

Magnitude of Birth Asphyxia and Associated Factors among Newborns Admitted in Neonatal Intensive Care Unit at Government Hospitals in Addis Ababa, Ethiopia, 2021: Multicenter Cross-Sectional Study

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Abstract

Background: Birth asphyxia is failure to initiate and sustain breathing immediately after birth. According to world

liver, heart, and ultimately the brain) will develop an oxygen debt (obligation). Neonatal hypoxic-ischemic encephalopathy refers specifically to the neurologic sequel of perinatal asphyxia.

Globally birth asphyxia continues to present a major clinical problem and one of the common and leading causes of neonatal mortality and morbidity especially in developing countries. Almost all (99%) neonatal deaths arise in low-income and middle-income countries especially in sub-Saharan Africa. One-fourth of the deaths during the first four weeks of life are attributed to Ante-partum, Intra-partum "birth asphyxia" and postpartum care.

Globally Intra-partum asphyxia accounts for 814,000 death/year, and it is the 5th most common cause of death in under 5 children and is responsible for 42 million disability adjusted life year. An estimated one million children who survive birth asphyxia live with chronic neuro-developmental morbidities, including cerebral palsy, mental retardation, and learning disabilities [2].

three hospitals were selected by simple random sampling technique [4]. The calculated sample for each hospital was proportionally be allocated based on an average number of newborns admitted in NICU in the past three months prior to the survey.

According to each hospital data admitted to NICU newborns in the past two months prior to the study period found under each hospital from January 1st, 2020 to February 30th, 2020.

The first participants were selected randomly by lottery methods. Another participant were selected every eight (k=4) intervals. The mother were interviewed every 4th intervals after determination of kth value. By using proportional allocation formula 135, 109 and 93 mother were selected randomly from Gandhi, Yekatit12Hospital Medical College and Ras-Desta Damtew Memorial Hospital respectively.

Birth Asphyxia was the dependent variable while, maternal age, occupation, educational status, residence and income pregnancy condition: History of diabetes, Preeclampsia, Anemia and Any previous history of birth asphyxia, ANC follow up, Previous still birth, Gravidity, Parity. Condition of labor started, Duration of labor, Mode of delivery, Meconium stained, General Anesthesia received during C-section, Gestational age, Birth weight, APGAR score, Fetal presentation and History of cry and seizure were independent variables [5].

Asphyxia: new-born who is breathing poorly (less than 30 breaths per minute) Gaspings or not breathing at all.

Apgar: consists of five physical signs: color, heart rate, reflex irritability, muscle tone, respiratory effort. In our study Birth asphyxia is defined when babies are unable to breathe at 5th minute after birth and APGAR score <7 at 5th min.

Long labor was considered when the labor, after the latent phase of first stage of labor, exceeds 12 hours in primigravida or 8 hours in multipara mothers.

in northeast Amhara, Ethiopia 22.6% in the 1st minute of birth, in Delia 32.8%, in Jimma hospital Southwest, Ethiopia (32.9% in the first minute) and in Nigeria (21.1%). This variation could be due to this study include more than 97% of new-borns' with mothers are visiting ante natal care. In addition, in Addis Ababa good infrastructure, health facilities easily availability, good awareness of the family may

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