SHORT RESEARCH ARTICLE

Factors That Influence the Incidence of Retained Placenta in Maternity Women in Kanekes Village, Baduy Tribe, Indonesia

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ABSTRACT

Introduction: The World Health Organization (WHO) states that one of the causes of bleeding is retained placenta. Retained placenta accounts for 2-3% of maternal deaths in developing countries. Various factors, including maternal, uterine, and retention factors, influence placental retention. The study aimed to determine the factors affecting the incidence of retained placenta in mothers giving birth in Kanekes Village, Baduy Tribe, Indonesia.

Material and Methods: This research uses an analytical survey method with a case-control design. There were 27 cases of placental retention experienced by women who gave birth vaginally. The researcher created the data collection format sheet instrument himself. The statistical test used is the chi-square test.

Results: The relationship between age and the incidence of retained placenta from 54 respondents was obtained from the chi-square statistical test on the age variable with a $p = 0.010 < 0.05$ value. The relationship between parity and the incidence of retained placenta ($p = 0.04$). However, non-significant results were found in the relationship between birth assistance and the incidence of retained placenta ($p = 0.750$).

Conclusions: The results show a relationship between age and parity factors and retained placenta incidence. However, in the birth assistance variable, the results show no relationship between birth assistance factors and the incidence of placental retention.

Keywords: Baduy Tribe, Birth Attendance, Placental Retention

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INTRODUCTION

World Health Organization (WHO), in 2017, 810 women died per day due to preventable causes related to pregnancy and childbirth. The results of the Inter-Census Population Survey from 2015 to 2019 show that the MMR in Indonesia is 305 per 100,000 live births. Bleeding caused by placental abruption is the number one cause of death (40% - 60%) of maternal deaths in Indonesia.[1] World Health Organization (WHO) states that one of the causes of bleeding is retained placenta. Retained placenta accounts for 2-3% of maternal deaths in developing countries.

Many factors influence the quality of maternal and neonatal health services, but one of the main factors is health workers' ability.[2] One of the efforts to speed up MMR is for every mother to be assisted or at least accompanied by a midwife and provide obstetric services as close as possible to all pregnant women to carry out regular pregnancy checks. Retained placenta is a severe obstetric complication that occurs when the placenta or its fragments remain inside the uterus after childbirth.[3–5] This condition can lead to significant maternal morbidity and mortality if not promptly managed. Retained placenta is a complication of childbirth in which the placenta, or a piece of it, stays in the uterus following delivery.[6,7]

Placental retention is another predisposing factor, namely birth attendants. Increase the acceptance of delivery assistance by trained health workers; when providing aid in the third stage of delivery, it is not permitted to carry out massage to speed up the delivery of the placenta. Massage that is not timely can disrupt uterine muscle contractions and interfere with placental delivery. This study aimed to determine the factors influencing the incidence of retained placenta in mothers giving birth in Kanekes Village, Baduy Tribe, Indonesia.

METHODOLOGY

Study Designs: This research uses an analytical survey method with a case-control design. It was conducted in Kanekes Village, Baduy Tribe, Indonesia, for seven months, from June 2023 to January 2024. The study aimed to determine the factors affecting the incidence of retained placenta in mothers giving birth in Kanekes Village, Baduy Tribe, Indonesia.

Study Sample and Data Collection: The population of this study was mothers giving birth in Kanekes Village, Baduy Tribe, Indonesia. The matching process for the research sample was carried out by selecting based on inclusion and exclusion criteria. The inclusion criteria in this study include the mother giving birth during the research period, the patient's condition being stable for interviews, and there being no emergencies in postpartum patients requiring hospital referral. The inclusion criteria for this study were that the patient refused to be a research sample. In this research, research sampling was carried out using total sampling. The case group in this study was women giving birth with retained placenta, while the control group was pregnant women without complications of placental retention. Each group consists of 27 people. Research data collection was carried out through interviews by recording on data collection sheets adjusted to the research variables. The research variables analyzed in this study consisted of the patient's age at the time of delivery, parity number, and the party who assisted in the delivery process.

Data Analysis: Research data analysis used the SPSS version 25 computer program. Analysis was carried out univariately to determine the frequency distribution of each variable, and bivariate analysis was carried out using the chi-square test.

RESULTS

Based on Table 1 shows the age characteristics of the respondents studied in the group of women giving birth with retained placenta, predominantly aged < 20 years, namely 7 people (25.9%), and in the group providing birth without retained placenta, the majority were in the age range 20-35 years, namely 17 people (63.0%). Based on the bivariate analysis, no significant relationship was found between the group of patients aged <20 years as a reference and the age group 20-35 years and >35 years (p-value >0.05).

Table 1: Comparison of Characteristics between group with retained placenta and group without it.

Characteristics	Retained placenta (%)	No retained placenta (%)	Odds Ratio	95% CI	p-value
Age					
20-35 years	6 (22.2)	17 (63.0)	0.202	0.043–0.942	0.06[b]
>35 years	14 (51.9)	6 (22.2)	1.333	0.281–6.325	1.000[b]
<20 years	7 (25.9)	4 (14.8)	1	-	-
Parity					
Multiparous	15 (55.6)	18 (66.7)	1.944	0.427–8.856	0.48[b]
Grande Multiparous	9 (33.3)	2 (7.4)	10.500	1.360–81.053	0.03[b*]
Primipara	3 (11.1)	7 (25.9)	1	-	-
Childbirth Assistant					
Non-healthcare workers	6 (22.2)	7 (25.9)	0.816	0.234–2.851	0.750[a]
Healthcare worker	21 (77.8)	20 (74.1)			

*Analysis was carried out using: [a]Chi-Square Test, [b]Fisher's Exact Test. Results were considered significant if p-value ≤0.05.

In the multiparous parity category, the most significant number of the two groups, mothers who gave birth with retained placenta, namely 15 people (55.6%) and without retained placenta, namely 18 people (66.7%), then the second place in the controlled placenta group was the grand multipara category. There were 9 respondents (33.3%), while in the group without retained placenta, the primipara category was second, namely 7 respondents (25.9%). Based on the bivariate analysis between the primiparous group as a reference, a significant relationship was found between parity and the incidence of placental retention by comparing the primiparous group with the grande multiparous group (p-value = 0.03), whereas in the analysis comparing the primiparous group with the multiparous group, no significant relationship was found. In the category of birth attendants, most of the two groups assisted were by health workers: 21 respondents (77.8 %) in the retained placenta group and 20 respondents (74.1%) in the group without retained placenta. There is no significant relationship between the birth attendance variable with retained placenta incidence (p-value > 0.05).

Discussion

Retained placenta is one of the obstetric complications that can occur in birth delivery. If this condition is left untreated, it may lead to postpartum hemorrhage.[4] Many factors may affect the incidence of retained placenta, such as high parity, maternal age, the use of prolonged oxytocin, prior uterine surgery, preterm delivery, history of curettage, and history of retained placenta.[4,8,9] Previous studies showed that maternal age is also significantly associated with the risk of retained placenta, particularly in older maternal age (p <0.001).[8,10] Women in advanced age (more than 35 years) may also have a decline in the function of the reproductive organs, such as the lack of power of pelvic muscle during labor, which may cause obstetric complications.[8,11] Previous studies showed parity had a significant association with the risk of retained placenta, with most of the patients multiparous (p<0.001).[12] Multiparous mothers tend to experience retained placentas because placental implantation from previous births causes defects in the endometrium and reduces vascularization. [13] The high parity may increase the risk of retained placenta due to decreased decidual cells in each pregnancy and delivery. Furthermore, with the decrease of these decidual cells or any absence of basal decidual cells (partial or total absence), the villi of the placenta can invade the uterine walls or myometrium and penetrate all the parts of the myometrium.[14]

The presence of childbirth assistants, particularly health workers, is essential to reduce the risk of obstetric complications. Health workers need to learn about the adequate active management of the third stage of labor and be aware of the risk factors of retained placenta. According to the previous study, the majority of maternal deaths occurred during labor, childbirth, and the early postnatal period.[15] In addition, the increase in knowledge of the management of child labor and the risk of any obstetric complications, such as postpartum hemorrhage and retained placenta, can reduce postpartum hemorrhage near misses in Tanzania. Moreover, the previous study applied specific strategies to increase the knowledge and skills of management of child labor and also postpartum hemorrhage. As a result, the previous studies showed a significant difference between the intervention districts and comparison districts (p <0.001).[16,17]

The limitation of this study is the relatively small size of the sample. This study used a case-control design and two groups (control and case group). We determined and divided these groups with the suitable criteria for each group to obtain representative results.

Conclusion

This study showed a significant association between age and parity factors with the incidence of retained placenta. However, in the birth assistance variable, this study showed no significant association between birth assistance factors and the incidence of placental retention.

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