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Age and Parity Relationship with Premature Delivery

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Abstract

Background: Premature delivery is defined as the delivery process experienced at a gestational age of less than 37 weeks or a fetus that weighs less than 2,500 grams. Preterm birth not only results in perinatal death, but it also often causes short-term and long-term disability in the affected infants.
Objective: To analyze the relationship between age and parity to premature delivery.
Methods: This study is a type of analytical research using cross-sectional data with secondary data.
Results: There was an age relationship with premature delivery with a value of p = 0.000 < 0.05 and a parity relationship with premature delivery at Prof. Dr. H m. Anwar Makkatutu Hospital, Bantaeng Regency with a p value = 0.000 < 0.05.
Conclusion: Good nutritional status plays a very important role in supporting academic achievement, both through its influence on brain development, energy, cognitive function, and children's learning motivation.

Keywords: Age; parity; preterm labor

Introduction

Pregnancy can be the beginning of various causes of child death, according to the Indonesian Health Profile. Premature birth, birth weight of < 2500 grams (BBLR), fetal hunger, and stunted fetal growth are the main causes of infant death. Intrauterine hypoxia, or low oxygen levels in the uterus, and spontaneous respiratory failure are other common causes. In addition, asphyxia at birth often occurs at birth or after birth (Ministry of Health of the Republic of Indonesia, 2022). Premature delivery is defined as the birth of a baby with preterm gestation or a fetus that weighs less than 2,500 grams. Pregnancy-related problems, particularly those affecting the mother's circulatory system, lead to nutritional deficits and premature birth. A disorder of multifactorial processes is premature birth. Preterm birth can occur due to the confluence of maternal, fetal and sociodemographic variables. (Prawirohardjo, 2018). A number of factors contribute to premature aging, including age, gender (inadequate care, uterine abnormalities), maternal (diabetes, hypertension, heart or lung), socio-economic, poor nutritional intake, anemia, active smokers, drug users, insomnia, etc.), obstetrics (parity, preeclampsia, bleeding, hydramnion, etc.), and genetics (Pratiwi, 2024; Antika, 2024). The following are matters related to pregnancy prevention, including routine, nutrition of pregnant women, treatment of diseases, medical advice, and participation in practice. (Manuaba, 2017)

One of the causes of premature birth is the mother's age at childbirth. Physically immature reproductive organs can increase the risk of the mother experiencing pregnancy complications and premature delivery. Therefore, pregnancies that occur before the age of 20 are considered to have risk factors that can cause complications during pregnancy or during childbirth. Premature babies are more likely to be born to women who become pregnant after the age of 35. Babies may suffer from breathing problems, weakened immune systems, or stunted growth and development as a result. Premature birth is also influenced by parity in addition to maternal age. Regardless of the number of children, parity is the state of having a child, living or dead, excluding abortion. Therefore, twin births are only counted once in parity. owned by a woman. One of the elements that significantly affects the outcome of conception is parity. During all

phases of labor, a uterus that has given birth to many children is unlikely to be effective. (Saswita, 2019)

Previous research conducted by Fanna Marcella, et al (2022) titled Maternal Age and Parity with the Incidence of Preterm Birth was published in the journal Midwferry in 2022. The sample size of the study was 126 people, and the population consisted of mothers who gave birth at Dr. RSUD. H. Abdul Moeloek Bandar Lampung in 2019. Based on the results of the study, there was a relationship between age and premature birth in 2019 at H. Abdul Moeloek Hospital, Lampung Province, as well as between premature birth and parity (OR=6,269, p-value = 0.000). born at H. Abdul Moeloek Hospital, Lampung Province in 2019 (OR=3.333, p-value = 0.005). About 600,000 premature births occur in Indonesia every year, and this is a significant occurrence (WHO 2019). According to data from the Indonesian Ministry of Health in 2020, between 7 and 14 percent of all births in Indonesia are premature. Then in 2022 through the Indonesian Nutrition Status Survey, data on the prevalence of premature premature in Indonesia was obtained around 10%. Although it has decreased, this figure is still relatively high compared to other countries with an average of 6% premature delivery. (Ministry of Health SSGI, 2022).

Methods

Study Design

Cross-sectional design and analytical methods were used to look at the correlation of age and parity with premature delivery.

Samples

Sampling by pursposive sampling totaled 68 samples.

Instruments

The instrument used in this study is a questionnaire designed to collect data on the characteristics of pregnant women who experience premature delivery. The questionnaire includes questions about age, parity, and employment status. The questionnaire has been tested for validity and reliability to ensure that the data obtained is accurate and reliable.

Data Collection

Data collection was carried out using the cross-sectional analysis method. Data was obtained from medical records and childbirth records at Prof. Dr. HM Anwar Makkatutu Hospital. The sampling technique used was purposive sampling, where 68 respondents met the research criteria selected from the population of pregnant women who gave birth at the hospital.

Data Analysis

The collected data were analyzed using descriptive statistics and chi-square tests to identify the relationship between age and parity with the incidence of preterm labor. The results of the analysis are presented in the form of a table to show the frequency distribution as well as the relationship between variables. The p-value generated from statistical analysis is used to determine the significance of existing relationships.

Ethical Considerations

This research has received approval from the Ethics Committee at Prof. Dr. HM Anwar Makkatutu Hospital. All respondents were informed of the purpose of the research, the procedures carried out, and their right to withdraw at any time without any consequences. Informed consent is obtained from each participant before data collection is carried out, and the data collected will be kept confidential and used only for research purposes. The researcher is committed to ensuring that all aspects of research ethics are respected in order to protect the rights and welfare of respondents.

Results

Respondent Characteristics

Table 1 about the frequency of respondents based on age that of the 68 respondents with the lowest risk age category (20-35 years) as many as 47 people (69.1%), while there were 21 respondents (30.9%) with the high-risk age category (< 20 and > 35 years).

Table 1. Distribution of Respondents Based on Age

Age	n	%
High Risk	21	30.9
Low Risk	47	69.1
Total	68	100

Source: SPSS Processed Data, 2024

Table 2 shows that of the 68 most with the low-risk parity category (parity 2-3), there were 39 people (57.4%), while there were 29 respondents (42.6%) with the high-risk category (1 and ≥ 4).

Table 2. Distribution of Respondents Based on Parity

Parity	n	%
High Risk	39	57.4
Low Risk	29	42.6
Total	68	100

Source: SPSS Processed Data, 2024

It can be seen from table 3 that there were 24 respondents (35.3%) with premature delivery (< 37 weeks), and the majority of mothers with non-premature delivery (≥ 37 weeks) were 44 people (64.7%).

Table 3. Respondent Distribution by Premature Delivery

Labor	n	%
Premature	24	35.3
Not remature	44	64.7
Total	68	100

Source: SPSS Processed Data, 2024

Bivariate Analysis

The results of the analysis using the chi square test method using the SPSS application were obtained with the significance value of person chi – square value p = 0.000 < 0.05 From these results, it can be concluded that the Ha hypothesis is accepted, while the Ho hypothesis is rejected, namely there is a relationship between Age and Premature Delivery.kk

Table 4. Age to Premature Delivery

Age	Premature Labor				Total		P value
	Yes		Not		n	%	
	n	%	n	%			
High Risk	16	76.2	5	23.8	21	100	0.000
Low Risk	8	17.0	39	83.0	47	100	
Total	24	35.3	44	64.7	68	100	

Source: SPSS Processed Data, 2024

The value of the chi square test using the SPSS application was obtained hypothesis Ha, namely that there is a parity relationship with premature birth at Prof.Dr.H.M Hospital. Anwar Makkatutu of Bantaeng Regency—accepted and Ho's hypothesis rejected. The significance value of the person *chi-square* value p value is 0.000 < 0.05.

Table 5. Parity to Preterm Labor

Parity	Premature Labor				Total		P value
	Yes		Not		n	%	
	n	%	n	%			
High Risk	20	69.0	9	31.0	29	100	0.000
Low Risk	4	10.3	35	89,7	39	100	
Total	24	35.3	44	64.7	68	100	

Source: SPSS Processed Data, 2024

Discussion

Based on research Tanur (2023) involving 70 respondents, identified 22 (31.4%) age groups who have maternal characteristics related to early birth in the maternity ward of Labuang Baji Hospital Makassar. There were 24 (34.3%) mothers of the same age who were not at risk of preterm labor and 11 (15.7%) mothers in the control group. Thirteen mothers (18.5%) did not pose a premature risk. The mother's age and the incidence of premature birth had a very strong correlation, based on the results of the chi-square test between the two variables. The productive age is between the ages of 20 to 35 years. This condition is related to the mental readiness of the mother and the maintenance of her reproductive organs. However, it is possible that this age group is not at risk of premature birth; This could be because the woman experiences physical and psychological stress during pregnancy, which can lead to premature birth. A higher risk of pregnancy is experienced by mothers who are not yet twenty years old or more than thirty-five years old (Diana, S., & MaiL, 2019). Although there was an age relationship with premature delivery, in this study there were 8 cases of premature birth (17%) from a low-risk age sample. The researchers' assumption, based on the theory in Diana, and Mail (2019) that in addition to age, other factors also play an important role, such as the nutritional condition of pregnant women. Growth, placental function, and placental size are all affected by malnutrition in pregnant women. A small placenta will provide the fetus with insufficient nutrients, which can lead to stunted growth and an increased risk of premature birth.

Parity Against Premature Delivery

The findings of the study revealed that 20 respondents or 83.3% of the 24 respondents who experienced preterm birth had a high risk parity. The chi-square test method of SPSS application results in a chi-square significance value (p-value) of 0.000<0.05, then the Ho hypothesis is rejected and the Ha hypothesis is accepted, i.e. the idea that parity and premature birth are interrelated. These findings are in line with the study Azis (2021) related to Premature Birth Factors at Lamaddukkelleng Hospital, Wajo Regency. Primary data (*Check List Sheet*) and secondary data were used to gather information for this study. Bivariate data processing used the Chi-Suare SPSS 16.0 test type with parity and early delivery results correlated, according to bivariate analysis p = 0.002 < 0.05.

One risk factor for preterm labor may be parity. This is because the first, fourth, and subsequent deliveries increase health risks for the mother and her baby. This is because the first pregnancy and the new birth canal will try to pass through the fetus, increasing the health risks associated with pregnancy and first delivery. However, the uterus will weaken due to uterine scarring due to multiple pregnancies if you give birth too often. Fetal growth is disrupted due to the limited blood supply to the scar tissue, causing the fetus to get less blood flow due to the inability of the placenta to flow blood As a result, premature delivery will be more likely to occur. (Saifudin, 2019). Although there is a parity relationship with premature delivery, in this study there were 4 samples (13.8%) that did not experience premature delivery. The

researchers' assumptions, based on Robinson and Norwitz's theories (2019) that parity of single risk factors in the occurrence of preterm prelabor, Additional factors include past obstetric history, low socioeconomic status, short gestation period (less than 6 months), low level of education, single status, under the age of seventeen or over the age of 35, and other social factors (bad behavior: smoking, drinking alcohol, cocaine, and heroin, as well as physical abnormalities). In addition to psychological elements

Conclusion

Based on the research carried out, it was found that there is a relationship between age and parity for premature delivery at the Prof. Dr. H m. Anwar Makkatutu Regional General Hospital, Bantaeng Regency with a p value = 0.000 < 0.05 It is hoped that professionals in the health sector will concentrate on providing health education to mothers to actively check pregnancy in an effort to identify early risk factors that can cause premature, And it is hoped that researchers can further investigate additional factors that influence premature birth. For example, it can add up the number of variables such as gemel, preeclampsia and nutritional status to get a comprehensive picture and allow health agencies to require up-to-date data when developing plans to lower the number of preterm births.

References

Abdul Bari Saifudin, D. (2019). *National Reference Book for Maternal and Neonatal Health Services.* PT Bina Pustaka Sarwono Prawirohardjo.

Antika, R., Rahmai, S., & Handayani, T. (2024). Overview of Mrs. Primipara's level of knowledge about exclusive breastfeeding in the working area of the Bowong Cindea Pangkep Health Center. *Omni Health Journal*, *1*(3), 102-106. https://omnijournal.id/index.php/health/article/view/73

Azis, R. (2021). (2021). Factors Related to the Incidence of Premature Childbirth (Study at Lamaddukkelleng Hospital, Wajo Regency) 4. *Scientific Journal of Holistic Care Nursing and Midwifery*, *4*(2), 40–44.

Diana, S., & MaiL, E. (2019). *Textbooks for obstetrics, childbirth, and newborn care*. CV Oase Group (Indonesian Book Writing Movement).

Manuaba, I. B. (2017). *Obstetrics and Gynecology and Family Planning for Midwife Education.* EGC.

Marcella, F., Anggraini, A., Isnaini, N., & Utami, V. W. (2022). maternal age and parity with the incidence of preterm labor. *Midwifery Journal*, *2*(4), 215–220.

Ministry of Health of the Republic of Indonesia. (2022). *Performance Report of the Ministry of Health*. internet.https://www.google.com/search?client=firefoxd&q=laporan+kinerja+ditjen+kesmas+2022 (Retrieved March 25, 2024)

Ministry of Health of the Republic of Indonesia. (2022). *Pocket Book of the Results of the 2022 Indonesian Nutrition Status Survey (SSGI).*

Pratiwi, I., Islaeli, I., & Islamiyah, I. (2024). The Relationship Between Maternal Knowledge About 1000 HPK With Nutritional Status in Children 0-24 Months. *Omni Health Journal*, *1*(2), 56-61. https://omnijournal.id/index.php/health/article/view/47

Prawirohardjo, S. (2018). *National Reference Book of Maternal and Neonatal Health Services* (Abdul Bari Saifuddin (ed.); 5th ed.). PT Bina Pustaka Sarwono Prawirohardjo.

Robinson JN, Norwitz ER. (2019). *Preterm birth: Risk factors, interventions for risk reduction, and maternal prognosis*. interventions-for-risk-reduction-and-mater-nal-prognosis/print?source= see_link%3E.

Saswita, R. (2021). (2019). The Effect of Parity on Bblr and Prematurity in Muhammadiyah Palembang Hospital. *Journal of Health and Development*, *11*(21), 87–92.

South Sulawesi Provincial Health Office. (2023). *Health Profile of South Sulawesi Province 2022.*

Tanur, R. L. (2023). (2023). Factors in mothers that are related to premature birth in the delivery

room of Labuang Baji Makassar Hospital. (Doctoral dissertation, Bosowa University).
World Health Organization (WHO). (2019). *Infant and young child feeding*.