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Analysis of factors causing the occurrence of neonatural asphysia in pariaman hospital

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ABSTRACT

Neonatal asphyxia is a condition in which a newborn does not immediately breathe spontaneously and regularly after birth. Neonatal asphyxia is one of the causes of infant mortality in the world which ranks second. The purpose of this study was to analyze, discuss, and interpret the factors that cause neonatal asphyxia. This study used a qualitative descriptive design with a phenomenological strategy using in-depth interviews, observation, and document review. Informants in this study amounted to 25 people with techniques *purposive sampling*. *P*rocessing uses data reduction, data presentation, drawing conclusions and verification. Data analysis using technical triangulation and source triangulation. The results showed that most of the causes of neonatal asphyxia in Pariaman Hospital were mostly caused by LBW and prematurity, human resources, infrastructure still needed quality improvement, improvement, and additions, especially for cases of severe asphyxia. SPO, RKK, and funds are good enough. In terms of process, there must be a resuscitation team and supervision of the implementation of the SPO. Cases of mild to moderate neonatal asphyxia can be handled properly, but if there are cases of severe asphyxia, a referral needs to be made because of incomplete infrastructure. Pariaman Hospital is not ready to anticipate the occurrence of neonatal asphyxia due to lack of training and quantity of health workers,*standby*when there is a risk of birth asphyxia neonaturum For this, it is hoped that the hospital can*upgrade*Human resources, infrastructure, and being able to form a neonatal resuscitation team if a baby is born at risk of neonatal asphyxia.

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INTRODUCTION

Neonatal asphyxia is one of the causes of infant mortality in the world which ranks second as the cause of infant death in the world. Birth asphyxia is the cause of ± 19% of 5 million neonatal deaths / year worldwide. (Marmi, 2015). According to WHO data for 2018, 4.0 million (75% of all under-five deaths) occurred in the first year of life, 47% of under-five deaths were newborns. The leading

causes of death among children under five years of age in 2017 were complications of preterm birth (878), neonatal asphyxia (610), sepsis and newborn infections (350), congenital anomalies (284), and acute respiratory infections (155).).(WHO, 2018.)

Research conducted byIsmiati, 2017 about Qualitative Study of Asphyxia Baby Management In The Perinatology Room of Dr. M.Yunus Hospital Bengkulu obtained the result that*the obstacles that are founded in the management of asphyxia are on referral administration, limited space for asphyxia management, distance access to services and fulfillment of medicines in asphyxia management.*(Obstacles encountered during asphyxia management were delegation of administrative authority, limited space for asphyxia management, distance access for services and fulfillment of asphyxia management drugs). Neonatal asphyxia is a condition in which a newborn does not immediately breathe spontaneously and regularly after birth.(Mukhtar, 2017) The diagnosis can be made by counting the fetal heart rate (FHR), an increase of 160 beats per minute or less than 100 beats per minute. Before assisting in childbirth, talk with the family about the possibilities that may occur for the mother and baby and preparation for delivery.(RI Ministry of Health, 2018.)

Asphyxia is divided into severe asphyxia, moderate asphyxia and mild asphyxia. Severe asphyxia (APGAR score 0-3). In cases of severe asphyxia, the baby will experience acidosis, requiring immediate repair and active resuscitation. The heart rate is small, which is small, 40 beats per minute, there is no effort to breathe between weak muscle tone, it is almost non-existent, the baby cannot react when given stimulation. the baby looks pale even to the point of gray, there is a lack of oxygen that continues before or after delivery.

Moderate asphyxia (APGAR score 4-6). In moderate asphyxia, signs and symptoms that appear are heart rate decreased to 60-80 beats per minute, respiratory effort is slow, muscle tone is usually in good condition, the baby can still react to the stimulation given, the baby looks cyanotic, there is no lack of adequate oxygen meaning during labour. Mild asphyxia (APGAR score 7-10), signs and symptoms that often appear are tachypnea with breaths of more than 60 times per minute, the baby looks cyanotic, there is rib retraction, the baby is moaning*(grunting),*there is nostril breathing, the baby is less active, from the auscultation examination the results are obtained*ronchi, rales,* and *wheezing* positive.(Isterina, 2017.)

Data from the West Sumatra Provincial Health Office in 2018 showed that there were 553 neonatal deaths spread across 19 districts/cities with the highest causes being LBW and premature 186 cases (33.63%), neonatal asphyxia 130 cases (23.51%).(W Sumatra Health Office, 2018.)

Research conducted by(Lemma, 2022.) Anemia during pregnancy [AOR = 3.87, 95% CI (1.06-14.09)], breech presentation [AOR = 3.56, 95% CI (1.19–10.65)], meconium stained amniotic fuid [AOR = 6.16, 95% CI (1.95–19.46)], cord prolapse [AOR = 4.69, 95%CI (1.04–21.05)], intrapartum fetal distress [AOR = 9.83, 95% CI (3.82–25.25)] and instrumental delivery [AOR = 5.91, 95% CI (1.51–23.07)] were signifcantly associated with birth asphyxia.

Based on Law no. 44 of 2009 article 29 paragraph 1 concerning hospitals that hospitals are obliged to make, implement and maintain service quality standards in hospitals. Data from the Pariaman city health office in 2018 shows 23 infant deaths spread across 7 sub-districts. The causes of neonatal death in Pariaman are LBW (13), asphyxia (2), sepsis (1), congenital abnormalities (2), and others (5).

At Pariaman Hospital, in 2017 the incidence of neonatal asphyxia was 138 cases, in 2018 141 cases, and in 2019 there were 160 cases, with the neonatal mortality rate in 2017 38 cases, due to asphyxia 2 cases, in 2018 21 cases, due to asphyxia 2 cases, and in 2019 there were 26 neonatal deaths, due to asphyxia 4 cases. In this case, during the last 3 years there has been an increase in the incidence of neonatal asphyxia at Pariaman Hospital. From the data from the mother and baby register book at Pariaman Hospital, there were 555 babies born, 160 of them or 28.83% experienced neonatal asphyxia with maternal risk factors for preeclampsia (19.31%), infection (3%), difficult labor factors, rupture of membranes early (7.7%), abnormal location (5.57%), prolonged labor (4.72%), gemli (6.44%), baby factors, low birth weight (21.46%), premature (18 ,5%). Based on the

preliminary study that the researchers conducted from 30 December 2019 - 30 January 2020, out of 10 mothers who gave birth, 3 babies experienced neonatal asphyxia or around (30%), namely baby Mrs. D, 29 years old, BP: 130/90 mmHg, preterm gestational age, G1P0A0, SC, LBW. Baby Ny. Y, 26 years old, BP: 110/70 mmHg G2P1A0H1, preterm gestational age, spontaneous delivery, breech position, and LBW. Baby Mrs. N, 22 years old, BP: 120/90 mmHg G1P0A0, term gestational age, prolonged labor, premature rupture of membranes, then performed by SC. From the point of view of the health workers, on January 29 2020 there were 2 twins with a birth weight of 600 grams and 800 grams, the babies had difficulty breathing and their extremities turned blue. based on the observations I made of the officers, namely nurse A immediately performed VTP on the baby for 30 minutes, then she assessed the condition, the actions taken were still not in accordance with the SPO, this was because the officers panicked when they saw the baby's condition at that time. "Based on the description above, the researcher is interested in conducting research**"Analysis of Factors Causing Neonatal Asphyxia in Pariaman Hospital"**

RESEARCH METHOD

Qualitative research methods, with a phenomenological study approach. Data collection was carried out through observation and in-depth interviews. With 25 director informants, Kasi, doctors, Karu, nurses and midwives. Interview too carried out for mothers of babies who experience neonatal asphyxia to get a homogeneous answer. The data were analyzed using Interpretative Phenomenological Analysis (IPA), namely by 1) reading and re-reading, 2) taking initial notes, 3) developing themes that emerged, 4) looking for cross-theme links that emerged, 5) moving the next cases, and 6) look for patterns across cases. This analysis attempts to analyze the management and prevention of neonatal asphyxia at Pariaman Hospital. The main focus of this phenomenological study is to analyze as well as inform the findings of the data, especially in the problem of asphyxia neonaturum.

RESULTS AND DISCUSSIONS

A. Factors Causing Neonatal Asphyxia in Pariaman Hospital

Based on the results of the study it was found that babies who experienced neonatal asphyxia in Pariaman Hospital were mostly caused by having 50 cases of low birth weight and 43 cases of prematurity. Judging from the mother's factors, it was mostly caused by mothers who experienced preeclampsia in 45 cases. Umbilical cord and placental factors were mostly caused by placenta previa, namely 2 cases. Meanwhile, from the factor of delivery, most were caused by premature rupture of membranes, namely 18 cases.

Based on research conducted by Palimbo et al regarding the description of the factors causing neonatal asphyxia in newborns in the Perinatology Room of RSUD DR. H. Moch. Ansari Saleh Banjarmasin In 2015 it was found that the factors causing neonatal asphyxia in the hospital were age at risk of 177 cases (29%), not at risk of 434 cases (71%), LBW 105 cases (17.2%), not LBW 506 cases (82.8 %), normal delivery 407 cases (66.6%), abnormal 204 cases (33.4%), prolonged labor 23 cases (3.8%), no 588 cases (96.2%), premature rupture of membranes 16 cases (2.6%), premature rupture of membranes was not 595 cases (97.4%).

According to the researchers' assumptions, the causes of neonatal asphyxia at Pariaman Hospital in 2019 were mostly caused by LBW and premature babies. LBW and premature babies have immature respiratory organ functions so they are vulnerable to a lack of oxygen. Babies who are at risk of LBW and premature should be anticipated from the start before the baby is born, there must be a resuscitation team *standby*during childbirth, especially pediatricians, as well as complete equipment such as ventilators. If all of these are not available, mothers who are at risk of giving birth to LBW and premature babies must be immediately referred to hospitals that have more complete facilities.

B. Input Component

1. HR human resources

Based on the results of research conducted on informants 1 to 22, it was explained that in the management of neonatal resuscitation, all health workers in the emergency room and perinatology could carry out neonatal resuscitation management and there was no special team. Officers must have a special certificate such as neonatal resuscitation, in the perinatology room around 80% of the officers already have a certificate for neonatal resuscitation. However, in the emergency room, the duty doctor and midwife only have PPGD certificates in which there is also learning about neonatal resuscitation.

Based on the 2018 PONEK guidelines that in handling asphyxia babies there must be a team that is competent in neonatal resuscitation, marked by the existence of a special certificate for neonatal resuscitation. Each birth should be assisted by at least 1 person who is competent to take the initial steps in neonatal resuscitation and can perform positive pressure ventilation (VTP), who is responsible only for caring for the neonate. If there are risk factors, at least 2 competent people who only handle babies should be present. The number and qualifications of personnel depend on the assessed risk, number of infants and hospital conditions. A team competent in neonatal resuscitation, including those skilled in endotracheal intubation, chest compressions, intravenous fluids and medications should be identified and ready to undertake resuscitation.

According to the researchers' assumptions, human resources in the management of neonatal resuscitation have not been maximized because there is no resuscitation team that has a leader to give commands in carrying out resuscitation. This is due to the lack of staff in the room during the service and the difficulty for pediatricians to be present when there is a risk of delivery of neonatal asphyxia. In terms of training, this is good enough because 80% of the nurses/midwives in the perinatology room have a certificate for neonatal resuscitation, but from the standards in the hospital, 100% of the staff in the perinatology room must have a certificate for neonatal resuscitation training. *Updates* neonatal resuscitation science, especially for officers whose certificates are more than 5 years old. There are officers who have not received training and there is no further refreshment from the hospital due to prior consideration and approval from the service and support sector, if according to them the training has been more than 70% and is not really needed for services at the Hospital, the training is not approved. It is better for the officers to have their own initiative to take part in the training, but because the costs are quite expensive, they prefer to receive knowledge given by friends in the room who have attended the training.

2. Infrastructure

Based on the results of research conducted on informants 1 to 22, it was explained that the facilities and infrastructure for the initial management of neonatal resuscitation (mild-moderate) in Pariaman Hospital were adequate. There are infant warmers, central oxygen, incubators, baby swaddles, and CPAP. However, the treatment of severe asphyxia cannot be done because there is no ventilator. Access to the Perinatology room is not good because you have to go through steep stairs so there is a risk of falling and the baby is hypothermic. To bring babies born from OK, PONEK, or when referring babies do not use a transport incubator so there is a risk of babies experiencing hypothermia.

Based on the 2018 PONEK implementation guidelines, to carry out neonatal resuscitation, there must be equipment such as suction equipment, positive pressure ventilation equipment, intubation equipment, medicines, and umbilical venous catheter equipment.

According to the researchers' assumptions regarding neonatal resuscitation facilities at Pariaman Hospital, this can only be done for cases of mild - moderate asphyxia. In cases of

severe asphyxia, they must be referred because there are no ventilators and intubation equipment available. *Standby* in the perinatology room, even though for standard resuscitation there must be an intubation device that is *standby* in the room. In the process of taking the baby at the time of delivery also not *safety* due to the absence of transport incubators to carry babies and access to perinatology which must be through steep stairs. This happened because the initial planning was not mature for the perinatology room which should have close and easy access between the delivery room and the operating room (OK). *Standby* in the room, transport incubators and ventilators that do not exist due to the procurement of these equipment must be based on the submissions given by each room and then approved first by the service department and support department, they will first consider which equipment is more needed by the service in the hospital equipment with cheaper price. In this case, it can take a long time to fulfill these tools, especially if the equipment is not urgent and expensive. Transport bincubator type hospitals, ventilators, and intubation devices or equipment for the treatment of severe asphyxia should be available and should be a priority in their fulfillment.

3. Standard Operating Procedure (SPO)

Based on the results of research conducted on informants 1 to 22, it was explained that every action of neonatal asphyxia in the perinatology room had been carried out in accordance with the existing SPO. Based on the SNARS policy, the preparation of SPO is carried out by those who do work that can be coordinated by the quality team or the hospital accreditation team, with the following mechanism: The implementer or related unit prepares the SPO, the SPO that has been prepared is submitted to the quality team/accreditation team for checking. The agreed SPO is signed by the hospital leadership (director). (snars.web.id).

According to the assumptions of the researchers regarding the management of neonatal asphyxia, an SPO had already been made, namely SPO for Handling Asphyxia Neonaturum No.745/RSPr/SPO/Pel/VII/2019, but from the results of observations made, the officers who were on duty at that time had carried out according to the existing SPO, but the management which are not in accordance with existing theories such as the position of the officer not above the baby's head, propping the baby's head with a baby pillow from head to shoulder so that the position of the baby's head is not deflected, this may be due to the management of asphyxia carried out in an infant warmer with the baby's position that cannot be placed with the baby's head vertical with the head of the officer so that the VTP given is not optimal. Supposedly, even though the action is carried out in an infant warmer, the baby's position must be adjusted according to resuscitation management, the officer's head is vertical with the baby's head.

4. Details of Clinical Authority (RKK)

Based on the results of research conducted on informants 1 to 22, it was explained that the RKK made by the hospital on the recommendation of the nursing committee and medical committee through the credentialing sub-committee was in accordance with the authority of each doctor, nurse and midwife, including the management of neonatal asphyxia.

Based on the SNARS policy, the hospital complies with statutory requirements regarding the level of education, competency, authority, skills, knowledge and experience requirements for each staff member. Each staff has responsibilities according to their job description and function. In this case, it can be seen in the Clinical Authority Details (RKK) made by the medical committee. (snars.web.id). Detailed Clinical Authority (RKK) is a description of nursing, midwifery and medical interventions carried out based on their practice area. This authority is needed to carry out delegation of medical actions that require certain clinical authority and need for credentials. (Hadi, 2017).

Based on research conducted by Ismiati in 2017 concerning Qualitative Study of Asphyxia Baby Management In The Perinatology Room of Dr. M. Yunus Hospital Bengkulu obtained the

result that *the obstacles that are founded in the management of asphyxia are on referral administration, limited space for asphyxia management, distance access to services and fulfillment of medicines in asphyxia management.* (Obstacles found during asphyxia management are delegation of administrative authority, limited space for asphyxia management, distance access for services and fulfillment of asphyxia management drugs).

According to the researcher's assumption that the Details of Clinical Authority (RKK) are in accordance with the director's decision no. 801/RSPr/I/2020 to support the realization of optimal medical services and improve patient safety. Regarding the management of neonatal asphyxia, the details of the clinical authority of doctors, nurses and midwives are in accordance with their respective authorities. This RKK has also been made by the nursing committee and medical committee. The RKK that has been made has been carried out in accordance with the authority of each officer, namely doctors, nurses and midwives. The delegation of authority has also been written in the book during the doctor's visit and carried out according to the procedure.

5. Fund

Based on the results of research conducted on informants 1 and 2, it was explained that the existing funding or budget for hospital operations was sufficient, obtained from the APBD, DAK, and BLUD. Regarding the management of neonatal asphyxia, if there is equipment that is still lacking, efforts will be made to fulfill it through the Special Allocation Fund (DAK).

According to the Ministry of Health's Finance Bureau, the health service system in Indonesia is funded by both the government and the private sector. Broadly speaking, the private sector finances about 70% of total funding. (Ministry of Health Finance Bureau, 2019). The process of paying funds that have been collected to service providers to obtain the health services needed to finance hospital needs. (Darmawan, 2017) Based on research conducted by Rinjani et al in 2016 concerning Nurse Experience Related to Unsuccessful Neonatal Resuscitation with Asphyxia in the Neonatal Room of RSUD Dr. R. Soedjono Selong East Lombok showed that there was still a lack of funding for training and fulfillment of medical devices. "*Yes, in my opinion there is not enough funds for refreshment, the feeling was several years ago.*"

According to the researcher's assumption that the funds available at Pariaman Hospital are sufficient to carry out hospital operations. Funding obtained from the central government (DAK), provincial government (APBD), and hospital revenue (BLUD). However, its fulfillment requires a process because the disbursement of funds from the regions takes time. In the case of procuring medical equipment at the RSUD, it requires a long process because it has to be submitted first by the room in need, then it is adjusted to fulfill the equipment that is urgent and the price is small, that is what can be fulfilled first. The existence of delays in submitting the need for medical devices is also an obstacle in fulfilling these tools so that if there is an urgent need.

C. Process Components

1. Planning

Based on the results of the research conducted on informants 1 to 3, it was explained that the planning for making Standard Operating Procedures (SPO) was quite mature because it went through a discussion process with health workers in the room, which was adjusted to the existing theory, then agreed with the management, so that the SPO was carried out accordingly, then there is a team of supervisors or assessors conducted by KSM.

Based on Law no. 44 of 2009 article 29 paragraph 1 concerning hospitals that hospitals are obliged to make, implement and maintain service quality standards in hospitals. In this case it is in the form of an SPO (standard operating procedure). Planning is carried out

so that the SPO is carried out properly: There is a commitment from the head of the agency as seen by the support of facilities and resources, there are facilitators who have the ability to prepare SPO, there is monitoring and reporting of the level of compliance with the steps in the SPO, this monitoring and reporting is carried out as needed, at least every three years. (snars.web.id).

Based on research conducted by Isterina F et al in 2017 concerning Resource Management for the Quality of Neonatal Services at the PONED Oesao Kupang Health Center, it was found that planning was carried out to improve the quality of neonatal services, namely increasing supervision carried out by the Kupang District health office periodically and routinely. According to the researcher's assumptions about the planning in making the SPO, it is quite mature because it was made by parties related to the medical action to be carried out. In terms of planning that is made so that the SPO is carried out in accordance with what is written, it is carried out by a pediatrician as the Chief Medical Staff (KSM), but there is no regular monitoring and reporting in the form of sheets. ***Checklist*** suitability of SPO implementation. It is expected that KSM as the supervisor also makes the report at least once every 3 years.

2. Organizing

Based on the results of research conducted on informants 1 and 3, it was explained that the organization for the treatment of neonatal asphyxia was headed by a pediatrician as the Chief Medical Staff (KSM), there was no special team in handling it, all officers in the department could do it.

According to Law no. 44 of 2009 Every hospital must have an effective, efficient and accountable organization consisting of a hospital director, medical service elements, nursing elements, medical support elements, medical committees, internal examination units, as well as general and financial administration.

Based on research conducted by Siti Nurjanah in 2018 concerning Resources in the Management of Asphyxia at Hospitals Providing Comprehensive Emergency Neonatal Obstetric Services in Demak Regency, the results showed that the number of personnel for asphyxia management was still lacking so that a special resuscitation team could not be formed, only the PONEK RS team. Perinatology rooms are still lacking, so a special team for neonatal resuscitation cannot be made. However, with officers who can carry out neonatal resuscitation, a perinatology neonatal resuscitation team can be made into a perinatology team that can go down or act together if there is a case of asphyxia during labor. The special neonatal resuscitation team must be chaired by a person who has a leadership spirit and knows very well the flow of resuscitation.

3. Implementation

Based on the research conducted on informants 1-25, it was explained that the flow of management if there was a case of neonatal asphyxia, namely when the baby being treated at the perinatology had asphyxia, the officer on duty at that time acted first, then he called the duty doctor who would later inform the pediatrician. During sectio deliveries, there were no pediatricians to accompany them because there was no incentive for them after carrying out the procedure. Mothers of patients whose babies received treatment for asphyxia did not know what actions were taken for their babies, but the officers were quite alert in providing services to their babies.

Based on the 2018 Perinasia book, there is a flow in the management of neonatal resuscitation. The flow of implementing neonatal resuscitation starts from prenatal, arranges the team based on perinatal risk factors, determines the team leader, discusses several possible clinical scenarios, prepares equipment, takes action according to the baby's

condition.

According to the researcher's assumption, the flow of implementation of neonatal resuscitation was correct, carried out by officers who were on duty at the time, when the patient came to the emergency room it was immediately handled by a competent duty doctor and nurse, if at that time the patient needed intubation, there was an anesthesiologist who helped carry out the action and then carried out further treatment of this baby in the perinatology room. However, not all officers have a special certificate for neonatal resuscitation, especially in the emergency room, there are only PPGD and BTCLS certificates. All personnel in perinatology must have special competence and certification in neonatal resuscitation. In the event that when the delivery takes place there is no pediatrician *standby* if there is a patient who is at risk of giving birth to an asphyxia baby, it is better if there is a patient who is at risk of giving birth to a baby with asphyxia neonaturum a pediatrician is present during the delivery to prevent severe asphyxia in the baby. The director and management must make a special SPO for the presence of this doctor, clear incentives for each handling of at-risk babies, and strict sanctions if they still do not comply with the SPO. In terms of service to patients, patients were satisfied because their babies were handled quickly, but mothers did not know what actions were given to their babies, they were only given informed consent for resuscitation. It is better if the officer informs the patient's family about what actions will be taken when the baby is taken to another place that is different from the mother.

4. Evaluation

Based on research conducted on informants 1 to 3, it was explained that the evaluation of the handling of neonatal asphyxia was recorded in the patient's status in the form of patient progress reports and in the nurse's overbooking. Reports for management are only the number of cases in the room per month. In terms of post-resuscitation care, there is an increase in the apgar of the baby.

Based on Permenkes No. 53 of 2014 every health service facility in providing neonatal health services must record and report according to standards, in the form of recording instruments (medical records, mother and baby cohort registration, MCH book), reporting instruments (monthly reports, death reports).

Based on research conducted by Isterina F et al in 2017 concerning Resource Management for the Quality of Neonatal Services at the Oesao Kupang PONED Health Center, the results showed that the evaluation of neonatal services was seen from data on neonatal visits and neonatal mortality rates which are calculated annually.

According to the researchers' assumptions, the evaluation carried out in the form of patient progress reports in the patient's medical record is correct, babies who experience an increase in Apgar scores after resuscitation are recorded in the medical record and also the nurse's overbooking. in accordance with Permenkes Number 53 of 2014 that records can be in the form of medical records and monthly reports. The evaluation seen from the recording and the improvement of post-suscitation babies is quite good. But there should also be monthly reports for asphyxia babies.

D. Output Components

Based on the results of the study it was found that the management carried out showed an improvement in the condition of infants who experienced neonatal asphyxia. Actions taken in cases of mild - moderate asphyxia are enough to reduce the severity of asphyxia so as to prevent infant death due to neonatal asphyxia. If at any time the baby's condition worsens and needs a ventilator, he is immediately referred so that there is no death in the hospital.

According to the researchers' assumptions, the management carried out was quite good,

judging from the improvement in infants who experienced neonatal asphyxia, even though the recovery was not immediately apparent, they needed several days of treatment so as to reduce the severity of neonatal asphyxia. In the case of baby Mrs. R, when the baby was born he didn't cry because the mother's amniotic fluid was green and there was an infection in the baby with A/S 3/4, mucus suction and VTP were carried out in the operating room, then the baby cried but was not strong, the baby's lips were still blue, then the baby was taken to the perinatology room and CPAP was installed, after CPAP was installed, the baby's condition began to stabilize with A/S 5/6 but monitoring was still being carried out. With the improvement in the condition of the baby, Mrs. R although a little, but has reduced the severity of asphyxia. However, in infants with severe asphyxia.

CONCLUSION

Based on the results of the study on the Analysis of the Causes of Asphyxia Neonaturum in RSUD, it can be concluded as follows:

The most common cause of neonatal asphyxia in hospitals was the infant factor, namely 50 cases of low birth weight babies (LBW), 43 cases of premature babies. From maternal factors, 45 cases were caused by mothers with preeclampsia, 21 cases of postmature pregnancy. Of the placental factors, there were 2 cases due to placenta previa and 1 case due to placental abruption. From the factor of delivery, there were 11 cases due to prolonged labor and 18 cases due to premature rupture of membranes (PROM). Babies at risk of LBW and premature should be anticipated from the start before the baby is born. There must be a resuscitation team on standby during delivery, especially pediatricians, as well as complete equipment such as ventilators. If none of these are available, mothers who are at risk of giving birth to LBW and premature babies must be referred immediately to a hospital that has more complete facilities.

The input component seen from Human Resources (HR) related to the management of neonatal asphyxia already has adequate quality, but in terms of quantity there is still a lack of staff while on duty, the doctor on duty in the emergency room has 4 morning shifts, 2 evening shifts, nurses and midwives in perinatology room, morning shift 6 people, evening shift each person so that a special team cannot be formed, in terms of neonatal resuscitation training not all emergency room and perinatology staff have a certificate of neonatal resuscitation. In terms of infrastructure, there are still insufficient tools for the management of severe asphyxia, such as intubation devices and ventilators. The transport incubator to bring the baby to the perinatology room or when referring is also not available, and access to the perinatology room must be through a steep staircase. Standard Procedure The operational (SPO) that has been made already exists and has been carried out in accordance with what is written in the SPO. Details of Clinical Authority (RKK) made by the nursing committee and medical committee are in accordance with the authority of each health worker regarding the management of asphyxia neonaturum. In terms of adequate hospital funds, the hospital receives funds from the central government in the form of Special Allocation Funds (DAK), regional government funds (APBD), and income from the hospital in the form of Regional Public Service Agency (BLUD) funds.

In the aspect of the process, seen from the planning of Standard Operating Procedures (SPO) that has been made according to the existing flow and to see the suitability of SPO implementation, there is a team of supervisors and assessors carried out by the Chief Medical Staff (KSM) in the room, but not carried out in person. periodically. The organization for the treatment of neonatal asphyxia is headed by a pediatrician as the Chief Medical Staff (KSM), there is no special team in handling it, so the team organization in the management of neonatal resuscitation is not appropriate standard. The implementation of neonatal asphyxia at the RSUD did not have a special flow, it was only carried out by the nurse/midwife who was on duty at the time, then reported to the doctor on duty who would later consult a pediatrician. When the delivery takes place,

especially with the presence of risk factors for neonatal asphyxia, the pediatrician is not present at the time of delivery so that there is a risk of severe asphyxia. Evaluation of asphyxia babies is only seen from patient progress notes and nurse overan reports, this is in accordance with Permenkes No. 53 of 2014 that reports can be in the form of medical records and monthly reports.

The output aspect seen here is reducing the severity of neonatal asphyxia or preventing infant mortality, in this case mild - moderate neonatal asphyxia cases can be handled properly because there is no high infant mortality rate from neonatal asphyxia cases. If there is a baby whose condition worsens or has severe asphyxia, an immediate referral is made.

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