ANALYSIS OF FACTORS AFFECTING THE INCIDENCE OF PERINEAL RUPTURE AT THE CIRINTEN HEALTH CENTER IN LEBAK DISTRICT IN 2023

Rika Rahayu [*]**, Asep Barkah**
Sekolah Tinggi Ilmu Kesehatan Abdi Nusantara
Jl. Swadaya No.7, RT.001/RW.014, Jatibening, Kec. Pd. Gede, Kota Bks, Jawa Barat 17412, Indonesia
Email: _rika.rahayu1616@gmail.com_

Abstract
Background: Perineal rupture occurs in almost all first deliveries and not infrequently also in subsequent deliveries. Perineal rupture is influenced by several factors, namely age, parity, education, occupation, and newborn weight. Objective: to determine the relationship between age, parity, education, occupation, and newborn weight with the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023. Research method: quantitative analytic with cross-sectional design. The research sample was maternity mothers who gave birth at Cirinten Health Center, Lebak Regency in August-October 2023 as many as 55 respondents with a simple random sampling technique. The research instrument used medical record data analyzed using the Chi-Square test. Results: univariate analysis showed that most laboring mothers experienced perineal rupture 56.4%, low-risk age 72.7%, parity > 1 70.9%, low education 67.3%, not working 52.7%, and newborn weight ≥ 2500 grams 85.5%. The results of the bivariate analysis showed a relationship between age (p-value = 0.014), parity (p-value = 0.007), education (p-value = 0.035), work (p-value = 0.024), and newborn weight (p-value = 0.016) with the incidence of perineal rupture. Conclusions and Suggestions: age, parity, education, occupation, and newborn weight are associated with the incidence of perineal rupture. Midwives are expected to minimize the occurrence of perineal rupture in laboring women by establishing cooperation between mothers and midwives during the process of receiving.
Keywords: Age, Education, Newborn Weight, Occupation, Parity, Perineal Rupture

Introduction

Wounds or ruptures of the perineum occur in almost all early labor and not infrequently in later labor. The postpartum wound healing process has several impacts on postpartum women including infection of the suture wound, can also spread to the bladder channel or the birth canal so that it can result in the emergence of complications of bladder infection or infection in the birth canal, and due to improper care can result in perineal conditions affected by lochae and moisture will greatly support the development of bacteria that can cause infection of the perineum. Postpartum infections are still a cause of maternal mortality (MMR) (Potter & Perry, 2019).

According to the _World Health Organization_ (WHO), the maternal mortality rate (MMR) worldwide in 2020 will be 295,000 deaths with one of the causes of maternal deaths being postpartum infection. There were 2.7 million cases of perineal rupture. Based on ASEAN data, the highest MMR is in Myanmar at 282,00/100,000 KH in 2020 and the lowest MMR is in Singapore in 2020 there are no maternal deaths in Singapore, with one of the causes of maternal deaths being postpartum infection. As for the occurrence of perineal wounds in Asia, the problem of perineal tears is quite a lot, in society 50% of the incidence of perineal tears in the world occurs in Asia (Boyle, 2021).

Indonesia in 2021 showed 7,389 maternal deaths, an increase compared to 2020 of 4,627 deaths, 207 mothers were found to have died due to infection. This is reinforced by the results of a study from the Bandung Research and Development Center (Puslitbang), which conducted research in several provinces in Indonesia, namely North Sumatra, Banten, West Java, Central Java, East Java, and South Sulawesi, it was found that one in five mothers who experience perineal wounds will die with a proportion of 21.74%. As for the incidence of laboring women who experience perineal tears in Indonesia, it was found that 75% of mothers with vaginal delivery had experienced perineal tears, 57% of mothers received perineal sutures (28% for episiotomy, 29% for spontaneous tears). (Ministry of Health of the Republic of Indonesia, 2021).

Banten Province in 2021 showed 298 maternal deaths, an increase compared to 2020 of 242 deaths, 10 mothers were found to have died due to infection. Based on data on the incidence of perineal wounds, it reached 52.6% (Ministry of Health of the Republic of Indonesia, 2021). Based on data from the Pandeglang Regency Health Office, the maternal mortality rate (MMR) in 2021 was 41 people, the highest in the districts and cities in Banten Province. The cause of death of pregnant women in Pandeglang is due to bleeding, according to Mardianti's research conducted in Pandeglang Banten Regency, it was found that 70% of laboring mothers had experienced grade I-III perineal wounds. The occurrence of perineal wounds 37% of which were due to episiotomy and 33% due to spontaneous tears. (Mardianti, 2021).

Delivery with perineal rupture if not treated effectively causes bleeding and infection to become heavier, and in the long term can interfere with the mother's comfort in terms of sexual intercourse. Government efforts to prevent infections or other complications in the postpartum period, especially with perineal rupture, can be done by improving the quality of health services, including intensive perineal care. (Wiknjosastro, 2020).

Cuningham (2019) explains that several factors for perineal rupture include maternal factors, fetal factors and labor assistants. Maternal factors associated with the incidence of perineal rupture include age, parity, education and maternal employment. The results of previous research conducted by Maryam *et al.* (2023) showed that age, parity, newborn weight were associated with the incidence of perineal rupture. Likewise, the results of research by Nasrun *et al.* (2023) showed that there was a relationship between age, parity, newborn weight and the incidence of perineal rupture.

The results of further research conducted by Suryani (2019) and Pemiliana *et al* (2019) show there is a relationship between education and the incidence of perineal rupture. Meanwhile, Wijayanti (2019) in his research showed an occupational relationship with the incidence of perineal rupture.

Based on data from the Cirinten Inpatient Health Center, Cirinten District, Lebak Banten Regency in 2021, out of 498 women in labor, 319 (64.05%) experienced perineal rupture, in 2022 out of 562 women in labor, 437 (77.75%) experienced perineal rupture. Based on these data, it indicates that the incidence of perineal rupture has increased every year. Looking at the data obtained at the Cirinten Inpatient Health Center, Cirinten District, Lebak Banten Regency, it was found that mothers who experienced perineal rupture were mostly with age < 20 years and > 35 years, primiparous parity, elementary or junior high school education, not working and body weight > 2500 grams.

Based on the above, the author felt interested in conducting research with the title "Analysis of Factors Affecting the Incidence of Perineal Rupture at Cirinten Health Center, Lebak Regency in 2023".

Methods

This research design is a quantitative analytic study with a *cross-sectional* design.

The research was conducted in November-December 2023. The research was conducted at the Cirinten Inpatient Health Center, Cirinten District, Lebak Regency, Banten. The population taken in this study were all mothers who gave birth at the Cirinten Health Center, Lebak Regency in August-October 2023 as many as 118 respondents. The sampling technique used is *simple random sampling* by making a list of sample names adjusted to the serial number on the paper sheet and making a serial number on a small paper, the last step is shaking and then taking randomly as many samples as needed.

Data were collected by researchers relating to age, parity, education, occupation, newborn weight and incidence of perineal rupture in an observation sheet. The independent variables in this study were age, parity, education, occupation and newborn weight. The dependent variable in this study was the incidence of perineal rupture. Measurement in this study used an observation sheet. The observation sheet used by researchers is related to the variables studied including age, parity, education, occupation, newborn weight and incidence of perineal rupture based on categories.

Data processing was done univariately and bivariately with the *Chi Square* test using the SPSS program.

Research Results

Table 1. Frequency Distribution of Perineal Rupture, Age, Parity, Education, Occupation, and Newborn Weight

Incidence of Perineal Rupture	Frequency (f)	Percentage (%)
Yes	31	56,4
No	24	43,6
Age	**Frequency (f)**	**Percentage (%)**
High Risk	15	27,3
Low Risk	40	72,7
Parity	**Frequency (f)**	**Percentage (%)**
Parity 1	16	29,1
Parity > 1	39	70,9
Education	**Frequency (f)**	**Percentage (%)**
Low	37	67,3
High	18	32,7
Jobs	**Frequency (f)**	**Percentage (%)**
Not Working	29	52,7
Work	26	47,3
Newborn Weight	**Frequency (f)**	**Percentage (%)**
≥ 2500 grams	47	85,5
< 500 grams	8	14,5
Total	**55**	**100**

Based on the results of the study in table 1, it is known that out of 55 laboring women, most of them experienced perineal rupture as many as 31 people (56.4%). It is known from 55 laboring mothers most of them with low-risk age as many as 40 people (72.7%). It is known that out of 55 laboring mothers, most of them have parity > 1 as many as 39 people (70.9%). It is known from 55 laboring mothers that most of them have low education as many as 37 people (67.3%). It is known that most of the 55 laboring mothers do not work as many as 29 people (52.7%). It is known from 55 birth mothers most with newborn weight ≥ 2500 grams as many as 47 people (85.5%).

Table 2. Relationship between Age and Incidence of Perineal Rupture

Age	Incidence of Perineal Rupture				Total		P value	OR CI (95%)
	Yes		No					
	f	%	f	%	f	%		
High Risk	13	86,7	2	13,3	15	100		7,944 (1,582-39,895)
Low Risk	18	45,0	22	55,0	40	100	0,014	
Total	31	56,4	24	43,6	55	100		

Based on table 2 shows that of the 15 laboring women with high-risk age, 13 (86.7%) experienced perineal rupture, while of the 40 laboring women with low-risk age, 22 (55.0%) did not experience perineal rupture. The results of the *Chi-Square* test obtained a *p* value = 0.014 <0.05 which means that there is a relationship between age and the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023. The OR value is 7.944, so it can be stated that laboring mothers with high-risk age have a risk of 7.944 times experiencing perineal rupture compared to laboring mothers with low-risk age.

Table 3. Relationship between Parity and Incidence of Perineal Rupture

Parity	Incidence of Perineal Rupture				Total		P value	OR CI (95%)
	Yes		No					
	f	%	f	%	f	%		
Parity 1	14	87,5	2	12,5	16	100		9,059 (1,809-45,370)
Parity > 1	17	43,6	22	56,4	39	100	0,007	
Total	31	56,4	24	43,6	55	100		

Based on table 3 shows that out of 16 mothers with parity 1, 14 (87.5%) experienced perineal rupture, while out of 39 mothers with parity > 1, 22 (56.4%) did not experience perineal rupture. The results of the *Chi-Square* test obtained a *p* value = 0.007 <0.05, which means that there is a relationship between parity and the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023. The OR value is 9.059, so it can be stated that birth mothers with parity 1 have a risk of 9.059 times experiencing perineal rupture compared to birth mothers with parity> 1.

Table 4. Relationship between Education and Incidence of Perineal Rupture

Education	Incidence of Perineal Rupture				Total		P value	OR CI (95%)
	Yes		No					
	f	%	f	%	f	%		
Low	25	67,8	12	32,4	37	100		4,167 (1,258-13,800)
High	6	33,3	12	66,7	18	100	0,035	
Total	31	56,4	24	43,6	55	100		

Based on table 4 shows that out of 37 laboring women with low education, 25 (67.8%) experienced perineal rupture, while out of 18 laboring women with high education, 12 (66.7%) did not experience perineal rupture. The results of the *Chi-Square* test obtained a *p* value = 0.035 <0.05, which means that there is a relationship between education and the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023. The OR value is 4.167, so it can be stated that laboring mothers with low education have a risk of 4.167 times experiencing perineal rupture compared to laboring mothers with higher education.

Table 5. Relationship between Occupation and Incidence of Perineal Rupture

Jobs	Incidence of Perineal Rupture				Total		P value	OR CI (95%)
	Yes		No					
	f	%	f	%	f	%		
Not Working	21	72,4	8	27,6	29	100		
Work	10	38,5	16	61,5	26	100	0,024	4,200 (1,350-13,062)
Total	31	56,4	24	43,6	55	100		

Based on table 5 shows that of the 29 laboring women who did not work, 21 (72.4%) experienced perineal rupture, while of the 26 laboring women who worked, 16 (61.5%) did not experience perineal rupture. The results of the *Chi-Square* test obtained a *p* value = 0.024 <0.05, which means that there is a relationship between work and the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023. The OR value is 4.200, so it can be stated that laboring mothers who do not work have a risk of 4.200 times experiencing perineal rupture compared to laboring mothers who work.

Table 6. Association between Newborn Weight and the Incidence of Perineal Rupture

Newborn Weight	Incidence of Perineal Rupture				Total		P value	OR CI (95%)
	Yes		No					
	f	%	f	%	f	%		
≥ 2500 grams	30	63,8	17	36,2	47	100		
< 2500 grams	1	12,5	7	87,5	8	100	0,016	12,353 (1,399-109,074)
Total	31	56,4	24	43,6	55	100		

Based on table 6 shows that of the 47 mothers who gave birth with a newborn's weight ≥ 2500 grams there were 30 (63.8%) experiencing the incidence of perineal rupture, while of the 8 mothers who gave birth with a newborn's weight < 2500 grams there were 7 (87.5%) not experiencing the incidence of perineal rupture. The results of the *Chi-Square* test obtained *p* value = 0.016 <0.05 which means there is a relationship between the weight of the newborn with the incidence of perineal rupture at the Cirinten Health Center, Lebak Regency in 2023. The OR value is 12.353, so it can be stated that birth mothers with newborn weight ≥ 2500 grams have a 12.353 times risk of perineal rupture compared to birth mothers with newborn weight < 2500 grams .

Discussion

Frequency Distribution of Perineal Rupture Events at Cirinten Health Center, Lebak Regency, 2023

Based on the results of the study, it was found that out of 55 laboring women, most of them experienced perineal rupture as many as 31 people (56.4%).

Rupture according to the Dorland dictionary (2020) is tearing or tearing of tissue. Perineal rupture is the tearing of the perineum when the fetus is born. Cuningham (2019) explains that several factors for perineal rupture include maternal factors, fetal factors and labor attendants. Maternal factors associated with the incidence of perineal rupture include age, parity, education and maternal employment.

The results of previous research conducted by Maryam *et al.* (2023) showed the results that age, parity, newborn weight were associated with the incidence of perineal rupture. Varney (2019) explains that complications and dangers due to perineal tears include bleeding, and infection. Rukiyah *et al.* (2021) explains that one of the efforts to overcome the incidence of perineal rupture is by suturing and

performing wound care with clean and dry principles. Likewise, the results of research by Nasrun *et al.* (2023) showed that there was a relationship between age, parity, newborn weight and the incidence of perineal rupture.

In line with the results of Suryani's research (2019), 61.7% experienced perineal rupture. Pemiliana *et al* (2019) in their research found that 66.0% experienced grade II rupture. Maryam *et al.* (2023) showed the results that age, parity, newborn weight were associated with the incidence of perineal rupture. Likewise, the results of research by Nasrun *et al.* (2023) showed that there was a relationship between age, parity, newborn weight and the incidence of perineal rupture. The results of further research conducted by Suryani (2019) and Pemiliana *et al* (2019) show there is a relationship between education and the incidence of perineal rupture. Meanwhile, Wijayanti (2019) in his research showed an occupational relationship with the incidence of perineal rupture.

The researcher assumed that many respondents experienced perineal rupture, indicating that some respondents experienced perineal injuries. Based on the information of the wounds found, namely the vaginal mucosa, posterior commissure, perineal skin plus the perineal muscles. This condition needs to be sutured, and strived afterwards to keep the wound clean and dry. Some factors associated with the incidence of perineal rupture are age, especially in pregnant women with age <20 years and more than 35 years, primiparous parity caused by the stiffness of the perineum caused by the first time giving birth, then with low education where respondents find it difficult to receive information conveyed by midwives during labor and during health education, work can also affect the incidence of rupture because some mothers who do not work tend to experience rupture compared to those who do not due to the elasticity of the perineum. The weight of the newborn also affects the occurrence of rupture, this is the perineum is not enough to withstand the strain of the baby's head with weight. In order to avoid perineal rupture, there needs to be cooperation between the midwife and the mother where the mother wants to follow the rules of the midwife and the midwife tries to teach the mother about the proper way of pushing. The stretching of the perineum must be held with the hands of the birth attendant to avoid perineal rupture. In addition to holding the stretched perineum, to prevent perineal rupture the midwife can hold the *subocciput* of the fetus so that it does not deflect too quickly.

Frequency Distribution of Age at Cirinten Health Center, Lebak Regency, 2023

Based on the results of the study, it was found that out of 55 laboring mothers, most of them had a low-risk age as many as 40 people (72.7%).

Prawirohardjo (2021) explains that the safe age for pregnancy and childbirth is 20-35 years. Women giving birth to children at the age of 35 years are a risk factor for postpartum hemorrhage which can result in maternal death. This is because at the age of under 20 years, a woman's reproductive function has not developed perfectly. At the age of >35 years, a woman's reproductive function has decreased compared to normal reproductive function so that postpartum complications, especially bleeding, will be greater.

In accordance with the results of research by Nasrun *et al.* (2023) found that 68.7% of respondents were aged 20-35 years. Maryam *et al.* (2023) found the results of 71.2% of respondents aged 20-35 years. Likewise, the results of Yanti's research (2019) in her research found that 63.4% of respondents were aged 20-35 years.

The researcher assumed that most of the respondents with low-risk age were 20 to 35 years old. This is because at that age the mother's reproductive organs are mature and ready to be fertilized, in addition, the mother has prepared herself for her pregnancy and childbirth. In contrast to mothers at high-risk ages, namely less than 20 years and more than 35 years. This is because at the age of less than 20 years the reproductive organs are not mature, in addition to the psychological condition of the mother is not ready. As for mothers with more than 35 years of age, the reproductive organs have decreased so that they are prone to postpartum complications, especially bleeding.

Frequency Distribution of Parity at Cirinten Health Center, Lebak Regency in 2023

Based on the results of the study, it was found that out of 55 laboring mothers, most of them had parity > 1 as many as 39 people (70.9%).

According to Prawirohardjo (2021) explains that parity is a woman's condition related to the number of children born. Winkjosastro (2020) explains that parity > 1 has its own experience in pregnancy and childbirth which affects its approach in preparing for pregnancy and facing childbirth. Notoatmodjo (2021) explains that experience is the best teacher, because experience is a source of knowledge, or experience is a way to obtain the truth of knowledge.

In line with the results of research by Nasrun *et al.* (2023) showed the results of most respondents with low-risk parity (multipara) of 56.4%. Likewise, the results of research by Riyanti *et al.* (2023) showed the results of most respondents with multiparous parity of 73.1%.

The researcher assumed that there were many respondents with multiparous parity, indicating that most respondents had experience. When viewed from the type of parity of mothers found with primiparous and multiparous parity only, while grandemultiparous parity was not found. This indicates that respondents already know if mothers have more than five children can have a bad impact on mothers and their babies so that the majority of mothers with multiparous parity.

Frequency Distribution of Education at Cirinten Health Center, Lebak Regency, 2023

Based on the results of the study, it was found that out of 55 laboring mothers, most of them had low education as many as 37 people (67.3%).

Education is an effort to develop personality and abilities inside and outside school and lasts a lifetime. Education is the process of changing the attitudes and behavior of a person or group of people in an effort to mature humans through teaching and training efforts, processes, ways, acts of educating (Wawan & Dewi, 2021). Changes or actions to maintain and improve health produced by health education are based on knowledge and awareness through the learning process so that the behavior is expected to last long and persist because it is based on awareness (Notoatmodjo, 2019).

In line with the results of Suryani's research (2019), the results were 44.1% with junior high school education. Pemiliana *et al* (2019) in their research found 61.3% with high school education. Likewise, the results of research by Riyanti *et al.* (2023) found that 57.1% with secondary education.

Researchers assume that many respondents with basic education. The number of mothers with low education can affect the mother's ability to receive information, which is in accordance with the theory stating that mothers with low education have difficulty in receiving information, in contrast to mothers who have higher education easily receive information so that the higher the knowledge, the more knowledge they have because it is easy to understand the input and information conveyed.

Frequency Distribution of Occupation at Cirinten Health Center, Lebak Regency, 2023

Based on the results of the study, it was found that out of 55 laboring mothers, most of them did not work as many as 29 people (52.7%).

Work according to the Big Indonesian Dictionary in a broad sense is the main activity carried out by humans, in a narrow sense, the term work is used for a task or work that produces for someone, while in everyday speech this term is often considered synonymous with profession (Depdikbud 2018). According to Juliati (2020) a person's job will describe the activities and level of economic welfare that will be obtained.

In line with the results of research by Wijayanti (2019) in his research, it was found that most of the respondents did not work as much as 85%. Hastuti, *et al.* (2019) in his research found that most respondents did not work as much as 65.7%. Likewise, the results of Prawitasari's research (2020) stated that most respondents did not work as much as 67.7%.

The researcher assumed that many respondents did not work, related to the condition of the mother who was married and pregnant, so the husband would tend to work. The number of mothers who do not work indicates that the mother's activities are limited where she only completes housework without doing other work. Work is also related to family income received to fulfill daily needs.

Frequency Distribution of Newborn Weight at Cirinten Health Center, Lebak Regency, 2023

Based on the results of the study, it was found that out of 55 laboring mothers, most of them with newborn weight ≥ 2500 grams were 47 people (85.5%).

Prawirohardjo (2021) says that a normal newborn is a baby born at 37-42 weeks and a birth weight of 2500-4000 grams. Factors that affect newborn weight according to Marmi (2018) include food nutrition, physical activity, emotional conditions and diseases suffered by the mother. Prawirohardjo (2-17) adds that large fetuses heredity plays an important role. In addition, large fetuses are found in pregnant women with diabetes mellitus, in post maturity and in grande multipara. The relationship between pregnant women eating a lot and increasing the size of the fetus is still doubtful.

In line with the results of Nurulicha's research (2019) most mothers with normal birth weight were 78%. Further research conducted by Ariani (2019) found that the proportion of normal birth weight of babies was 93.1% body weight influenced the occurrence of perineal rupture. Damanik & Siddik (2018) in their research found the results of most with normal birth weight, should first measure the estimated fetal weight to health workers when conducting examinations on pregnant women (ANC) in order to know the development can also reduce the risk of complications in the delivery process later.

Researchers assume that many respondents gave birth to babies with normal birth weight, this indicates that respondents have prepared themselves to become mothers so that mothers prepare themselves during pregnancy by adjusting their diet with a balanced nutritional menu in the hope that the baby they give birth to weighs neither too small nor too large. Meanwhile, there are still mothers with large birth weights due to heredity, in addition to being caused by diseases they suffer from such as diabetes mellitus.

Relationship between Age and the Incidence of Perineal Rupture at Cirinten Health Center, Lebak Regency in 2023

Based on the research, the p value = 0.014 <0.05, which means that there is a relationship between age and the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023. The OR value is 7.944, so it can be stated that birth mothers with high-risk age are at risk of 7.944 times experiencing perineal rupture compared to birth mothers with low-risk age.

Birth mothers aged < 20 years and > 35 years are more likely to have perineal ruptures than mothers aged between 20-35 years. This is because at the age of < 20 years the reproductive organs are not ready and perfect to experience the process of childbirth and the muscles of the perineal region are stiff and inelastic so that when the labor process occurs the vagina will easily rupture and at the age of > 35 years the reproductive organs have regressed. Whereas at the age of 20-35 years where the reproductive organs are mature and ready for the labor process, besides that, the emotional status is also more stable and more cooperative when communicated with during labor (Siswosudarmo, 2021).

In accordance with the results of research by Maryam *et al.* (2023) obtained a *p value* = 0.000 where the value is smaller than the value of α = 0.05, meaning that there is a relationship between age and the incidence of perineal rupture. Likewise, with the results of Yanti's research (2019) in her research there is an effect of maternal age on normal labor perineal rupture (*p-value* = 0.003 <0.05).

Researchers assume a relationship between age and the incidence of perineal rupture, this is because mothers with high risk age mostly experience perineal rupture while mothers with low risk age mostly do not experience perineal rupture. This happens because at the age of less than 20 years the muscles tend to be stiff and inelastic so that in the process of labor the vagina will easily rupture, as well

as mothers who are more than 35 years old where their emotional condition is not stable so that during the process of labor the mother experiences anxiety which causes when there are recommendations from health workers for the process of pushing slowly making the mother forget which has an impact on the process of labor running fast, supported by the previous labor the mother has experienced a perineal rupture then in the next labor the mother will also experience a perineal rupture.

The Relationship between Parity and the Incidence of Perineal Rupture at Cirinten Health Center, Lebak Regency in 2023

Based on the research, the *p* value = 0.007 <0.05, which means that there is a relationship between parity and the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023. The OR value is 9.059, so it can be stated that laboring mothers with parity 1 have a risk of 9.059 times experiencing perineal rupture compared to laboring mothers with parity> 1.

According to Prawirohardjo (2021) parity one has a great potential for perineal rupture. In multiparity, the dominance of the fundus uteri is greater with greater uterine contractions with stronger contractions and a more relaxed pelvic floor so that the baby is easier to pass through the birth canal and reduces the length of labor. Parity has an influence on the incidence of perineal rupture. In primiparas the perineum is intact and elastic, while in multiparas it is not intact, loose and flabby. It is recommended to perform episiotomy in primigravida or in a rigid perineum (Wiknjosastro, 2020).

In accordance with the results of research by Nasrun *et al.* (2023) showed there was a significant relationship between parity and the incidence of perineal rupture with a *p-value* of 0.000 < α (0.05). Likewise, the results of research by Maryam *et al.* (2023) obtained a p value = 0.007. This means that the p value is smaller than the value of α = 0.05 so that there is a significant relationship between parity and the incidence of perineal rupture. The results of other studies conducted by Riyanti *et al.* (2023) there is a relationship between parity and the incidence of perineal rupture (*p value* = 0.026 <0.05).

Researchers assume parity is associated with the incidence of perineal rupture, this is because mothers with primiparous parity tend to have stiffness compared to multiparous. Primiparous mothers are giving birth for the first time so that the birth canal is still stiff and requires adaptation, depending on the mother's ability to perform the act of defecation. Meanwhile, mothers with multiparous parity experience perineal rupture, this is because in the previous labor the mother experienced perineal rupture so that in the current labor the mother also experienced perineal rupture, but the rupture experienced was not so extensive that many experienced grade I and II perineal ruptures. Mothers with mutiparous experience more perineal ruptures compared to primiparous parity, this is because mothers with multi-parity experience labor with large birth weight so that they experience shoulder dystocia which has an impact on perineal tears, the mother is less mobile, there is a history of perineal tears in previous childbirth, and there is a helper factor when assisting labor.

Relationship between Education and the Incidence of Perineal Rupture at Cirinten Health Center, Lebak Regency in 2023

Based on the research, the *p* value = 0.035 <0.05, which means that there is a relationship between education and the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023. The OR value is 4.167, so it can be stated that laboring mothers with low education have a risk of 4.167 times experiencing perineal rupture compared to laboring mothers with higher education.

Education affects the learning process, the higher a person's education the easier it is for that person to receive information. Ignorance can be caused by low education, someone with too low a level of education will find it difficult to receive messages, digest messages and information conveyed. Knowledge is obtained both formally and informally. Meanwhile, mothers who have a higher level of education are generally open to accepting changes or new things to maintain their health (Wawan & Dewi, 2021). Changes or actions to maintain and improve health produced by health education are based

on knowledge and awareness through the learning process so that the behavior is expected to last long and persist because it is based on awareness (Notoatmodjo, 2021).

In accordance with the results of Suryani's research (2019) there is a relationship between education and the incidence of perineal rupture with a *p value of* 0.002. Pemiliana *et al* (2019) in their research found that there was a relationship between education and the incidence of perineal rupture with a *p value of* 0.022. Likewise, the results of research by Riyanti *et al.* (2023) in their research found that there was a relationship between education and the incidence of perineal rupture with a *p value of* 0.012.

Researchers assume that education is related to the incidence of perineal rupture, this is due to the ease of mothers in receiving information, where during childbirth the mother needs to establish good cooperation with midwives in self-control during labor. If the mother understands what the midwife says, then it is possible that the mother can follow the recommendations made by the midwife so that the degree of perineal rupture can be reduced. Meanwhile, mothers with low education find it difficult to receive information and difficult to regulate emotional conditions so that when the mother experiences strong contractions the mother cannot hold it and the wrong position of defecation occurs and does not follow the midwife's recommendations in other words the mother does not have good self-control when defecating and does not have the awareness to maintain her health, one of which is defecating without rules. It can be seen that the higher the education, the easier it is to get information, this can make it easier for respondents to cooperate with midwives when defecating so that the perineal wounding process is not too severe.

Relationship between Occupation and the Incidence of Perineal Rupture at Cirinten Health Center, Lebak Regency in 2023

Based on the study, it shows that the *p-value* = 0.024 <0.05, which means that there is a relationship between work and the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023. The OR value is 4.200, so it can be stated that laboring mothers who do not work have a risk of 4.200 times experiencing perineal rupture compared to laboring mothers who work.

According to Juliati (2020), a person's job will describe the activities and level of economic welfare that will be obtained. Anogara (2019) explains that working mothers have a better level of knowledge than non-working mothers, because working mothers will have more opportunities to interact with other people, so they have more opportunities to get information about their situation.

In line with the results of Wijayanti's research (2019) in his research, it was found that there was a relationship between work and the incidence of perineal rupture with a *p-value of* 0.002. Likewise with the results of research by Hastuti, *et al.* (2019) in his research found that there was a relationship between work and the incidence of perineal rupture in laboring mothers with a *p-value of* 0.001. The results of further research by Prawitasari (2020) state that there is a relationship between work and the incidence of perineal rupture in laboring mothers. with a *p value of* 0.012.

Researchers assume that working mothers experience more perineal ruptures than those who do not work, this is because working mothers indicate that they have more physical activity than those who do not work, where in addition to taking care of the household, mothers also have to take care of their work so that mothers have elasticity in the perineum caused by these physical activities. Likewise, by working the mother can be in contact with outsiders, this can increase the mother's knowledge by often communicating with experienced outsiders about how to do a good position and how to defecate well so that there is no wider rupture. Meanwhile, mothers who do not work, if supported by exercise and frequent coitus, can also experience perineal ruptures that are not extensive. Based on these results, it can be seen that the more the mother works, the less the incidence of perineal rupture.

Relationship between Newborn Weight and the Incidence of Perineal Rupture at Cirinten Health Center, Lebak Regency, 2023

Based on the research shows that the *p* value = 0.016 <0.05 which means there is a relationship between the weight of the newborn with the incidence of perineal rupture at the Cirinten Health Center, Lebak Regency in 2023. The OR value is 12.353, so it can be stated that mothers giving birth with a newborn's weight≥ 2500 grams have a 12.353 times risk of perineal rupture compared to mothers giving birth with a newborn's weight < 2500 grams.

Mochtar (2020) states that fetuses weighing more than 4000grams have difficulties caused in labor due to the size of the head or the size of the shoulders. The hardest and largest part of the fetus is the head, so the size of the fetal head affects the fetal body weight. Therefore, part of the head size is used fetal body weight (BB). Large fetal heads and large fetuses can cause perineal lacerations. Prawirohardjo (2020) added that the greater the weight of the baby born increases the risk of perineal rupture. If the head has been born while the shoulders are difficult to deliver, a fairly wide mediolateral episiotomy should be performed.

In line with the results of Nurhayati's research (2023) showed a significant relationship between infant birth weight (*p value = 0.*009). Riyanti *et al.* (2023) there is a significant relationship between birth weight and perineal rupture in normal labor in Independent Midwife Practices, obtained *p value* = 0.000 < α = 0.05. Likewise, with the results of Shariff's research (2019) there is a relationship between birth weight and perineal rupture in normal labor obtained *p value* = 0.014 < α = 0.05.

Researchers assume there is a relationship between newborn weight and the incidence of perineal rupture, this is because the large shoulders and head of the fetus can cause difficulties when removing it so that it can cause perinemun rupture either intentionally by means of episiotomy or not. The occurrence of perineal rupture is caused by the inability of the perineum to withstand the stretch of the baby's head with the weight of a large baby at the time of birth. Based on these results it can be seen that the greater the weight of the newborn, the more mothers who experience perineal rupture, for this reason it is necessary to prevent mothers starting during pregnancy by adjusting their diet with a balanced nutritional menu and diligently conducting examinations so that the estimated weight of the fetus can be known so that prevention of overweight in the baby mother can be done.

Conclusions

Most of the delivery mothers at Cirinten Health Center, Lebak Regency in 2023 experienced the incidence of perineal rupture as much as 56.4%, low-risk age as much as 72.7%, parity> 1 as much as 70.9%, low education as much as 67.3%, not working as much as 52.7%, and newborn weight ≥ 2500 grams as much as 85.5%.

There is an association between age (*p value* = 0.014), parity (p *value = 0.*007), education (*p value = 0.*035), occupation (p *value = 0.*024), newborn weight (p *value* = 0.016) with the incidence of perineal rupture at Cirinten Health Center, Lebak Regency in 2023.

Advice

It is expected that mothers can minimize the occurrence of perineal rupture by cooperating with midwives, in addition to doing regular exercise so that the mother's perineum is elastic so that it can minimize the occurrence of perineal rupture.

It is hoped that midwives can minimize the occurrence of perineal rupture in laboring women by establishing cooperation between mothers and midwives during the process of receiving so as to prevent bleeding due to perineal wounds, infection and make it easier for mothers to mobilize because there is no perineal wound.

The results of this study are expected to be used as input for further researchers and can continue this research with more complex variables.

References

[1] Ariani, D.U.S. (2019). Analysis of Factors Associated with the Incidence of Spontaneous Perineal Rupture in Normal Delivery. *Babul Ilmi Multi Science Scientific Journal of Health*. Volume 9 Number 1. No 36-43.

[2] Boyle, M. (2021). *Wound Recovery*. Jakarta: EGC**.**

[3] Department of Education and Culture. (2018). *Big Indonesian Dictionary Third Edition*. Jakarta: Balai Pustaka.

[4] Dorland N. (2020). *Dorland's Pocket Dictionary of Medicine*. Jakarta: EGC.

[5] Hastuti, T.A., Mudigdo, A., Budihastuti, U.R. (2019). The Relationship Between Age, Parity, Third Trimester Physical Activity and Birth Weight with the Incidence of Perineal Rupture at PKU Muhammadiyah Delanggu Hospital. *Journal of Maternal and Child Health*. Volume 1, No 2. Page 93-100

[6] Juliati, R. (2020). The Relationship between Birth Spacing and Birth Weight with the Incidence of Perineal Rupture in Normal Delivery at TGK Chik Ditiro General Hospital. *Journal of Healthcare Technology and Medicine*. Volume 6(1), 599-607.

[7] Ministry of Health of the Republic of Indonesia. (2021). *Indonesia Health Profile 2021*. Jakarta: Indonesian Ministry of Health.

[8] Mardianti. (2021). *Comprehensive Midwifery Care for Mrs.Y with Grade II Parineal Rupture at PMB. Midwife S Lebak Regency in 2021*. Bandung Health Polytechnic.

[9] Maryam K, Harismayanti, Retni A. (2023). Analysis of Risk Factors for the Incidence of Perineal Rupture in Women in Postpartum Period II at RSIA Sitti Khadidjah Gorontalo City. *Thermometer: Scientific Journal of Health and Medical Sciences.* Vol.1, No.2. e-ISSN: 2964-9676; p-ISSN: 2964-9668, pp 20-28.

[10] Nasrun E, Binekada, Kusnan. (2023). Prevalence and Predictors of Perineal Rupture Factors in Normal Labor in the Delivery Room of Dewi Sartika General Hospital. *JIIP (Scientific Journal of Education Science)* Volume 6, Number 8, Pp. 6290-6301 (eISSN: 2614-8854).

[11] Notoatmodjo, S. (2019). *Health Research Methodology*. Jakarta: Rineka Cipta.

[12] Notoatmodjo. S. (2021). *Public Health Science and Art.* Jakarta: Rineka Cipta.

[13] Nurhayati D. (2023). Analysis of Perineal Rupture Factors in Maternity Mothers at the Health Center of Sobang Banten District. *Thesis.* National University.

[14] Pemiliana, P.D., Handayani, I.S., Ziliwu, S. (2019). Factors Associated with Perineal Rupture in Normal Delivery at the Niar Medan Clinic. *Health Journal*, Vol. 2 No. 2. Page 170-182

[15] Potter, P. A., & Perry, A. G. (2019). *Handbook of Fundamentals of Nursing: Concepts, Processes, and Practice*. Jakarta: EGC.

[16] Prawitasari (2020). Causes of Perineal Rupture in Normal Delivery at Muntilan Hospital, Magelang Regency. *Indonesian Journal of Nursing and Midwifery*. 3 (2). Page 93-100.

[17] Riyanti N, Devita R, Huwaida N. (2023). Factors Associated with the Incidence of Perineal Rupture in Normal Labor. *Journal of Midwifery.* Volume 8 No 1.

[18] Rukiyah, A. and Yulianti, L. (2021). *Midwifery Care IV*. Jakarta: Trans 29 Info Media, pp. 118.

[19] Shariff F. (2019). Factors Associated with the Incidence of Perineal Rupture in Childbirth at Tangerang Regional General Hospital. *Juenal Medika Malahayati.* Vol 3 No 1. Page 20-25.

[20] Siswosudarmo, R. (2021). *Obstetric Physiology*. Yogyakarta: Scholar Library.

[21] Suryani. (2019). Factors Associated with Perineal Rupture in Normal Delivery at Atiah Maternity Home. *Journal of Health Poltekkes Kemenkes Jambi.* Vol 4. No 1. Page 277-283.

[22]   Varney, H., Kriebs J, Gegor J. (2019). *Handbook of midwifery care* Volume 1. Jakarta: EGC.

[23]   Wawan, Dewi. (2021). *Theory and Measurement of Knowledge, Attitudes and Human Behavior*. Yogyakarta: Nuha Medika.

[24]   Wijayanti, H.N. (2019). The Relationship between Occupation and the Incidence of Perineal Rupture in Normal Labor in Primigravida Mothers. *Placentum Scientific Journal of Health and Its Applications.* Vol.7(1). Page 26-32

[25]   Wiknjosastro, H. (2020). *Midwifery Science*. Jakarta: Sarwono Prawirohardjo Library Foundation.

[26]   Yanti LC. (2019). Factors Affecting Perineal Rupture in Normal Delivery Mothers at Bhayangkara Mappaouddang Makassar Hospital. *Journal of Islamic Medicine* Volume 3 (2) Pages 9-16 e-ISSN: 2550-0074.