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MANAGEMENT OF THE INCIDENCE OF ASPHYXIA IN NEWBORNS

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ABSTRACT
Asphyxia in newborns is defined as failure to regulate breathing at birth. Many conditions can affect asphyxial babies, but the underlying etiology is decreased blood flow to the brain. This research is a Scoping Review research. This study aims to map research on the Management of Asphyxia in Newborns. The research method used is to adapt the Prisma-ScR framework. The database used by Pubmed, Sciendirect and Goegle Scholar, then carried out a Critical Appraisal and reviewed using the Joana Brigs checklist instrument from the Joana Brigs Institute (JBI). Based on the search results of 315 articles, pubmad 115, sciencdirect 85 articles and google solar 75 articles, then after screening there were 8 articles that met the inclusion criteria. This review raises two sub-themes, namely the causes of asphyxia and the treatment of asphyxia in newborns. The results of the study show that asphyxia can be treated with resuscitation measures and by increasing the knowledge of midwives in resuscitation, the quality and skills of midwives in resuscitating newborns.

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INTRODUCTION

Asphyxia in newborns is defined as failure to regulate breathing at birth. Many conditions can affect an asphyxiated baby's birth, but the underlying etiology is decreased blood flow to the brain (Ahmed et al., 2021).

Birth asphyxia can cause a series of reactions resulting in changes in brain function known as hypoxic-ischemic encephalopathy. The likelihood of outcomes for surviving birth asphyxia vary widely, from normal outcomes to death, with a variety of disabilities in between, including long-term neurodevelopmental disabilities, cerebral palsy, neuromotor delays, and developmental delays. Treatment of hypoxichemia encephalopathy centers on dampening or blocking biochemical pathways that cause nerve cell death (Chirinian & Mann, 2011).

Birth asphyxia is defined as the failure to initiate and maintain spontaneous breathing at birth. It is characterized by impaired exchange of respiratory gases (oxygen and carbon dioxide) resulting in hypoxemia and progressive hypercapnia, accompanied by pronounced metabolic acidosis. The diagnosis of birth asphyxia can be established if

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the newborn has a fifth-minute Apgar score of <7. In addition, neonates can be said to be asphyxiated if the blood pH of the umbilical cord artery < 7 (Bayih et al., 2021).

The World Health Organization (WHO) states that there are nearly four to nine million newborns experiencing birth asphyxia every year. APGAR scores are used to determine the level of perinatal asphyxia, evaluated in the 1st and 5th minutes of life with scores ranging from zero to ten. An APGAR score of four to seven in the first minute of life indicates moderate perinatal asphyxia and between zero and three indicates severe asphyxia. In low- and middle-income countries, neonatal mortality accounts for 42% of under-five deaths. According to a World Health Organization report, perinatal asphyxia is the third leading cause of under-five death (11%) after preterm birth (17%) and pneumonia (15%). In low- and middle-income countries, neonatal deaths account for 52% of all child deaths under 5 years old (Sendeku et al., 2020).

Globally 2.5 million children and more than 1000,000 African babies are estimated to die in the first month of life each year. In the world, 25% of all neonatal deaths are attributed to birth asphyxia. In Ethiopia 2/3 of neonatal deaths are associated with asphyxia at birth. Furthermore, birth asphyxia was the first cause of neonatal death (31.6%) followed by prematurity (21.8%) and sepsis (18.5%) in developing countries (Tadesse et al., 2022).

Research Objectives

To find out how to handle newborns with asphyxia events, as well as post-asphyxia care.

Research Benefits

Provide information and scientific data regarding the management of treatment of newborns who experience asphyxia and care after asphyxia. Then, it can educate the public about asphyxiated babies.

METHODS

The research method used is to adapt the Prisma-ScR framework which includes: Identifying research questions through the PEO (Population, Exposure, Outcome) framework in managing and solving the focus of the review. After identifying the scoping review questions, the next step is to identify journals or articles that are considered relevant, this can be done using keywords. Furthermore, the identification of relevant articles is based on inclusion and exclusion criteria. Determine articles based on article titles, abstracts and full text journals, so that relevant articles are obtained then carried out critical aprsisal and mapping. Preffered Reporting Items for Systematic Review and Meta-Analysis (PRISMA) will be used to screen relevant articles. Because using PRISMA Flowchart can improve the quality of publication reporting, so it is considered appropriate to use.

RESULTS AND DISCUSSION

Asphyxia Event Bandage

The cause of neonates experiencing asphyxia is that babies born to mothers who were anemic during pregnancy are 3 times more likely to experience shortness of breath than neonates from mothers who were not anemic during pregnancy (Abebe Alemu et al., 2019). Other findings revealed a strong link between asphyxia between babies born with normal weight and babies born with low weight (Techane et al., 2022). Babies born with surgery are more likely to develop asphyxia than babies with a history of inoperative birth. Factors associated with birth asphyxia. These include antepartum risk factors (i.e., maternal age, maternal education, pre-eclampsia, primi-gravidity) intrapartum risk factors (i.e., prolonged labor, premature rupture of membranes, non-cephalic presentation, mode of delivery, and maternal fever), and fetal risk factors (i.e., premature infant, fetal distress, and infant weight), research says amniotic fluid and tight nuchal cord are contributing factors to birth asphyxia (Sendeku et al., 2020).

All of these factors can be optimized through the collaborative efforts of national, regional and local neonatal health stakeholders in Ethiopia (Tadesse et al., 2022). Since follow-up treatments such as miracles are not present for asphyxiated neonates in the country, prevention is undoubtedly urgent. Thus, health care providers should make deep investments of their efforts for the early detection and management of obstetric deviations during pregnancy of labor and delivery, crucially, strict partographic follow-up of the health of pregnant women should be carried out during the intrapartum period supported by various diagnostics (eg ultrasound), accompanied by emergency obstetric interventions and immediate care of newborns (Bayih et al., 2021).

Asphyxia Treatment

One way to overcome the problem of asphyxia events in newborns is to improve the quality of neonatal resuscitation (Ashish et al., 2017). Resuscitation in newborns, which is the time specified for one cycle of initial resuscitation action, which is 30 seconds, is the first step to assess the baby's ability to breathe spontaneously and the follow-up actions needed by the baby. Actions within that period such as drying and stimulation of the skin of the back, abdomen, and soles of the feet are assessment and resuscitation interventions. This procedure can stimulate neonates to breathe, but if the baby fails to breathe spontaneously (apnea) or gasps or the heart rate is less than 100 times / minute then ventilation assistance should be done immediately (Murniati et al., 2021).

The Indian Government's efforts initiated a program to improve institutional childbirth in the hope that skilled helpers are better able to identify and manage maternal and newborn complications so as to save lives in asphyxiated babies (Pengenal et al., 2019), research (Anthony & Vincent, 2022) The results said 141 (41%) nurses and midwives observed had adequate skills in neonatal resuscitation. Observations (Perez & Bose, 2018), Which is getting inadequate skills in neonatal resuscitation has the effect of the baby not crying to cause death. In research (Becker et al., 2022) Which in his research conducted resuscitation training attended by midwives with the aim of improving skills in resuscitating newborns.

CONCLUSION

The conclusion of this review is that there are several causes of asphyxia in newborns including a history of childbirth, premature rupture of membranes, fetal distress and low birth weight. To minimize the incidence of asphyxia, some studies say the need to improve midwives' skills for handling asphyxia in newborns. Improving the ability of midwives in carrying out resuscitation is carried out by resuscitation training attended by midwives with the aim of improving midwives' skills in resuscitating newborns.

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