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THE ROLE OF PREGNANCY COMPLICATIONS IN CHILDHOOD COMPLICATIONS

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Abstract

Pregnant women at risk If the pregnancy is not treated, the risk of maternal and fetal morbidity and mortality during delivery is 2.8 times. This study analyzes data from the Local Area Monitoring of high-risk pregnancies at the Kaliwungu Public Health Center, Kudus Regency, and emergency delivery by approach observational cohort retrospective among 149 respondents who experienced difficult childbirth (January to March 2023) later observed at the time of delivery until the end of 2023. Statistical test results with Chi-Square showed a result of 0.436a and a p-value of 0.509, which means there is no correlation between pregnancy complications and childbirth complications. The results of this research will make it possible to take data as a whole for one or several years to analyze it statistically based on conditions in the field.

I. INTRODUCTION

Childbirth complications are defined as situations that endanger the life of the mother or fetus as a direct impact of pregnancy or the birth process, where urgent obstetric treatment is required and without prior preparation. (Bandiyah S, 2019) In the world, maternal deaths due to complications of pregnancy or childbirth occur every 2 minutes (United Nations, 2023). In 2020, Indonesia ranked first for maternal mortality out of 10 ASEAN member countries (ASEAN, 2022), while Central Java for maternal mortality ranked 23rd out of 34 provinces throughout Indonesia (Ministry of Health, 2020). Kudus Regency is ranked 11th out of 35 regencies in the province of Central Java (Provincial Health Office Central Java, 2020).

Already agreed globally, where all countries are included units under it through the program *Sustainable Development Goals* refers to the target achievement of AKI in 2030, which is targeted at 70/100.000 KH(BAPPENAS, 2019). Nationally, Central Java to Kudus Regency 2020 still needs to work hard to achieve this achievement; in Kudus Regency in 2020, the maternal mortality rate was 135.4/100,000 KH (DKK Kudus, 2020), and targeted In 2021, the maternal mortality rate was 59.27/100,000 KH. Still, in 2021, the mortality rate was 150.59 (DKK Kudus, 2021); this shows the need for mutual synergy to solve this problem, including preventing birth complications from factors complicating pregnancy. Research results indicate that pregnancy complications are a determinant of maternal death, with an OR of 540.5 (Diana et al., 2020).

Determinants of labour complications include the parity factor OR: 3.509, Pregnancy Distance OR: 4.169, the incidence of anaemia OR: 4.812, and the history of complications OR: 4.714 (Artinanda, 2023). Kartika (2019) states that Mothers whose pregnancies have complications are at 2.8 times the risk of experiencing complications during childbirth compared to women who do not have risk factors for complications.

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Kaliwungu Community Health Center is ranked 4th out of 19 Community Health Centers in Kudus Regency with the highest number of high risks; in 2020, it had the highest number of pregnancies with a pregnancy complications rate of 38.94% (Holy DKK, 2020).

This study analyzes secondary data from PWS data with high risk of MCH pregnancies in 2022 at the Kaliwungu Community Health Center to determine the correlation between mothers who experience complications in pregnancy and the incidence of complications when the mother experiences childbirth. It is hoped that the results of this research can provide information to policymakers in seeking to accelerate the achievement of the global MMR target by eliminating factors that complicate pregnancy as factors that complicate childbirth.

II. RESEARCH METHODS

Design The research used in this research is *cross-sectional retrospective*, that is, a survey based on secondary data on mothers who experienced difficult births from the Kaliwungu Kudus Community Health Center in January – March 2023; their births were then monitored to see whether they experienced complications or not (until the beginning of 2024). The population of pregnant women who had complications in that month was 149 people (based on the Kaliwungu Health Center High-Risk PWS records), and this study used the total population as the sample. The tool used in this research is a workbook to observe data on mothers who experience complicated pregnancies and data on mothers during childbirth. The analysis was carried out univariately using percentages and central tendency, while Chi-Square carried out *bivariate analysis.*

III. RESULTS AND DISCUSSION

Table 1. Characteristics of Respondents Based on Gravida Status

Pregnant status	f	%
Pregnant 1	39	26,17
Pregnant 2	52	34,89
Pregnant 3	33	22,14
Pregnant 4	20	13,42
Pregnant ≥5	5	3,35
Total	149	100

Based on Table 1 above, it can be seen that the majority of respondents were in gravida two status, with 52 respondents (26.17%)

Table 2. Characteristics of Respondents Based on Parity Status

Parity Status	f	%
Parity 0	48	32,21
Parity 1	36	24,16
Parity 2	52	34,89
Parity 3	11	7,38
Parity ≥4	2	1,34
Total	149	100

Based on Table 2 above, it can be seen that the majority of respondents were in parity one status, with 52 respondents (34.89%)

Table 3. Characteristics of Respondents Based on Abortion Status

Status Abortion	f	%
Abortion 0	121	81,20
Abortion 1	24	1,34
Abortion 2	3	2,01
Abortion 3	1	0,67
Total	149	100

Based on Table 3 above, it can be seen that the majority of respondents were in abortion status 0, with 121 respondents (81.20%).

Table 4. Characteristics of Respondents Based on Type of Pregnancy Difficulties

Types of pregnancy complications	f	%
Anemia	13	8,72
Diabetes	1	0,67
Twins	2	1,34
HBsAg	2	1,34
Hypertension	2	1,34
Birth interval <2 years	14	9,39
CAKE	24	16,10
Other - Other	10	6,71
To misrepresent	4	2,68
Shortsighted	1	0,67

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Types of pregnancy complications	f	%
Obesity	1	0,67
Preeclampsia	1	0,67
Heart disease	1	0,67
Age < 20 years	7	4,69
Parity > 5	1	0,67
History of vaginal bleeding	5	3,35
Pleasant preview	2	1,34
History of SC	22	14,76
Poor obstetric history	8	5,36
Age >35 years	28	18,79
Total	149	100

Based on Table 4 above, it can be seen that most respondents experienced difficulties with CED pregnancies, numbering 24 respondents (16.1%).

Table 5. Characteristics of Respondents Based on Types of Childbirth Complications

Types of labour complications	f	%
Abortion	15	10,06
Anemia	1	0,67
CPD	1	0,67
Twins	2	1,34
HPP	1	0,67
IMAGE	1	0,67
Congenital abnormalities	1	0,67
Placement disorder	7	4,69
KPD	22	14,76
Other - Other	10	6,71
Makrochepal	1	0,67
Oligohydramnios	2	1,34
Partus did not progress	15	10,06
Preeclampsia	3	2,01
Severe preeclampsia	2	1,34
Pleased in advance	1	0,67
Premature	1	0,67
Settings	3	2,01
Didn't experience any complications	60	40,26
Total	149	100

Based on Table 6 above, it can be seen that the majority of respondents did not experience pregnancy complications; 60 respondents (40.26%)

Table 6. Pregnancy complications

Category	Pregnancy Complications	f	%
Can be changed	CAKE	24	16,1
	History of SC	22	14,8
	Other - Other	53	35,5
	total	99	66,4
It cannot be changed	Age > 35 years	28	18,8
	Other - Other	22	14,8
	total	50	33,6

Table 4.5 explains the results that the most common pregnancy complications of the 149 respondents were those aged > 35 years, with 28 respondents (18.8%). Other pregnancy complications in the categories that can be changed include Anemia, Diabetes, Gemeli, HBsAg, Hypertension, Malpresentation, Myopia, Obesity, Bad Obstetric History, Preeclampsia, Heart Disease, Vaginal Bleeding, Placenta Previa. Meanwhile, other pregnancy complications in the category that cannot be changed include Delivery Distance < 2 years, Parity > 5, and Age < 20 years.

Table 7. Childbirth Complications

Category	Childbirth Complications	Amount	Percentage (%)
Experiencing Complications	KPD	22	14,8
	Partus did not	15	10,1
	progress	15	10,1
	Abortion	37	24,7
	Other - Other		
	total	89	59,7
No complications	Didn't experience any complications	60	40,3
	total	60	40,3

Table 8 explains that the most common birth complications were KPD, as many as 22 respondents (14.8%), and those who did not experience birth complications 60 respondents (40.3%). Other complications include Anemia, CPD, Gemeli, HPP, IUGR, Congenital Abnormalities, Placement Abnormalities, Microcephaly, Oligohydramnios, Pre Eclampsia, Severe Pre Eclampsia, Placenta Previa, Prematurity, and Serotinus.

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Table 8. Relationship between Pregnancy Complications and Childbirth Complications

Pregnancy Complications	Childbirth complications						X^2	r value
	Experiencing complications		Didn't experience any complications		Total			
	n	%	n	%	n	%		
Can be changed	61	61,6	38	38,4	99	100	0,436	0,509
It cannot be changed	28	56,0	22	44,0	50	100		
Total	89	59,7	60	40,3	149	100		

Table 9 explains that of the 149 respondents who researched, 99 respondents had pregnancy complications that could be changed and more experienced birth complications, 61 (61.6%) than those who did not experience birth complications, namely 38 (38.4%). Meanwhile, of the 50 respondents who had irreversible pregnancy complications, 28 (56.0%) experienced birth complications more than those who did not experience birth complications, namely 22 (44.0%). Based on the results of the Chi-Square test analysis, it was found that there was no relationship between pregnancy complications and childbirth complications, as indicated by *a p-value* of 0,509.

The results of the study showed that most of the pregnancy complications experienced by respondents are types of disease the one that can change before pregnancy occurs at 66.4%, with Protein Energy Deficiency (KEK) at 16.10%, for complications of childbirth that could not be achieved and changed with the most significant number being aged > 35 years, amounting to 18.79%. A possible risk factor faced by mothers with CED is the occurrence of anaemia in pregnancy, with a 2.18 x risk of experiencing postpartum haemorrhage compared to mothers who do not experience CED—experiencing anaemia during pregnancy (Adhimukti et al., 2023). Meanwhile, mothers with pregnancy complications who cannot be changed, aged 35 years, are at risk of experiencing post-partum haemorrhage with an OR of 1.96 (Pubu et al., 2021).

Of the 149 respondents who had complications during pregnancy, 60% experienced birth complications; the highest birth complication experienced by respondents was Premature Rupture of Membranes (14.76%). The complications that may occur are risk of infection to the fetus and mother, perinatal death, syndrome respiratory problems in babies, bleeding *intraventricular*, Lung hypoplasia, and the risk of giving birth by cesarean section (Dayal & Hong, 2023). Respondents who experienced difficulties and complications in this study were predominantly mothers with Gravida 2 (multigravida) status, 52 (34.9%) and Parity 2 (multiparity) 54 (34.89%) and 121 (81.20%) who did not experience abortion. %) This research is in line with the study (Zainiyah Hamimatus et al., 2022), which states that mothers with pregnancy complications (preeclampsia) are more likely to experience multigravida mothers at 14.8% p 0,011.

The results of this study show no significant statistical correlation between birth complications and the incidence of birth complications, with the result p = 0.509. This research does not support previous research by Kartika (2019), which stated that mothers who experience complications during pregnancy are at 2.8 times the risk of experiencing complications during childbirth compared to mothers who do not experience complications during pregnancy. The research results of Sulastri & Nurhayati (2021) provide an overview of the high risk of pregnancy and the process of labour where complications during childbirth are determined by problems that exist during pregnancy, based on the Score Card Poedji Rocked (KSPR) Where if the assessment results are low then most deliveries are standard, if the KSPR is high it describes most deliveries being regular, vacuum and CS whereas if the KSPR results are very high all deliveries are by cesarean section and none are normal. This study's results differ from previous research results; the data taken may be limited or not much, so the analysis is less significant, and future research is

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expected to use more data (an entire year or several years).

IV. Conclusion

This study's results show no statistically significant relationship between birth complications and the incidence of birth complications. Future research will use more data (an entire year or several years).

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