

Number of Bleeding, Placenta Remaining, and Episiotomy Actions on the Incidence of Puerperal Sepsis

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ARTICLE INFORMATION

Received: 01 November 2021

Accepted: 25 November 2021

Published: 12 December 2021

DOI: 10.32996/jmhs.2021.2.2.16

KEYWORDS

Episiotomy, Bleeding, Sepsis,
Remained Placenta

ABSTRACT

It is estimated that 60% of maternal mortality resulting from gestation happened right after giving birth, and 50% of puerperium deaths happened in the first 24 hours. This research aims to know the relation between the amount of bleeding, remaining placenta, and the act of episiotomy to puerperal sepsis cases. This research uses analytical description methods with a cross-sectional approach. The population of this research was the postpartum mothers in puerperal sepsis cases in October – December 2017 at RSAB Harapan Kita Jakarta Barat counted 85 persons. The sampling method used in this research is an accidental sampling method with 32 respondents. The Instruments of this research are medical records and questionnaires with the chi-square analysis method. This research data analysis has the quality of univariate and bivariate, which means knowing about the relation between the amount of bleeding, remaining placenta, and the act of episiotomy to puerperal sepsis cases. This research shows a relation between the amount of bleeding with a p-value (0,035) and OR (7,200). There is a relation between remained placenta variable with a p-value (0,035) and OR (7,200). There is no relation in the act of episiotomy variable with p-value (0,142) and OR (3,500) to puerperal sepsis cases. The researcher suggests RSAB Harapan Kita increase the quality of their health services, mainly socialize information and give education for maternity women about various birth complications, such as bleeding and remaining placenta and sepsis puerperalis's risks.

1. Introduction

According to the 2014 World Health Organization (WHO) report, the world's maternal mortality rate (MMR) is 289,000 people. Some countries have a reasonably high MMR, such as Sub-Saharan Africa with 179,000, South Asia with 69,000, and Southeast Asia with 16,000. The maternal mortality rate in Southeast Asian countries is Indonesia 190 per 100,000 live births, Vietnam 49 per 100,000 live births, Thailand 26 per 100,000 live births, Brunei 27 per 100,000 live births, and Malaysia 29 per 100,000 live births.

As a developing country, Indonesia still has a high maternal mortality rate. The results of BPS data (2003, 2008, and 2013) in the Indonesian Demographic and Health Survey (IDHS) show that in 2002/2003, the maternal mortality rate was 307 per 100,000 KH, the 2007 IDHS decreased to 228 per 100,000 KH. Moreover, it increased again based on the 2012 IDHS to 359 per 100,000 KH. In 2015, the maternal mortality rate (MMR) declined to 305 per 100,000 live births based on a population census (IPS) survey in 2015.

The number of maternal deaths most sequentially exists in East Jakarta and West Jakarta. While in the Thousand Islands, no maternal deaths were found in 2014. Direct causes caused almost two-thirds of maternal deaths, namely bleeding (25%), infection or sepsis (15%), eclampsia (12%), unsafe abortion (13%), obstructed labor (8%), and other direct causes such as ectopic pregnancy, embolism, and anesthetic-related problems (8%). In comparison, indirect causes cause the other third, namely conditions caused by diseases or other complications that existed before pregnancy or childbirth and worsened with pregnancy or childbirth, such as heart disease, hypertension, diabetes, hepatitis, anemia, malaria, or AIDS (19).

The causes of maternal death are complex and can be classified as obstetric complications, health care, social and economic factors. Obstetric complications factors include puerperal infection in delivery assistance that does not use the conditions of asepsis and antisepsis. It is estimated that 60% of maternal deaths due to pregnancy occur after delivery, and 50% of postpartum deaths occur within the first 24 hours. Nationally, the incidence of infection during the puerperium reached 2.7%, and 0.7% of them progressed to acute infection. Thus, postpartum care is needed because it is critical for both mother and baby.

Infection during the puerperium contributes to the high maternal mortality and morbidity in Indonesia, 38% of the total number of postpartum mothers. The incidence of puerperal infection in Indonesia contributes 10% of direct causes of obstetrics and 8% of all maternal deaths.

Maternal mortality can be caused by maternal knowledge about pre-and post-delivery problems, health care factors, nutritional factors, puerperal sepsis, and age: bleeding, gestosis, birth canal injury, and thromboembolism.

Meanwhile, according to Manuaba, the cause of death occurred mainly due to bleeding, infection, and poisoning during pregnancy and the delay in the referral system.

The impact caused by infection during the puerperium that is not treated quickly and intensively is the spread of the infection to other organs in the mother and causes death in the mother. This is one of the factors of maternal mortality.

Based on a preliminary study conducted by RSAB Harapan Kita, West Jakarta, on April 11, 2017, in 2015, there were 102 cases of puerperal sepsis (12%) out of 850 births. In 2016, there were 98 cases of puerperal sepsis (11.7%) out of 835 births. The author conducted interviews with eight postpartum mothers at the hospital. Of the eight respondents, 3 of them did not have puerperal sepsis. Of the five respondents who experienced puerperal sepsis, 3 of them were caused by an episiotomy. Respondents admitted that they were afraid to press the stitches with a towel or tissue when personal hygiene caused them to become moist and inflamed. One respondent experienced puerperal sepsis due to previous bleeding due to a small remnant of the placenta, and one respondent experienced bleeding due to poor uterine contractions.

Five respondents (62.3%) had sepsis based on the preliminary study above, of eight interviewed respondents. However, there has been a relationship between the amount of bleeding, retained placenta, and episiotomy on the incidence of puerperal sepsis in RSAB Harapan Kita 2017.

The purpose of this study was to determine the relationship between the amount of bleeding, retained placenta, and episiotomy on the incidence of puerperal sepsis in RSAB Harapan Kita in 2017.

This study was conducted because the incidence of puerperal sepsis at RSAB Harapan Kita was still relatively high at around 42.5%. This research was conducted using a non - experimental quantitative descriptive study approach and a cross-sectional method. The sampling technique in this study used accidental sampling with the population as many as 85 people with a research sample of 32 respondents. Management of data in this study using SPSS computer application. The subjects of this study were postpartum mothers who experienced puerperal sepsis at RSAB Harapan Kita in October – December 2017. The dependent variable to be studied was the incidence of puerperal sepsis, and the independent variables to be studied were the amount of bleeding, retained placenta, and episiotomy.

2. Methods

This study used a descriptive-analytic research design, namely a survey or research that aims to determine the relationship between the amount of bleeding, retained placenta, and episiotomy on the incidence of puerperal sepsis. The variable to be analyzed in this study is the dependent variable, namely the incidence of puerperal sepsis, by looking at the independent variables, namely the amount of bleeding, retained placenta, and episiotomy. The time approach used in this study is cross-sectional, where this study makes measurements or observations simultaneously (one time) between the independent and dependent variables.

This research was conducted at RSAB Harapan Kita, West Jakarta, in October - December 2017. The population is a generalization area consisting of objects/subjects with specific qualities and characteristics determined by researchers to be studied, and then conclusions are drawn.⁹ The population in this study was all mothers who were experiencing postpartum puerperal sepsis, as many as 85 people in 2017 in RSAB Harapan Kita Jakarta Barat. The sample in this study were 32 mothers who had puerperal sepsis. The sample of this research was taken by accidental sampling, which is a sample based on a case or respondent who happened to exist at that time and was available in a place following the context of ongoing research the ongoing.

The steps that need to be taken in taking samples are determining the research objectives, determining the research population, determining the type of data needed, determining the sampling technique, determining the sample size, determining the required sample unit, and selecting the sample.

Sample requirements so that the characteristics of the sample do not deviate from the population. It is also necessary to determine inclusion and exclusion criteria. Inclusion criteria are criteria or characteristics that must be met by each member of the population

to be sampled.¹⁰ Inclusion criteria for this study is the mother postpartum puerperal sepsis in RSAB Harapan Kita Jakarta Barat and recorded in the medical record. The non-inclusion criteria were not included in the study: mothers with puerperal sepsis who were not treated at Harapan Kita Hospital, West Jakarta. Exclusion criteria are criteria or characteristics of population members that cannot be used as sample research. The Criteria exclusion in this study were postpartum women who did not experience puerperal sepsis and postpartum women who had puerperal sepsis but refused to become respondents at Harapan Kita Hospital, West Jakarta.

Before the instrument or measuring instrument is used for research, a questionnaire test is conducted first by testing the validity and reliability. In this study, the instrument's validity was tested using a computer, using the SPSS 23 program.

Validity is an index that shows the measuring instrument measures what is being measured. Reliability is an index that shows the extent to which a measuring instrument can be trusted or reliable.

Following the title of the researcher, namely "The relationship between the amount of bleeding, retained placenta, and episiotomy with the incidence of puerperal sepsis at RSAB Harapan Kita, West Jakarta in 2017", the data used in this study was to provide direct questionnaires to respondents and medical records sourced from the register. In the postpartum room at Harapan Kita Hospital, West Jakarta. The researcher first applied for permission to research an educational institution addressed to RSAB Harapan Kita, West Jakarta. After obtaining permission, the researcher collected data in the postpartum room at RSAB Harapan Kita, West Jakarta.

The data is processed using a computer program. The data is then inputted or entered. The data that has been entered is then coded. Coding gives a numeric code or number to data that consists of several categories. Checking checks the data to be managed. This activity is carried out so that the data obtained follow existing ones. Cleaning is an activity to re-check the data that has been entered so that there are no errors. This error is possible when we enter the computer. In this cleaning process, I asked a friend for help to correct it again if there were data errors. Clean data has passed the stages of coding, checking and is cleaning ready for processing.

Researchers often need to analyze the relationship between categorical variables and categorical variables in health research. This analysis aims to test the difference in the proportions of two or more sample groups. In this case, the practical test used is the chi-square test. This study uses the test chi-square because the data is used in categorical data.

Data analysis is the process of processing, presenting, interpreting, and analyzing data obtained from the field. The aim is that the data presented has meant so that readers can find out the research results.

Univariate analysis is carried out on each variable from the study results, which is expressed in a frequency distribution. The analysis results are presented in tabular form, aiming to see the frequency distribution of all the studied variables.

Bivariate analysis is used to see the relationship between the independent variable and the dependent variable, which aims to determine whether there is a relationship between the independent variable (amount of bleeding, retained placenta, and episiotomy) and the variable dependent (incidence of puerperal sepsis). Through the test chi-square, P-value will be obtained, which uses a significance level of 0.05. Research between two variables is significant if it has a value of $P < 0.05$, which means H_0 rejected and H_a accepted. Moreover, it is meaningless if it has a P -value > 0.05 , which means H_0 is accepted and H_a is rejected.

The criteria used in the test chi-square is with a significance level of 0.05. If the P -Value < 0.05 , there is a significant relationship between the dependent and independent variables. The P -Value > 0.05 means that there is no relationship between the dependent variable and the independent variable. Meanwhile, to determine the closeness of the relationship or the strength of the relationship, the odds ratio (OR) was used.

The interpretation is presented narratively to facilitate understanding of the study's results; the interpretation is used to see the relationship between the amount of bleeding, placental remainder, and episiotomy at Harapan Kita Hospital, West Jakarta 2017.

3. Discussion

3.1 The Relationship between the Amount of Bleeding and the Incidence of Puerperal Sepsis.

Statistical test results showed that there was a relationship between the amount of bleeding and the incidence of puerperal sepsis at Harapan Kita Hospital, West Jakarta, in 2017 with a p -value of 0.035 with an OR value (95% CI) = 7.200 (1.311 – 39.557) which means Mothers who experience bleeding 500 cc have seven times more risk of developing puerperal sepsis than mothers who experience bleeding < 500 cc.

Puerperal infection is a bacterial infection of the tract genital, occurring after delivery, characterized by an increase in temperature to 38°C or more for two days in the first ten days after delivery, excluding the first 24 hours.

This study is in line with the theory Wiknjastro, and postpartum hemorrhage can increase the likelihood of postpartum infection due to reduced patient endurance because the blood vessels in the uterus are still open. If the open blood vessels have uterine

retraction and contraction disorders, it will inhibit the closure of the blood vessels and cause large amounts of blood to come out; this event can trigger infection during the puerperium.

These results are following research conducted by Rahmawati in regency Sidoarjo in 2012, in her research entitled "Analysis of Determinants of Maternal Mortality in the Postpartum Period in Sidoarjo Regency in 2012" showing p-value = 0.001 with OR (95% CI) = 9.48 (2,66 – 33,78) which means there is a relationship between bleeding which is a complication of childbirth and infection during the puerperium. Childbirth complications such as bleeding contribute 25% to infection during the puerperium and result in maternal death. This bleeding will cause the mother to lose much blood; body temperature will increase to maintain body condition and result in death if not treated quickly.

There is a relationship between the amount of bleeding with the incidence of puerperal sepsis in RSAB Harapan Kita Jakarta Barat caused by many factors, such as the trauma of the birth, retained placenta, atonic, and blood clotting disorders. In contrast, postpartum hemorrhage can further be caused by the retained placenta. If the source of bleeding is not treated immediately, there will be an injury that causes germs to enter, lowering the body's resistance and can cause infection quickly. Elevated body temperature and general weakness can be signs of puerperal sepsis due to bleeding. The risk of bleeding can be prevented starting when the mother is pregnant by doing good antenatal care. Maintaining a balanced food intake during pregnancy can also prevent anemia, and inadequate food intake can trigger bleeding during labor or postpartum. Pregnant women who have a high risk and a history of bleeding are advised to give birth in a hospital.

3.2 The Relationship between Placental Remaining on the Incidence of Puerperal Sepsis

Statistical test results showed that there was a relationship between retained placenta and the incidence of puerperal sepsis at Harapan Kita Hospital, West Jakarta, in 2017 with a p-value of 0.035 with OR (95% CI) = 7.200 (1.311 – 39.557), which means mothers with retained placenta had a seven times chance of developing puerperal sepsis compared to mothers who did not experience retained placenta.

The placenta remnants that are left behind are called "placental remnants" or placenta rest. Clinical symptoms of the retained placenta are uterine subinvolution, prolonged slight bleeding, and sudden profuse bleeding can also occur after stopping for some time, feeling of discomfort in the lower abdomen.

This research is consistent with the theory of Manuaba, factors causing their mother to retain placenta due to circumstances that have a low intake, anemia, birth spacing is less than two years, and grande multipara. Complications that can occur are uterine atony, bleeding, and puerperal sepsis. Prevention of retained placenta can be done by maintaining an adequate intake of pregnant women by eating a balanced diet, keeping the distance between pregnancies so that they are not too close, and participating in family planning programs.

These results are not much different from the results obtained in a study conducted by Yuliawati in Metro Lampung City in 2015 entitled "The Relationship between History of Preeclampsia, Remaining Placenta, and Uterine Atony with Postpartum Infection Incidence in Postpartum Mothers", the results obtained are $p = 0.033$ with OR (95% CI) = 8.982 (1.090 – 74.036) which means that there is a relationship between the remaining placenta and the incidence of puerperal sepsis. The remaining placenta in the uterus is primarily due to contractions to less or weakened uterine.

There is a relationship between retained placenta and the incidence of puerperal sepsis at RSAB Harapan Kita, West Jakarta, because the handling of the retained placenta has the potential to cause puerperal sepsis. Leaving of tissue from the placenta can inhibit wound closure in the uterus. It can interfere with uterine contractions and can trigger postpartum bleeding. Wounds due to the manual placenta as the handling of the rest of the placenta are prone to the entry of germs or bacteria to cause puerperal sepsis. The entry of germs can reduce wound healing effectiveness and make wounds due to the rest of the placenta becoming inflamed, resulting in infection. One of the health workers' efforts is to actively manage the third stage of labor; these actions include administering 10 IU of oxytocin IM, controlled stretching of the umbilical cord, and massaging the uterine. This effort can reduce the risk of retained placenta and postpartum hemorrhage.

3.3 Relationship between Episiotomy and Puerperal Sepsis

The statistical test results showed that there was no correlation between episiotomy and puerperal sepsis at Harapan Kita Hospital, West Jakarta, in 2017 with a p-value of 0.142 with an OR value (95% CI) of 3.500 (0.760 – 16.118), which means the mother Those who did not have an episiotomy had a 3.5 times chance of experiencing puerperal sepsis compared to mothers who had an episiotomy.

Episiotomy is a perineal incision that causes the vaginal membrane, hymen ring, rectovaginal septum tissue, perineal muscles, and fascia to be cut, and the skin in front of the perineum to widen the birth canal to facilitate the delivery process.

The results of this study are different from the results of research conducted by Darmawati in Banda Aceh in 2013 entitled "The Relationship of Factors Affecting Wound Healing with Healing Time for Postpartum Perineal Wounds," obtained p-value = 0.000,

which means there is a relationship between episiotomy wound with puerperal sepsis. A wound in the perineum can cause infection, which results in delayed healing of the episiotomy wound.

According to Manuaba's theory, an episiotomy is performed to prevent uncontrolled tearing of the perineum, which can trigger bleeding due to birth canal injuries. The right time to perform an episiotomy is when the baby's head has crowned 4 to 5 cm, when the mother pushes because of his so that the pain during the episiotomy is resolved, and when the perineum has thinned, thereby reducing the risk of bleeding.

Based on the above, there is no relationship between episiotomy and the incidence of puerperal sepsis at RSAB Harapan Kita, West Jakarta, because episiotomy is not the only significant factor causing puerperal sepsis. If the delivery tools meet the standards for infection prevention, they can minimize the possibility of puerperal infection. Wounds due to episiotomy can become infected if the episiotomy wound care is not carried out correctly. Suitable infection prevention measures can prevent maternity patients who receive an episiotomy from being exposed to bacteria or germs that can cause puerperal sepsis. Proper perineal wound care and good personal hygiene, and balanced food intake containing lots of protein in postpartum women can be an effort to prevent perineal inflammation due to episiotomy.

4. Conclusion

Based on the results of research on "The Relationship between Amount of Bleeding, Placental Remaining, and Episiotomy Actions on the Incidence of Puerperal Sepsis at Harapan Kita Hospital, West Jakarta in 2017," it can be concluded as follows, the incidence of puerperal sepsis at Harapan Kita Hospital, West Jakarta is influenced by several variables, including the number of bleeding and retained placenta. There is a relationship between the amount of bleeding with the incidence of puerperal sepsis with $p\text{-value} = 0.035 < 0.05$ with $OR (95\% CI) = 7,200 (1,311 - 39,557)$, there is a relationship between retained placenta and the incidence of puerperal sepsis with $p\text{-value} = 0.035 < 0.05$ with $OR (95\% CI) = 7,200 (1,311 - 39,557)$, There is no relationship between episiotomy and the incidence of puerperal sepsis at RSAB Harapan Kita in 2017 with $p\text{-value} = p = 0.142 > 0.05$ with $OR \text{ value } (95\% CI) = 3,500 (0.760 - 16.118)$.

4.1 Suggestions

It is hoped that RSAB Harapan Kita can improve the quality of health services, especially information dissemination and counselling to pregnant women about various childbirth complications such as bleeding and retained placenta and the dangers of puerperal sepsis. It is hoped that future researchers can conduct further research with variables that have not been studied and use analysis more in-depth research.

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