



## Description of Asphyxia Incidents with Umbilical Cord Entanglement in Newborns in the Work Area of the Health Center in Bantaeng

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### ABSTRACT

Asphyxia neonatorum is a condition where a newborn baby does not breathe spontaneously and regularly after birth. Asphyxia can occur during pregnancy and childbirth. Asphyxia in newborns is a high risk because they have a greater chance of experiencing the baby's death or becoming seriously ill during the neonatal period. The aim of this research is to determine the description of the incidence of asphyxia based on risk factors for mothers, babies and birth factors at the Community Health Center. This research method was carried out descriptively using secondary data at the Community Health Center to find out the general picture of the incidence of asphyxia in newborns with research variables which include risk factors for mother, baby and childbirth. The results show that factors related to the incidence of asphyxia in community health centers are influenced by risk factors for mother, baby and childbirth.

**Keywords** : Description, Asphyxia Incident, Umbilical Cord Entanglement, Newborn Baby, Health Center Work Area

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## 1. Introduction

Asphyxia in newborns is a high risk because they have a greater chance of experiencing the baby's death or becoming seriously ill during the neonatal period.





Therefore, asphyxia requires appropriate intervention and action to minimize the occurrence of infant deaths, namely by implementing asphyxia management in newborns which aims to maintain the survival of the baby and limit sequelae in the form of neurological disorders that may arise, with activities focused on resuscitation preparation., newborn resuscitation decisions, resuscitation actions, post-resuscitation care, post-resuscitation follow-up care and infection prevention (Ministry of Health, Republic of Indonesia, 2008).

The World Health Organization stated that in 2013 the Infant Mortality Rate (IMR) in the world was 34 per 1000 live births and experienced an increase in 2015 with an Infant Mortality Rate (IMR) of 43 per 1000 live births. In the Southeast Asia region, IMR is 24 per 1000 live births (WHO.2016).

The Indonesian Ministry of Health 2008 states that pregnancies that are too young ( $\leq 20$  years) or too old ( $\geq 35$  years) are included in the criteria for high risk pregnancy. Young people are at risk because medically the mother's reproductive organs are still immature and she is still not mentally ready. Older people ( $\geq 35$  years) have a predisposition to experience placenta previa, uterine rupture, placental abruption which can end in neonatal asphyxia (Ministry of Health RI 2008).

## 2. Research Methods

This research uses descriptive methods, the population and sample in this study are all babies who experienced asphyxia at the Community Health Center, totaling 33 asphyxic babies, namely 12 babies in 2016 and 21 babies in 2017.

### 1. Inclusion Criteria

Data on babies experiencing asphyxia.

### 2. Exclusion Criteria

Data on babies with different diseases, Non-Asphyxia).

#### 1) Data collection

##### a) Secondary Data

Research data was obtained by collecting data that met the sampling criteria (research variables that were fulfilled or complete) taken from medical record





data and grouped on a research form for further analysis of research variables.

b) Primary data

Data collected and processed by an organization or individual directly from the object.

c) Data processing

a. Editing

Editing is the stage of checking the validity of incoming data, such as checking the completeness of filling out the questionnaire, clarity of answers, relevance of answers and uniformity of measurements.

b. Coding

Coding is the activity stage of classifying data and answers according to their respective categories, making it easier to group data.

c. Processing

Processing is the stage of activities to process data so that it can be analyzed. Data processing is carried out by entering data from filling out the questionnaire into the master table.

d. Cleaning

Cleaning is the stage of checking the data that has been entered again and making corrections if there are errors. (Lapau, 2013).

e. Data analysis

Univariate data analysis, namely analysis carried out on each variable from the research results. In general, this analysis only produces the distribution and presentation of each variable because this research wants to know the frequency distribution and presentation of each variable studied.

### 3. Results and Discussion

#### a. Results

##### 1. Analysis Bivariate

Based on the results of research conducted at Community Health Centers with secondary data in 2016/2017 regarding newborn babies with asphyxia, it can





be concluded that: The number of *asphyxia* cases was 33 cases seen with several risk factors such as baby factors, maternal factors and birth factors. Based on baby risk factors, in 2016 there were 2 cases with a high risk of 16.67%, and in 2017 there were 5 cases with a high risk of 23.81%.

## 2. Analysis Univariate

Table 1.

Characteristics of respondents based on maternal risk factors.

| Factor Risk Mother | Year |       |      |       |
|--------------------|------|-------|------|-------|
|                    | 2016 |       | 2017 |       |
|                    | n    | %     | n    | %     |
| Risk render        | 7    | 58.33 | 11   | 52.38 |
| Risk Tall          | 5    | 41.67 | 10   | 47.62 |
| Total              | 12   | 100   | 21   | 100   |

Based on table 1, it shows the characteristics of respondents based on risk factors Mother pafa year 2016 with high risk as big as 41.67% And risk low by 58.33% whereas on in 2017 number risk tall as big as 47.62% and a low risk figure of 52.38%.

Table 2.

Characteristics Respondents Based on Childbirth Risk Factors.

| Factor Childbirth Risk | Year |       |      |       |
|------------------------|------|-------|------|-------|
|                        | 2016 |       | 2017 |       |
|                        | n    | %     | n    | %     |
| No Rope Winding Center | 10   | 83.33 | 15   | 71.43 |
| Coil Rope Center       | 2    | 16.67 | 6    | 28.57 |
| Total                  | 12   | 100   | 21   | 100   |

Based on table 2, it shows that the risk factors for childbirth in 2016 with the umbilical cord entangled were 16.67% and 83.33% were not entangled, while in 2017 the risk factors for childbirth with the umbilical cord entangled were 28.57% and not entangled. umbilical cord was 71.42%.

## b. Discussion





Asphyxia is a condition where a baby cannot breathe spontaneously and regularly immediately after birth or some time after birth. Asphyxia occurs because there is a disruption in gas exchange or oxygen transport from the mother to the fetus. This disorder can arise during pregnancy, childbirth or immediately after birth. Asphyxia can affect other vital organs and can lead to infection, brain damage or death. Infant Risk Factors: The research results in Table 1 show that the majority of the research samples fell into the low risk infant weight category, namely in 2016 there were 10 cases (83.33%) and in 2017 there were 16 cases (76.19%).

Maternal Risk Factors: The results of research analysis (table 2) can be seen that in 2016 of 12 newborns who suffered from asphyxia, 5 cases (41.67%) based on maternal factors with high risk were the cause of asphyxia, and 7 cases (58.33%) is low risk. Meanwhile, in 2017, of the 21 newborns who suffered from asphyxia, 10 cases (47.62%) were based on maternal factors at high risk which was the cause of asphyxia, and 11 cases (52.38%) were low risk.

Risk Factors for Childbirth: The results of the study in table 2 show that in 2016 of 12 newborns who suffered from asphyxia, 2 cases (16.67%) were based on risk factors for delivery with umbilical cord entanglement as the cause of asphyxia, and 10 cases (83.33%) is a risk factor for delivery without umbilical cord entanglement. Meanwhile, in 2017, of the 21 newborns who suffered from asphyxia, 6 cases (28.57%) were based on the risk factor of delivery with umbilical cord entanglement as the cause of asphyxia, and 15 cases (71.43%) were the risk factor for delivery without entanglement. umbilical cord.

#### 4. Conclusion

- a) There was no influence of infant risk factors on the incidence of asphyxia.
- b) There was no influence of maternal risk factors on the incidence of asphyxia.
- c) There was no influence of birth risk factors on the incidence of asphyxia.

#### 5. Compliance with ethical standards

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#### **Disclosure of conflict of interest**

This research collaboration is a positive thing for all researchers so that conflicts, problems and others are absolutely no problem for all writers.

#### **Statement of informed consent**

Every action we take as authors is a mutual agreement or consent.

#### **References**

1. Ai Yeyeh et al, 2013. Midwifery Care in Pregnancy, Cet. I. Jakarta: CV. TransInfo Media.
2. Anasari, T. and Pantiawati, I. (2016) 'Factors that influence preterm labor at RSUD Prof. Dr. Margono Soekarjo Purwokerto', Midwifery Journal.
3. Ardhiyanti, Y. and Susanti, S. (2016) 'Maternal Factors Associated with the Event of Prolonged Labor at Arifin Achmad Hospital Pekanbaru', Journal of Community Health. Neonatal Asphyxia at Dewi Sartika General Hospital, Southeast Sulawesi Province in 2016', Proceedings of National & International Seminar.
4. Good, I, G, M. 2008. Midwifery Care for Childbirth. Jakarta.
5. Republic of Indonesia Ministry of Health. 2008. Prevention and Management of Neonatal Asphyxia. Jakarta.
6. Republic of Indonesia Ministry of Health. 2015. Normal Childbirth Care. Jakarta.
7. Desfauza, Evi. 2008. "Factors that influence the occurrence of neonatal asphyxia in newborn babies treated at Pirngadi General Hospital, Medan." Mitra Husada Medan Stickers.
8. Fajarwati, N., Andayani, P. and Rosida, L. (2016) 'The relationship between birth weight and the incidence of neonatal asphyxia', Periodic Medicine.
9. Fauzia, F. and Wahyuni, S. (2017) 'Labor Factors and Asphyxia Incidence in Bogor City', Journal of Applied Nursing.
10. Ghai et al, 2010. Prevention and Management of Neonatal Asphyxia. Helath Technology Assessment Indonesia Ministry of Health of the Republic of Indonesia.
11. Gilang et al, 2011. Factors Associated with the Incident of Neonatal Asphyxia at Tugurejo Regional Hospital, Semarang. Thesis. Not Published.
12. Herawati, T. (2015) 'Relationship between vaginal breech delivery and the incidence of asphyxiation in newborns at Mataram District Hospital in 2012', Journal of Health and Pharmaceutical Sciences.





13. Hidayat, S., Samsi, KMK and Dewi, MM (2017) 'Incidence Rates of Low Birth Weight Babies Before and During the Economic Crisis; a Research in Hospitals', Sari Pediatrics.
14. Jannah, 2013. Pregnancy Midwifery Care Book. Yokyakarta; CV Andi Offset.
15. JNPK-KR. 2012. Handbook of Essential Neonatal Health Services. Jakarta.
16. Juhaeriah, J. et al. (2015) 'Maternal Factors Associated with the Weight of Babies Born at the Garuda Health Center in 2015 Kartika Health Journal Kartika Health Journal', Kartika Health Journal.
17. Kusumawaty, I., Yunike, Y., & Astuti, RD (2023). Increasing Community Mental Health Achievement through the Development of Health Cadres in Talang Buluh Village. Social Friends: Journal of Community Service, 2(1), 28–39. <https://doi.org/10.59585/sosisabdimas.v2i1.212>
18. Kristiana, N. and Juliansyah, E. (2017) 'AGE, EDUCATION, EMPLOYMENT AND KNOWLEDGE WITH THE INCIDENT OF LOW BIRTH WEIGHT (LBW)', Scientific Journal of Health Sciences: Health Insights.
19. Lee, et. Al. 2008. "Risk factors for Neonatal mortality Due to the birth Asphyxiain southern Nepal: A Prospective, Community-based Cohor Study". America: American Academy of Pediatrics.
20. Latifah, U. (2015) 'RISK FACTORS FOR ASPHYXIA IN THE 5TH MINUTE AT KARDINAH RSU TEGAL (Case Study of Asphyxiated Babies Born by Midwives)', Tegal City Indonesia Tel.
21. Mahayana, SAS, Chundrayetti, E. and Yulistini (2015) 'Risk factors that influence the incidence of low birth weight at Dr. Hospital. M. Djamil Padang', Andalas Health Journal.
22. Manoe, VM and Amir, I. (2017) 'Multi Organ Function Disorders in Severely Asphyxiated Babies', Sari Pediatrics. doi: 10.14238/sp5.2.2003.72-8.Nasrawati and Wati, EE (2017) 'Relationship between low birth weight (Bblr) and the incidence of neonatal asphyxia at the Dewi Sartika General Hospital, Southeast Sulawesi Province in 2016', Proceedings of the National Seminar & International.
23. Nasrawati and Wati, EE (2017) 'The Relationship between Low Birth Weight (Bblr) and the Incident of Neonatal Asphyxia at the Dewi Sartika General Hospital, Southeast Sulawesi Province in 2016', Proceedings of the National & International Seminar.
24. Manuaba. 2008. Obstetrics, Gynecological Diseases and Family Planning. Jakarta: EGC Manuaba, 2010. Obstetrics, Gynecological Diseases and Family Planning. Jakarta: EGC Medical Book.
25. Manuaba IBG, et al, 2013. Midwifery, Gynecological Diseases, and Family Planning for Midwife Education. Edition 2. Jakarta: EGC.
26. Mochtar R. 2008. "Synopsis of Obstetrics", Volume I, Edition II. Jakarta: EGC.
27. Nasrawati. 2016. The relationship between low birth weight (LBW) babies and the incidence of neonatal asphyxia at the Dewi Sartika General Hospital, Southeast Sulawesi Province. Akbid Konawe.





28. Nursinah, A., Marzuki, M., Andi Latif, S., Malaha, N., Qasim, M., & Pannyiwi, R. (2022). Knowledge and Family Support for Elderly Activities . Barongko: Journal of Health Sciences, 1(2), 82–84. <https://doi.org/10.59585/bajik.v1i2.24>
29. Preeclampsia with Neonatal Asphyxia of Newborn Babies at Ambarawa Hospital, Semarang Regency', National Midwifery Seminar.
30. Riskesdes (2017) Basic Health Research.
31. Ramli, R., Mainassy, MC, Leli, L., Saad, R., Jariyah, A., Putra, ES, & Hasibuan, ER (2024). 4 Pillars of Balanced Nutrition with Nutritional Status in the Use of Simple Food Ingredients. Social Friends: Journal of Community Service, 2(2), 212–220. <https://doi.org/10.59585/sosisabdimas.v2i2.313>
32. Rahmawati, L. and Ningsih, MP (2016) 'Factors associated with the incidence of asphyxia in newborns in the Medical Records Room at RSUD. Pariaman', Midwifery Scientific Journal.
33. Ratnawati, YN and Yusnawati, N. (2019) 'Relationship between serotine pregnancy and the incidence of asphyxia in newborns', Bantul Yogyakarta: Midwifery Journal vol.
34. Saputra, RG (2016) 'Differences in the incidence of neonatal jaundice between premature babies and term babies in babies with low birth weight at PKU Muhammadiyah Hospital Surakarta', UMS Faculty of Medicine.
35. Sarosa, GI, Putranti, AH and Setyarini, TK (2016) 'The Effect of Neonatal Asphyxia on Hearing Loss', Sari Pediatrics. doi : 10.14238/sp13.1.2011.5-13.
36. Soviyati, E. (2016) 'FACTORS RELATED TO LENGTH OF LABOR IN RSUD'45 KUNINGAN, WEST JAVA, 2015', Midwife Journal "Midwife Journal".
37. Srianingsih, S., Wijaya, A., Pannyiwi, R., Anto, S., Muhajrin, M., & Rauf, NI (2022). Family Nursing Care with Environmental Health Problems. Barongko: Journal of Health Sciences, 1(1) , 53 –56. <https://doi.org/10.59585/bajik.v1i1.41>
38. Susanti, R., Imran, A., Briani, A., Akbar, A., Yermi, Y., B, M., Pannyiwi, R., & Rasyid, D. (2023). Counseling on clean and healthy living behavior in Minasatene District, Pangkajene Islands Regency. Social Friends: Journal of Community Service, 1(3), 92–98. <https://doi.org/10.59585/sosisabdimas.v1i3.70>
39. Tonasih, T. and Kumalasary, D. (2018) 'Factors that influence the incidence of low birth weight (LBW) babies in the Harjamukti District Health Center, Cirebon City in 2016', Indonesian Midwifery Research Journal. doi : 10.32536/jrki.v2i1.21.
40. Umboh, A. (2017) 'Relationship of Neonatal Asphyxia with Impaired Kidney Function in Newborns', Sari Pediatrics. doi : 10.14238/sp4.2.2002.50-3.
41. Viviawati, EY, Afriyani, LD and Yudanari, YG (2017) 'The Relationship between Gestational Age and Preeclampsia with Neonatal Asphyxia of Newborns at Ambarawa Hospital, Semarang Regency', National Midwifery Seminar.
42. Widiani, NNA, Kurniati, DPY and Windiani, IGAT (2016) 'Risk Factors for Mothers and Babies in the Event of Neonatal Asphyxia in Bali: Case Control Research', Public Health and Preventive Medicine Archive. doi : 10.15562/phpma.v4i2.64.





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43. Wiradharma, W., I Md, K. and I Wyn, DA (2016) 'Risk of Asphyxia in Premature Rupture of Membranes at Sanglah General Hospital', Sari Pediatrics. doi : 10.14238/sp14.5.2013.316-9.
44. Wiknjastro, 2018. Midwifery Science Ed III. Jakarta : Bina Pustaka Sarwono Prawirohardjo foundation Wulandari, S., Jamila, S., Rabiah, R., Mardini, RS, Magelo, WG, & Pratiwi, A. (2023). Educational Outreach on the Dangers of Smoking at SMP Negeri 11 Sigi. Social Friends: Journal of Community Service, 1(4), 152–159. <https://doi.org/10.59585/sosisabdimas.v1i4.127>
45. Yueniwati, Yuyun. (2014). Early detection of ischemic stroke with vascular ultrasound examination and genetic variations. Malang: UB-Press.

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- Ali Imran; Dr. A. Nursinah; Verawati; Rusnita Textbook of HEALTH COMMUNICATION (Key to Success in Hospital Administration). ISBN: 978-623-10-0088-0. <https://agdosi.com/2024/04/04/buku-ajar-komunikasi-kesehatan-kunci-sukses-administrasi-rumah-sakit/>
- Donny Aditia; Fransina Tubalawony; Son; Mochamad Robby Fajar Cahya; Nur Febrianti; Risca Hamdanesti; Goddess Kokmesa; Israel ; Kurniati Nawangwulan; Yusnita Yusufik. Wound Care And Treatment For Health. No. ISBN: 978-623-09-8231-6. <https://agdosi.com/2024/01/10/wound-care-and-treatment-for-health/>
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