 means 1.31 times experienced childbirth complications compared to the age of the mother who is between 21-34 years.

Relationship of Parity with Childbirth Complications

In this study, parity is the independent variable, indicating that the proportion based on parity, mothers who did not experience childbirth complications were higher in low-risk parity as much as 51.06%, compared to high-risk parity as much as 44.20%. Meanwhile, mothers who experienced childbirth complications were higher in high-risk parity as much as 55.806%, compared to low-risk parity as much as 48.94%. Obtained OR = 1.32. This means that mothers with high-risk parity are at risk of experiencing childbirth complications by 1.32 times compared to mothers with low-risk age. Obtained a p value of 0.001 which indicates that there is an effect of parity with labor complications.

In the study of Hariyani, Murti et al. (2019) explained that there was a relationship with a fairly strong relationship between the class of pregnant women and childbirth complications (r=-0.285 and p-value <0.05) with a negative correlation direction, while for age and parity there was a relationship with childbirth complications (p < 0, 05) with 365 closeness is quite strong in the direction of positive correlation. Primipara and grandemultipara 4 children have a 1.08 times risk of having childbirth complications compared to multiparous 2-3 child. The second and third births are the safest births, the risk will increase in subsequent pregnancies. A risky first birth can only be overcome with better antenatal care. The incidence of preeclampsia and eclampsia is more common during the first pregnancy and rarely in subsequent pregnancies (Hariyani, Murti et al. 2019).

Mothers with high parity will have a greater risk of childbirth complications, especially postpartum hemorrhage. In mothers who give birth frequently, the uterine muscles are often stretched, resulting in thinning of the uterine wall which eventually causes uterine contractions to become weak. Uterine rupture is a labor complication that often occurs in mothers who have previously given birth to several children (Aprilia, Desmarnita et al. 2023). Primiparas have the possibility of not experiencing complications in the form of placenta previa by 11.69 times greater than mothers who are multiparous or more (Choudhary, Prakash et al. 2018).

Parity 2-3 is the safest parity in terms of maternal mortality. Parity 1 and high parity (more than 3) have higher maternal mortality rates. Higher parity, higher maternal mortality. The risk in parity one can be managed with better obstetric care, while the risk in high parity can be reduced or prevented by family planning. Most pregnancies at high parity are unplanned (Hariyani, Murti et al. 2019).

Relationship of ANC with Childbirth Complications

In this study, ANC is the independent variable, indicating that the proportion based on ANC, mothers who did not experience childbirth complications were more high ANC bad as much as 58.76%, compared to good ANC as much as 27.99%. Meanwhile, mothers who experienced childbirth complications were higher in good ANC as much as 72.01%, compared to poor ANC as much as 41.24%. Obtained OR= 0.28. This means that a bad ANC is at risk of having childbirth complications by 0.28 times compared to a good ANC. Obtained a p value of 0.001 which indicates that there is an effect of ANC with labor complications. Then after being combined with other risk factors and grouped into the health care group, the variables related to childbirth complications were antenatal care with poor category, p-value <0.05.

Arisandi (2020) revealed that the results of statistical tests between the use of ANC and the incidence of labor complications obtained p value = 0.028, smaller than = 0.05, which has a significant relationship between the use of ANC and the incidence of childbirth complications. Statistical test results also obtained OR = 2.0, which means that not using ANC is a 2.0 times risk of experiencing complications in childbirth compared to using ANC. Then in Elmeida, Purwaningsih et al. (2023) it was found that of 102 mothers who gave birth at AM Parikesit Tenggarong Hospital in 2016, 57 mothers (55.9%) had a risky pregnancy interval of <2 years. The majority of mothers who gave birth did not have a history of disease, as many as 82 people (80.4%). Based on the status of the pregnancy check-up, of the 102 respondents who gave birth, 61 (59.8%) mothers underwent antenatal care (ANC) 4 times.

This study is in line with the theory stated by the Sengoma, Krantz et al. (2017) which states that, through pregnancy tests, The risk of pregnancy and childbirth that may arise in the mother can be detected early so that appropriate treatment can be carried out. Thus, a complete examination visit is very important for pregnant women. If the mother does not routinely check her pregnancy, the health workers cannot detect the possibility of complications in the mother. Complications of childbirth experienced by the mother will affect the safety of the soul of the mother and baby (Danielsson, Gilhus et al. 2019). This antenatal care/service can only be provided by professional health workers and cannot be provided by traditional birth attendants (Saifuddin, 2006). ANC in this case is useful in detecting life-threatening complications, preparing for birth and providing health education (Maria and Abdullah 2021).

Relationship of Birth Attendant with Childbirth Complications

In this study, birth attendants were independent variables indicating that the proportion based on birth attendants, mothers who did not experience birth complications were higher in mothers who gave birth and were assisted by health workers as much as 54.40%, compared to mothers who gave birth and were not assisted by health workers as much as 54.40%. 30.86%. Meanwhile, mothers who experienced childbirth complications were higher in mothers who gave birth and were not assisted by health workers as much as 69.14%, compared to mothers who gave birth and were not assisted by health workers assisted by health workers as much as

45.60%. Obtained OR = 2.67. This means that mothers who give birth and are not assisted by health workers are at risk of experiencing complications of childbirth by 2.67 times compared to mothers who give birth and are assisted by health workers. Obtained p value of 0.001 which indicates that there is an effect of birth attendants with labor complications.

In the research of Noor, Yulidasari et al. (2019), it was shown that the percentage of respondents who received delivery assistance with health workers and non-health workers was almost the same, namely 50.6% and 49.4%, respectively. Most birth attendants in Banten Province are traditional birth attendants with 40%, followed by midwives at 28.8% and families at 11.9%. In addition, from the results of this study, it appears that more than half of the respondents gave birth at home. This is what ultimately becomes one of the factors for the high delivery assistance that is not assisted by trained health workers in Banten Province. The results of this study are in line with previous studies (Fratidhina and Herlina 2021). The number of maternal and infant deaths caused by delivery assistance by traditional birth attendants or other untrained personnel is the result of delays in making decisions and referring to health facilities.

In another study, the most dominant variables related to labor complications, the results of this study were not the same as those of (Fratidhina and Herlina 2021) who analyzed secondary data from the (SDKI 2007), based on the research results of (Fratidhina and Herlina 2021) stated that the determinant of labor complications and the most dominant factor related to childbirth complications was a history of previous labor complications (OR=5.52). On result Huda's research stated that the most dominant variable related to childbirth complications was the birth attendant.

Relationship of Palce of Delivery with Childbirth Complications

In this study, the place of delivery was the independent variable, indicating that the proportion based on the place of delivery, mothers who did not experience delivery complications were higher in mothers who gave birth at health facilities as much as 55.39%, compared to mothers who gave birth in non-health facilities as much as 31.55%. Meanwhile, mothers who experienced childbirth complications were higher in mothers who gave birth in non-health facilities as much as 68.45%, compared to mothers who gave birth at health facilities as much as 44.61%. Obtained OR = 2.69. This means that mothers who give birth not in health facilities are at risk of experiencing childbirth complications by 2.69 times compared to mothers who give birth at health facilities. Obtained a p value of 0.001 which indicates that there is an influence of the place of delivery with delivery complications.

In the study of Noor, Yulidasari et al. (2019) more than half of the respondents (63.5%) did not give birth in a health facility. The respondent's house became the most common place of delivery at 62 percent, followed by midwives at 16 percent and government hospitals at 4.3 percent. Then research from Fratidhina and Herlina (2021) showed that most of the respondents chose facilities 74.4% of respondents who chose the place of delivery in non-health facilities (home) were 25.6%.

Research from Lestari, Novelia et al. (2020) the choice of place for delivery of non-health facilities (53.8%) is more than that of health facilities (46.2%). Research from Husnida, Iswanti et al. (2022) on the birth planning and prevention program (P4K) shows that respondents who participate in P4K experience fewer complications (3.0%) than respondents who do not participate in P4K experience complications, namely 33.3%. With a p value of 0.008 (p <), it means rejecting H0, which means that there is a significant relationship between the participation of pregnant women in P4K with the incidence of childbirth complications.

Relationship of Mother Work with Childbirth Complications

In this study, mother's occupation was the independent variable, indicating that the proportion based on occupation, mothers who did not experience childbirth complications

was higher in mothers who did not work as much as 54.13%, compared to mothers who worked as much as 46.98%. Meanwhile, mothers who experienced childbirth complications were higher in mothers who did not work as much as 54.13%, compared to mothers who worked as much as 46.98%. Obtained OR = 1.33. This means that mothers who do not work are at risk of experiencing childbirth complications by 1.33 times compared to working mothers. Obtained p value 0.001 which indicates that there is an effect of work with labor complications.

According to research from Johansson, Benderix et al. (2020), it is stated that there is no relationship between mother's work and childbirth complications with p-value > 0.05. Then research from Lestari, Novelia et al. (2020) work is the status of activities or daily work of pregnant women so that they get income. His research shows that the number of mothers who do not work is 201 subjects (59.8%). This study is in line with Husnida, Iswanti et al. (2022) research at the Nanggalo Padang Health Center, which is that most of the 59.8% of mothers do not work. The high number of mothers who do not work in Panembahan Senopati Hospital Bantul is caused by pregnant women who become housewives where in general the husbands who work.

Still research from Lestari, Novelia et al. (2020) that 36.6% of the incidence of labor complications occurred in subjects who did not work and obtained a p value of 0.115; RP=0.701; 0.451-1.090 with a significance value of = 5% (0.05) so it can be it was concluded that H0 was accepted, meaning that there was no significant relationship between work and the incidence of labor complications. This study is in line with research (Fajrin, 2009) which showed that most of the incidence of labor complications occurred in working subjects, with a p value of 0.870 so it can be concluded that H0 is accepted, meaning that there is no relationship between work and the labour complication (Ayenew 2021).

By looking at the p value of this study with the research of Ayenew (2021), both of them have no relationship between the two variables. In this study, the majority of subjects who experienced childbirth complications were mothers who did not work or were housewives. This may be because mothers who do not work do not have the knowledge and experience gained from the work environment and the media and supporting facilities that exist in their workplace.

Relationship of Use Contraseption with Childbirth Complications

In this study the use of family planning is an independent variable and shows that the proportion based on the use of family planning, mothers who use family planning in the MKJP category and experience childbirth complications (49.85%) compared with mothers who did not experience childbirth complications (50.15%) while mothers used non-MKJP family planning categories and experienced childbirth complications (50.71%) compared to mothers who did not experience childbirth complications (49.29%). Statistical test analysis showed that there was a relationship between the use of family planning and delivery complications with a p-value of 0.002 in the MKJP category and 0.0001 in the non-MKJP category.

The basis for the implementation of family planning services is the Republic of Indonesia Law Number 36 of 2009 concerning Health, Article 78 concerning Family Planning which reads: (1) Health services in family planning are intended to regulate pregnancy for couples of childbearing age to form a healthy and intelligent next generation (2) Government responsible for and ensure the availability of personnel, service facilities, tools and drugs in providing safe, quality and affordable family planning services to the community (3) Provisions regarding family planning services are implemented in accordance with statutory regulations (Utomo, Sucahya et al. 2021).

Postpartum family planning is actually not a new thing, because since 2007, through the Childbirth Planning and Complications Prevention Program (P4K), there is a delivery mandate that includes planning for the use of family planning after giving birth. The

application of postnatal family planning is very important because the return of fertility in a mother after giving birth is unpredictable and can occur before the arrival of the menstrual cycle, even in breastfeeding women. The first ovulation in a non-breastfeeding woman can occur as early as 34 days postpartum. This causes at the time breastfeeding, women often experience unwanted pregnancies (unwanted pregnancies) at intervals close to previous pregnancies. Contraception should have been used before sexual activity began (Utomo, Sucahya et al. 2021).

Relationship of Pragnance Complication with Childbirth Complications

In this study, the pregnancy complications variable became the independent variable and obtained the result that the proportion based on pregnancy complications, mothers who experienced pregnancy complications and experienced childbirth complications was (49.92%) lower than mothers who did not experience childbirth complications (50.08%). Statistical test analysis showed that there was a relationship between pregnancy complications and delivery complications obtained p-value 0.034. Most cases of MNM (Maternal Near Miss) and MD (Maternal Death) occur in the third trimester of pregnancy. These findings are in agreement with those reported from Indonesia, Pakistan, Tanzania, Turkey, and Syria. In rural Sudan, MNM gestational age is significantly higher than MDs. Stillbirth rate in cases MD (100%) was significantly higher compared to MNM (36%). In the WHO global survey, and studies in Brazil and Uganda stillbirth was significantly associated with the development of a potentially life-threatening condition (PLTC) to MNM and MD (Wachira 2020).

The number of women and girls who die each year from complications of pregnancy and childbirth decreased from 532,000 in 1990 to 303,000 in 2015. This improvement is remarkable given the rapid population growth in many countries where maternal mortality is highest. However, more than 800 women die every day from complications of pregnancy and childbirth. And for every woman who dies, about 20 others suffer serious injuries, infections or disabilities. Almost all maternal deaths (99%) occur in developing areas (Danielsson, Gilhus et al. 2019).

Many government programs are recommended to prevent complications during pregnancy, childbirth and the puerperium, including the Integrated ANC program, P4K Program (Department Planning and Complication Prevention Program) and the mother and baby love movement. According to WHO on World Health Day stated safe motherhood is a global effort to prevent/reduce maternal mortality by Making Pregnancy Safer (MPS). Which is a strategy for the health sector and the reduction of maternal mortality/illness and perinatal MPS services are human rights (Danielsson, Gilhus et al. 2019).

CONCLUSION

1. The number of cases of pregnancy complications in Indonesia is 23,156 (46.66%), meaning that almost half of women 15-49 years old in Indonesia have experienced childbirth complications.
2. Mothers who did not experience labor complications were higher in the province of Papua as much as 76.60% and the lowest was in the province of Bali as much as 35.29%. Meanwhile, mothers who experienced childbirth complications were higher in the province of Bali as much as 64.71% and the lowest was in the province of Papua with 23.40%.
3. There is a relationship between maternal age in highrisk category, maternal education in low category, parity in high category, antenatal care in poor category, place of delivery in non-health facility category and birth attendant in non-health worker category with delivery complications obtained p-value <0.05.

4. Efforts to increase the socialization of risk factors and high risk to health cadres, traditional healers and pregnant women. The existing class model for pregnant women as a means of disseminating information can be developed through the father class or mother-in-law class, because both fathers and parents influence every decision on pregnant women. Cultural approaches, easy access to health facilities, activation of standby villages, and the placement of midwives in villages are also very much needed, so that people no longer give birth at home.

5. High-risk pregnancies should receive serious attention from health workers at puskesmas and other health care providers. It is necessary to carry out pick-up efforts where pregnant women are always monitored for their health and preparation for childbirth by bringing the mother closer to the nearest health facility.

6. Provide ANC services according to operational standards ("10 T" service) for pregnant women until delivery. Among others: Weigh weight, blood pressure checked, peak birth height, Tetanus vaccination, iron tablets, determine nutritional status, laboratory tests, determine fetal heart rate, and case management.

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