MATERNAL FACTORS RELATED TO PERINEAL RUPTURE INCIDENTS

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ABSTRAK: FAKTOR MATERNAL YANG BERHUBUNGAN DENGAN KEJADIAN RUPTUR PERINEUM

Latar Belakang: Ruptur perineum merupakan salah satu masalah besar yang berkaitan dengan morbiditas dan mortalitas setelah kelahiran. Salah satu komplikasi yang dapat terjadi akibat ruptur perineum yaitu infeksi dan perdarahan. Beberapa faktor maternal penyebab terjadinya ruptur perineum yaitu umur, paritas, dan jarak kelahiran.

Tujuan: Mengetahui faktor maternal yang berhubungan dengan kejadian ruptur perineum.

Metode: Metode penelitian ini yaitu penelitian *cross sectional* dan dilaksanakan di Puskesmas Gunung Sari Kabupaten Lombok Barat. Sampel dalam penelitian ini adalah semua ibu bersalin normal di Puskesmas Gunung Sari Kabupaten Lombok Barat pada tahun 2024 sejumlah 240 orang, pengambilan sample dengan teknik total sampling. Data yang di ambil dalam penelitian ini adalah data sekunder, diolah secara univariat yang disajikan dalam bentuk tabel distribusi frekuensi, dan secara bivariat menggunakan uji *chi square*.

Hasil: Hasil analisa bivariat diketahui bahwa dari 210 responden dengan reproduksi sehat terdapat 155 (64,6%) responden mengalami ruptur perineum, dari 158 responden yang multipara terdapat 110 (45,8%) responden mengalami ruptur perineum, dan dari 141 responden dengan jarak kelahiran < 2 tahun terdapat 111 (46,3%) responden mengalami ruptur perineum.

Kesimpulan: Tidak terdapat hubungan bermakna antara umur dan paritas dengan ruptur perineum dengan *p-value* 0,325 dan 0,217. Terdapat hubungan bermakna antara jarak kelahiran dengan ruptur perineum dengan *p-value* 0,015.

Saran: Diharapkan bidan meningkatkan kualitas dan kuantitas pelayanan pemeriksaan kehamilan sehingga dapat mendeteksi kelainan pada ibu hamil sejak dini sebagai upaya preventif terjadinya ruptur perineum pada persalinan normal.

Kata Kunci: Maternal, Persalinan, Ruptur Perineum

ABSTRACT

Background: Perineal rupture is one of the major problems related to morbidity and mortality after childbirth. One of the complications that can occur due to perineal rupture is infection and bleeding. Several maternal factors that cause perineal rupture are age, parity, and birth spacing.

Puspose: To determine maternal factors associated with the occurrence of perineal rupture.

Method: This research method is cross-sectional research and was conducted at Gunung Sari Health Center, West Lombok Regency. The sample in this study were all mothers who gave birth normally at Gunung Sari Health Center, West Lombok Regency in 2024, totaling 240 people, sampling using total sampling technique. The data taken in this study are secondary data, processed univariately which is presented in the form of a frequency distribution table, and bivariately using the chi square test.

Results: The results of the bivariate analysis showed that out of 210 respondents with healthy reproduction, 155 (64.6%) respondents experienced perineal rupture, out of 158 multiparous respondents, 110 (45.8%) respondents experienced perineal rupture, and out of 141 respondents with a birth interval of <2 years, 111 (46.3%) respondents experienced perineal rupture.

Conclusion: There was no significant relationship between age and parity and perineal rupture with a p-value of 0.325 and 0.217. There is a significant relationship between birth interval and perineal rupture with a p-value of 0.015.

Suggestion: It is hoped that midwives will improve the quality and quantity of pregnancy examination services so that they can detect abnormalities in pregnant women early on as a preventive measure against perineal rupture during normal delivery.

Keywords: Childbirth, Maternal, Perineal Rupture

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INTRODUCTION

Normal delivery according to the World Health Organization (WHO) is a delivery that begins spontaneously, is low risk at the beginning of labor, and remains so throughout the labor process. In normal delivery, the baby is born spontaneously in a posterior presentation at a gestational age of between 37 weeks and 42 completed weeks. After delivery, the mother and baby are in good condition (Walyani, 2019).

Childbirth is also a process that is susceptible to complications that can endanger the mother and baby and is one of the causes of maternal death. In postpartum mothers, various complications can occur such as bleeding due to uterine atony, placental retention and perineal rupture (Sigalingging and Sikumbang, 2018).

According to WHO data in 2014, the incidence of perineal rupture in pregnant women was 2.7 million cases. Where this figure is estimated to reach 6.3 million in 2050. In Indonesia, the prevalence of perineal rupture in vaginal birth mothers reached 83% in 2020, with 63% caused by episiotomy and 38% due to spontaneous tearing (Kementerian Kesehatan Republik Indonesia, 2018b).

Based on data obtained from the 2021 West Nusa Tenggara Provincial Health Profile, it shows that 16,533 (9%) of 183,699 postpartum mothers experienced perineal rupture or tearing of the birth canal (BPS NTB, 2023).

According to research Mubayyina (2023) in West Lombok Regency in the period from January to October 2022 showed that out of 172 mothers giving birth, 50% experienced perineal rupture. Based on data obtained from the Gunung Sari Health Center delivery room in January-December 2024, it is known that the number of mothers giving birth reached 240 people (57.1%) of whom there were deliveries with perineal rupture (Puskesmas Gunung Sari, 2024).

This figure shows that perineal rupture remains an important concern in maternal and child health services, because of its impact on the quality of life of postpartum mothers (Goh, Goh, and Ellepola, 2018). The risk factors for perineal rupture are maternal factors, fetal factors, and delivery procedure factors (Waldenström and Ekéus, 2017). Maternal factors include age, parity, and birth spacing (Oliveira et al., 2014). Perineal rupture is a fairly serious problem considering the impact it causes (Agustin et al. 2023)

Perineal rupture can cause various short-term and long-term impacts for postpartum mothers. Short-term impacts include perineal pain, bleeding, infection of the suture wound, and dyspareunia (pain during sexual intercourse). In addition, edema, hematoma, and wound dehiscence can occur. Long-term impacts that may arise include urinary incontinence, fecal incontinence, sexual dysfunction, and psychological problems such as decreased self-confidence and increased anxiety (Montessori, Handayani, and Anjarwati, 2021).

According to the results of research on the analysis of risk factors for perineal rupture in vaginal delivery, it was concluded that there was a relationship between age, parity, and birth weight with the incidence of perineal rupture. It was explained that all factors studied had a p-core value ≤ 0.000 (Betalia et al., 2022).

Research conducted byAgustin et al. (2023), the dominant factor in mothers that causes perineal rupture is the birth interval which has a significant relationship with perineal rupture with a p-value of 0.000 (<0.05) and a high chance of experiencing perineal rupture, namely 6.961 times.

Government policy in an effort to prevent perineal rupture is to protect the perineum during the second stage of labor when the baby's head opens the vulva (diameter 5-6 cm). In the Service Standards (SPK), midwives provide high-quality care, caring for mothers, responsive to local culture during labor, lead clean and safe deliveries, handle certain situations and emergencies to optimize the health of mothers and babies (Kementerian Kesehatan Republik Indonesia, 2018a).

In an effort to reduce the impacts caused, researchers are interested in examining maternal factors that can cause perineal rupture.

RESEARCH METHODS

The method used in this study is quantitative with a cross-sectional approach, which is to determine the relationship between maternal factors and the incidence of perineal rupture in mothers who give birth normally. This study was conducted at the Gunung Sari Health Center, West Lombok Regency in May 2025.

The population and sample in this study were all mothers giving birth at the Gunung Sari Health Center, West Lombok Regency in 2024, totaling 240 people (Puskesmas Gunung Sari, 2024). Sampling technique using total sampling (Sugiono, 2018).

The instrument used in this study is secondary data, namely data obtained by researchers from existing sources (Riadi and Prabawati, 2016). Data was obtained from patient archives/medical records at the Gunung Sari Health

Center, West Lombok Regency from January to December 2024.

The inclusion criteria for this study were all pregnant women who had normal vaginal deliveries and complete patient data. The exclusion criteria were women who had been referred to labor and patients with labor complications.

RESEARCH RESULTS

Univariate Analysis

Table 1 shows that most of the mothers' ages were in the healthy category as many as 210 (87.5%), most of the parity was multiparous as many as 158 (65.8%), most of the birth intervals were > 2 years as many as 141 (58.8%), and most of the mothers experienced perineal rupture as many as 174 (72.5%) at the Gunung Sari Health Center in 2024.

Table 1
Distribution of Respondents at Gunung Sari Health Centre in 2024

Category	N	%
Age		
Healthy Reproduction (20 to 35 years)	210	87,5
Risky Reproduction (< 20 years or > 35 years)	30	12,5
Parity		
Primipara	82	34,2
Multipara	158	65,8
Birth Distance		
< 2 years	99	41,2
> 2 years	141	58,8
Perineal Rupture		
No rupture	66	27,5
Rupture	174	72,5

Source: Secondary data, 2024

Bivariate Analysis

Table 2
Relationship between Age and Perineal Rupture at Gunung Sari Health Center in 2024

Age	No Rupture		Rupture		Total		p
	f	%	f	%	f	%	
Healthy Reproduction (20 to 35 years)	55	22,9	155	64,6	210	87,5	**0,325**
Risky Reproduction (< 20 years or > 35 years)	11	4,6	19	7,9	30	12,5	

Table 2 shows that of the 210 respondents with healthy reproduction, 55 (22.9%) respondents did not experience perineal rupture and 155 (64.6%) respondents experienced perineal rupture. Of the 30 respondents with risky reproduction, 11 (4.6%) respondents did not experience perineal rupture and 19 (7.9%) respondents experienced perineal rupture.

Table 3
Relationship between Parity and Perineal Rupture at Gunung Sari Health Center in 2024

Parity	No Rupture		Rupture		Total		p
	f	%	f	%	f	%	
Primipara	18	7,5	64	26,7	82	34,2	**0,217**
Multipara	48	20	110	45,8	158	65,8	

Table 3 shows that of the 82 primiparous respondents, 18 (7.5%) respondents did not experience perineal rupture and 64 (26.7%) respondents experienced perineal rupture. Of the 158 multiparous respondents, 48 (20%) respondents did not experience perineal rupture and 110 (45.8%) respondents experienced perineal rupture.

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Table 4
Relationship between Birth Spacing and Perineal Rupture at Gunung Sari Health Center in 2024

Birth Distance	No Rupture		Rupture		Total		p
	f	%	f	%	f	%	
< 2 years	30	12,5	111	46,3	141	58,8	**0,015**
> 2 years	36	15	63	26,2	99	41,2	

Table 4 shows that out of 141 respondents with birth interval <2 years, 30 (12.5%) respondents did not experience perineal rupture and 111 (46.3%) respondents experienced perineal rupture. Out of 99 respondents with birth interval >2 years, 36 (15%) respondents did not experience perineal rupture and 63 (26.2%) respondents experienced perineal rupture.

DISCUSSION

Relationship between Age and Perineal Rupture

Based on the chi square statistical test, a p-value of 0.325 was obtained, which means that there is no significant relationship between age and perineal rupture. This is in contrast to research Turiyani (2024), which states that there is a relationship between age and perineal rupture with a p-value of 0.000.

This is not in accordance with the theory that states that the mother's age at birth is a factor that influences the risk of perineal rupture (Damayanti and Wati, 2021).

The age of mothers most often found in this study was in the age range of 20-35 years, where mothers of reproductive age are in a safe zone that is considered physically and psychologically mature (Hukubun, Budiono, and Kurniawati, 2021). This is in accordance with several studies that say that the mother's age indicates that she is young physically, namely that the function of the body's organs is not yet optimal, especially those related to the labor process, where the mother tends to have low perineal elasticity and is the first pregnancy, possibly the cause of the perineal elasticity still being stiff. Meanwhile, old age (over 35 years) can cause the elasticity of the perineum to decrease, making it easier for perineal rupture to occur (Hukubun, Budiono, and Kurniawati, 2021; Waldenström and Ekéus, 2017). Older age and very young women have an increased risk of increased incidence of perineal tears compared to women of normal age (Djaković et al., 2018; Goma, Khedr, and Gouda, 2020).

The reproductive organs of women aged <20 years are not fully developed and the muscles in the perineum are still stiff/not elastic so that during the labor process the perineum is susceptible to rupture. In addition, at the age of >35 years, the function and quality of women's reproductive organs have decreased when compared to the reproductive organs of 20-35 years old who have developed optimally for the pregnancy and labor process (Shariff, 2016).

However, the cause of perineal rupture is not only purely influenced by the mother's age, but also physical and sexual activity. Women of reproductive age, namely 20-35 years who are not physically active/sports and are not sexually active, can experience perineal rupture. In addition, infections in the reproductive organs also affect the elasticity of the connective tissue and muscles in the lower genitalia so that they are stiff and potentially experience perineal rupture (Sigalingging and Sikumbang, 2018).

The Relationship between Parity and Perineal Rupture

Based on the chi square statistical test, a p-value of 0.217 was obtained, which means that there is no significant relationship between parity and perineal rupture. This is in line with research Nurulicha (2019) which states that there is no relationship between parity and perineal rupture with a p-value of 0.058.

This is not in accordance with the theory that states that parity is one of the factors that can affect the occurrence of perineal rupture. Perineal tears occur in almost all primiparas, while in multiparas and grandemultiparas it rarely occurs, this is because multiparas and grandemultiparas the elasticity of the perineum is generally elastic, so the risk of perineal rupture is small when compared to primiparas (Winkjosastro, 2016). This is caused by the condition of the perineum which has never been passed by the baby's head, but it can also be caused by other things, namely due to a lack of information and experience (Riyanti, Devita, and Huwaida, 2023).

In addition, high parity also does not rule out the possibility for the mother to give birth again in a short period of time. As is known, births less than two years are considered high risk because they can cause complications of perineal rupture during

childbirth (Juliati, Riskina, and Riska, 2020; Kurniawan et al., 2020).

In contrast to research (Hukubun, Budiono, and Kurniawati, 2021) where the parity of the mother is closely related to the occurrence of perineal rupture. Research Pemiliana, Sarumpaet, and Ziliwu (2019) the relationship between parity and perineal rupture with p=value 0.003 (p=0.003). at Niar Primary Clinic Medan in 2018.

The risk of perineal rupture will be lower in mothers with a parity of more than 5 times, this is because the mother's perineum is more flexible and elastic (Jansson et al., 2020; Mary, Kumar, and Padmanaban, 2019).

According to the researcher's opinion, it is not always the case that mothers with little parity (primipara) experience perineal rupture and those with lots of parity (multipara and grande multipara) do not experience perineal rupture. This can happen because each mother has a different level of perineal elasticity. The more elastic the perineum, the less likely it is that a perineal rupture will occur and also partly because of the weight of the newborn baby, the fragility of the perineum, poor maternal care so that the labor process is less controlled such as the mother is exhausted, pushing prematurely so that labor becomes obstructed / slow (Betalia et al., 2022).

Relationship between Birth Spacing and Perineal Rupture

Based on the chi square statistical test, a p-value of 0.015 was obtained, which means that there is a significant relationship between birth spacing and perineal rupture.

In line with research conducted by Agustin et al. (2023), the dominant factor in mothers that causes perineal rupture is the birth interval which has a significant relationship with perineal rupture with a p-value of 0.000 (<0.05) and a high chance of experiencing perineal rupture, namely 6.961 times.

In addition to primipara, mothers who have a birth interval of <2 years are also susceptible to perineal rupture because there are many factors that cause a birth interval of <2 years with the occurrence of perineal rupture. These factors include the condition of the perineum that previously experienced a perineal rupture, the perineum has not returned to its original state and the condition of the perineum which is indeed fragile (Agustin et al. 2023).

According to research Siti Maisaroh and Yuliwati (2019), too close birth spacing can affect the ability of the perineal tissue to heal and stretch optimally. Perineal tissue that has not fully healed can increase the risk of rupture during subsequent deliveries.

Birth spacing >2 years is a safer birth spacing for the mother and fetus. After childbirth, the reproductive organs need time to recover, especially the muscles and tissues in the perineum area, so that birth spacing that is too close increases the risk of perineal rupture. This is exacerbated by a history of third or fourth degree perineal rupture and parity (Juliati, Riskina, and Riska, 2020; Keintjem, Purwandari, and Lantaa, 2018).

CONCLUSION

Several maternal factors that cause perineal rupture are age, parity, and birth spacing. In this study, there was no significant relationship between age and parity with perineal rupture in mothers giving birth, and there was a significant relationship between birth interval and perineal rupture in mothers giving birth.

It is hoped that health workers, especially midwives, will improve the quality and quantity of pregnancy examination services so that they can detect abnormalities in pregnant women early on as a preventive measure against perineal rupture, especially during normal delivery, so that the morbidity rate in mothers giving birth can be reduced.

SUGESTION

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