

## Characteristics of Multiparous Delivering Mothers with Perineal Rupture

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**Abstract.** Perineal rupture is a cause of postpartum bleeding within the first 24 hours. Hemorrhage is the primary cause of maternal mortality in Indonesia; birth canal trauma is the second leading cause of bleeding after uterine atony. The higher the mother's parity, the more reproductive functions tend to decline. The purpose of this research is to understand the characteristics of multiparous delivering mothers with perineal rupture. This study employs a quantitative descriptive approach. Data collection is derived from secondary sources obtained from medical records in the Delivery Room of the Sorong Regency General Hospital. The study was conducted in June 2023. The sample comprises all multiparous delivering mothers who experienced perineal rupture and met the inclusion criteria in the Delivery Room of the Sorong Regency General Hospital, totaling 242 delivering mothers from January to December 2022. The sampling technique used is Purposive Sampling. Univariate analysis is employed to calculate the frequency distribution, including the age of the mothers, education, occupation, perineal rupture, and newborn baby's weight. The majority of multiparous delivering mothers are between 20-35 years old, totaling 195 individuals (80.6%). The respondents' educational level is predominantly high school (SMA), totaling 124 individuals (51.2%). Non-working mothers account for 166 individuals (68.6%). The most frequent occurrence of perineal rupture is categorized as Level 1, totaling 81 individuals (33.5%). Newborns with the largest birth weight fall into the Normal category (2500-4000 grams), totaling 210 individuals (86.8%). Perineal rupture is one of the factors contributing to postpartum hemorrhage, which can lead to maternal death if not properly managed.

**Keywords:** Vaginal Delivery, Multiparous, Perineal Rupture.

## BACKGROUND

The health status of a population can be observed through its health conditions, presented through several health indicators, one of which is the Maternal Mortality Rate (MMR). One of the frequently occurring health issues is due to the high Maternal Mortality Rate (MMR) caused mostly by postpartum hemorrhage, where one of the contributing factors is perineal rupture. This rupture commonly occurs in almost all first-time deliveries and can also happen in subsequent deliveries (Mey Elisa Safitri, et.al, 2019 & Claudia JG, Adam WS, 2018).

According to data from the World Health Organization (WHO) in 2015, the incidence of perineal rupture was recorded at 2.7 million cases, and it is projected to increase to 6.3 million by 2050 (Mey Elisa Safitri, et.al, 2019). Approximately 85% of women who give birth vaginally may experience perineal rupture (Mujab, 2014). Perineal rupture often occurs in mothers who are giving birth for the first time, and it is not uncommon in mothers

with high parity (Prawitasari, 2015). The parity of pregnant mothers can influence maternal and child morbidity and mortality. The risk associated with parity cannot be avoided. With higher parity rates, the risk for mothers to give birth naturally without perineal rupture increases, and one of the complications that can arise from perineal rupture is bleeding. Hemorrhage is the primary cause of maternal mortality in Indonesia, with the birth canal being the second leading cause of hemorrhage after uterine atony. The higher the mother's parity, the more reproductive functions decline (Anwar, 2020).

Perineal rupture becomes the leading cause of postpartum hemorrhage within the first 24 hours. Out of a total of 1951 vaginal deliveries, a prevalence of 57% of mothers received perineal sutures, divided into 28% episiotomies and 29% spontaneous ruptures (Mokoginta CA, Wijayanti IT, Sariyani D, 2022). If the management and treatment of perineal rupture are not handled properly, there is a prevalence of 11% infection (Syamsiah S, Malinda R, 2018).

In Asia, a significant occurrence of perineal rupture is found, accounting for around 50%, where the occurrence of perineal rupture in the world is contributed by Asia (Fitrianingsih N, Amilia N, 2020 & BPPD Provinsi Banten, 2019). In Thailand, around 644/1000 deliveries without perineal rupture are reported, while in Malaysia, around 572/1000 deliveries without perineal rupture are reported, and in Singapore, around 408/1000 deliveries without perineal rupture are recorded.

According to the West Papua Provincial Health Office in 2017, hemorrhage in the Sorong Regency ranked 9th, and in 2018, it experienced an increase, ranking 7th. However, the data for 2017-2018 is considered incomplete, and some Regencies lack data, affecting data recording (Rifqy M, Fitriyani A. Rosyida Y, 2020). For the latest data in 2022, obtained from preliminary studies, it is found that Sorong Regency ranks 1st with a high percentage of 33% of hemorrhage cases. In DR. Jhon Piet Wanane General Hospital, in the last 3 months, there were 60 cases of perineal rupture treated by the hospital. Due to the high incidence rate of perineal rupture and the significant consequences it brings, the researchers are interested in exploring and further understanding the characteristics of multiparous delivering mothers with perineal rupture.

## **RESEARCH METHODS**

The research design used is a quantitative descriptive study. Data collection was obtained from secondary sources retrieved from medical records in the Delivery Room of the

Sorong Regency General Hospital. The study was conducted in June 2023. The sample for this study consists of all multiparous delivering mother patients who gave birth and experienced perineal rupture, meeting the inclusion criteria in the Delivery Room of the Sorong Regency General Hospital from January to December 2022, totaling 242 delivering mothers. The sampling technique used in this study is Purposive Sampling. Univariate analysis is used to calculate frequency distribution to determine the variables under investigation from the research subjects, including the mothers' age, education, occupation, perineal rupture, as well as the birth weight of the newborn.

## RESULTS AND DISCUSSION

### Frequency Distribution of Multiparous Delivering Mothers Based on Age

Table 1. Frequency Distribution of Multiparous Delivering Mothers Based on Age

Age	f	%
< 20 Years	22	9,1
20 – 35 Years	195	80,6
> 35 Years	25	10,3
<b>Total</b>	<b>242</b>	<b>100</b>

Based on the table above, out of 242 respondents, it is evident that the majority of multiparous delivering mothers fall within the age group of 20-35 years, with a total of 195 individuals (80.6%). This is followed by those aged > 35 years, amounting to 25 individuals (10.3%), and those aged < 20 years, with a count of 22 individuals (9.1%). These findings align with a study conducted by Neni Riyanti, et al. (2023), which revealed that the largest group of delivering mothers was within the 20-35 years age range, with a total of 182 individuals (87.5%). This study's outcomes also correspond with the theory proposed by Syahroni and Nurshabrina (2018), stating that age significantly influences maternal health. Women giving birth at ages < 20 years and > 35 years are at risk of postpartum hemorrhage due to perineal rupture. This can occur because reproductive functions are not fully developed in those below 20 years of age and decline in those above 35 years of age compared to normal reproductive functions. It can also be attributed to the success of effective education and outreach efforts through health centers and social media, influencing mothers' knowledge in making informed choices regarding pregnancy and childbirth, thereby reducing risks, especially within the 20-35 age range.

### Frequency Distribution of Multiparous Delivering Mothers Based on Education

Table 2. Frequency Distribution of Multiparous Delivering Mothers Based on Education

Education	f	%
No Education	1	0,4
Elementary School	15	6,2
Junior High School	35	14,5
Senior High School	124	51,2
College/ Higher Education	67	27,7
<b>Total</b>	<b>242</b>	<b>100</b>

From the table above, among the 242 respondents, the largest group of multiparous delivering mothers possessed senior high school education, with a total of 124 individuals (51.2%). This was followed by those with higher education degrees, totaling 67 individuals (27.7%), junior high school graduates numbering 35 individuals (14.5%), elementary school graduates with 15 individuals (6.2%), and those with no education, consisting of 1 individual (0.4%). These findings align with research conducted by Monika Damanik (2019), indicating that the majority of delivering mothers with high school education were 16 individuals (53.3%) in comparison to those with no education, elementary, junior high school, and higher education. This study's results also correspond with the theory proposed by Wahyuningsih and Rizka Fatmawati (2019), highlighting education as a factor influencing knowledge. A high school level of education is sufficient to acquire knowledge, including information about perineal rupture.

### Frequency Distribution of Multiparous Delivering Mothers Based on Occupation

Table 3. Frequency Distribution of Multiparous Delivering Mothers Based on Occupation

Occupation	f	%
Not Employed	166	68,6
Employed	76	31,4
<b>Total</b>	<b>242</b>	<b>100</b>

From the table above, out of 242 respondents, the largest group of multiparous delivering mothers was those who were not employed, totaling 166 individuals (68.6%), while those who were employed accounted for 76 individuals (31.4%). These findings align with research conducted by Monika Damanik (2019), indicating that the largest group of delivering mothers who were not employed was 18 individuals (60%). This study's results also correspond with the theory proposed by Wahyuningsih and Rizka Fatmawati (2019),

stating that occupation is one of the factors influencing knowledge. In the work environment, interactions can lead to information exchange, allowing mothers to gain knowledge about childbirth and preparation. However, this does not imply that unemployed mothers cannot acquire knowledge. In this case, knowledge about childbirth and preparation can be gained through family, community, and other social interactions.

### Frequency Distribution of Multiparous Delivering Mothers Based on Perineal Rupture Incidents

Table 4. Frequency Distribution of Multiparous Delivering Mothers Based on Perineal Rupture Incidents

Perineal Rupture	f	%
Level 1	81	33,5
Level 2	73	30,2
Level 3	61	25,2
Level 4	27	11,2
<b>Total</b>	<b>242</b>	<b>100</b>

Based on the table above, it is observed that the largest group of multiparous delivering mothers who experienced perineal rupture incidents during vaginal delivery fell into the Level 1 category, with a total of 81 individuals (33.5%). This was followed by Level 2 with 73 individuals (30.2%), Level 3 with 61 individuals (25.2%), and Level 4 with 27 individuals (11.2%). These findings align with the study by Hafid (2022), who reported that the highest incidence of perineal rupture occurred at Level 2 and Level 1. This study's results also correspond with the theory proposed by Hera Mutmainah (2019), defining perineal rupture as lacerations occurring during childbirth, either with or without the use of instruments. The occurrence of perineal rupture is one of the leading causes of postpartum hemorrhage, which, if not properly managed, can result in maternal death.

### Frequency Distribution of Multiparous Delivering Mothers Based on Newborn Birth Weight

Table 5. Frequency Distribution of Multiparous Delivering Mothers Based on Newborn Birth Weight

Birth Weight	f	%
Low Birth Weight (< 2500 gram)	29	12
Normal (2500- 4000 gram)	210	86,8

High Birth Weight (> 4000 gram)	3	1,2
<b>Total</b>	<b>242</b>	<b>100</b>

From the table above, it is evident that the largest group of newborns had a normal birth weight (2500-4000 grams), totaling 210 individuals (86.8%), followed by low birth weight (< 2500 grams) with 29 individuals (12%). High birth weight (> 4000 grams) accounted for 3 individuals (1.2%). These findings align with the research conducted by Faizaturrahmi & Aprianti (2023), which indicated that the average birth weight of newborns was within the normal range (2500-4000 grams), with a total of 116 individuals (94,4%). This study also corresponds with the theory proposed by Arsinah, et al. (2018), which asserts that maternal nutrition during pregnancy can influence fetal birth weight. Adequate nutritional intake during pregnancy can be monitored through appropriate weight gain relative to gestational age. During pregnancy, nutrition is derived from macronutrients (carbohydrates, proteins, fats) and micronutrients (vitamins and minerals). Additionally, pregnant women receive supplementary nutrition known as Additional Food Provision (AFP) to enhance maternal nutrition. Adequate maternal nutrition leads to healthy weight gain for both the mother and fetus, while inadequate nutrition can result in weight loss for the mother and negatively affect fetal growth and development.

## CONCLUSION

Based on the results of the conducted research, it can be concluded that the largest group of multiparous delivering mothers among the respondents is within the age range of 20-35 years old, totaling 195 individuals (80.6%). Furthermore, the highest educational level attained by the surveyed multiparous delivering mothers is senior high school, with a total of 124 individuals (51.2%). Among the multiparous delivering mothers, the majority, totaling 166 individuals (68.6%), are not employed. The most prevalent category of perineal rupture among multiparous delivering mothers who experienced such incidents during vaginal deliveries is Level 1, with 81 individuals (33.5%), followed by Level 2 with 73 individuals (30.2%). Moreover, the largest portion of newborns has a normal birth weight (2500-4000 grams), totaling 210 individuals (86.8%). The occurrence of perineal rupture is considered one of the causes of postpartum hemorrhage, which can lead to maternal mortality if not managed properly.

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