



## ICASH-KEYNOTE

# THE EFFECT OF ASPHYXIA ON THE QUALITY OF LIFE OF CHILDREN AGED 2-4

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### EXTENDED ABSTRACT

*Asphyxia is a condition of air exchange disruption that occurs as a result of the failure to start and maintain breathing during birth. The World Health Organization (WHO) estimates that approximately 3% of about 120 million neonates born each year in developing countries develop asphyxia and need resuscitation. Children who survive asphyxia may experience long-term morbidity that causes low quality of life. The aim of this study was to measure the quality of life of children aged 2-4 years who were born with asphyxia in Indonesia. A retrospective cohort design studying preterm babies born. Asphyxia was assessed based on positive pressure ventilation resuscitation status and APGAR score in the 5<sup>th</sup> minute, while children's quality of life was assessed using the Pediatric Quality of Life Inventory<sup>TM</sup> (PedsQL<sup>TM</sup>) 4.0 Generic Core Scale for 2-4- year- old children.*

*Asphyxia had a meaningful effect on the quality of life in children. The association strength was quite strong with a OR 3.5. The results were support previous research, which stated that children with asphyxia were at a higher risk of poor motor quality and nerve disorders compared to children without asphyxia. A biologically plausible mechanism for this relationship could be that newborns with asphyxia experienced oxygen deficiency, and therefore metabolic acidosis and over-production of Reactive Oxygen Species (ROS) occurred. This can cause cell damage to some vital organs, in particular brain cells. Lack of oxygen at birth can have long-term effects for the infant. Hypoxia, or reduced oxygen to the brain, can cause long-term disabilities and developmental delays. The results showed the influence of asphyxia on children's physical and social functioning. Preterm babies who suffer from birth asphyxia tend to experience problems with physical functions such as walking, running, playing, bathing, and lifting heavy objects and also experience aches and fragile bodies.*

*The brain cell damage mainly occurs in the frontal and parietal lobes. The damage to the frontal lobes would disturb motor functions (movement), leading to children with asphyxia having problems with their physical function. The damage to the parietal lobe, which is located behind the frontal lobe, would manifest as somato sensory disturbances, causing a feeling of aches. Damage to the cerebellum would disturb the child's ability to walk, run and maintain balance. Physical functional disturbances strongly affect children's social function. Children who experience physical and emotional disturbances would also experience disturbed social functions. Emotions significantly affect a child's social interactions. Through developing their emotions, children learn to change their behavior to adapt to social demands.*

**Keywords:** *asphyxia, quality of life, children*