International Journal of Community Medicine and Public Health
Liaquath Ali F et al. Int J Community Med Public Health. 2020 Mar;7(3):1203-1204
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20200993

Letter to the Editor

Physiological cord clamping: dawn to halt anemia in infancy

Sir,

All infants immediately following their birth experience a decrease in hemoglobin which result in varying degrees of anemia termed as physiology or early anemia of infancy. Normally after birth hemoglobin values fall from 14.6 to 22.5 g/dl to 10.0 to 12.0 g/dl within 8 to 10 weeks from age, after which the values gradually increase reaching the normal level at the end of 2 years.

World Health Organization had estimated that prevalence of anemia was 23% at 8 months of age and 18% at 12 months despite increasing breastfeeding rate, development of iron fortified foods and development in public health.[1] Even after the holistic approach like National Iron plus initiative, India encountered a growing burden of anemia among infancy ranging from 48% to 71.1% in states like Meghalaya, Bihar, Madhya Pradesh, Karnataka, and Tamilnadu.[2]

At the time of birth, the neonate is still attached to the mother through umbilical cord. It is clamped in the first 60 seconds known as early cord clamping and more than one minute known as delayed cord clamping (placental transfusion). Following which the placenta is delivered after giving an uterotonic drug alongside cord clamping and traction is applied to the cord along with counter pressure on uterus. The assertion is that delayed cord clamping can improve the iron status of the newborn upto six to eight months and thus preventing and delaying iron deficiency anemia in children. This practice is particularly beneficial for the infants living in low resource settings who is having less access to iron rich supplementary foods.[1]

Darwin once said, "another thing very injurious to the child is the tying and cutting of the navel string too soon, which should always be left till the child has not only repeatedly breathed but till all pulsation in the cord ceases. As otherwise the child is much weaker."[3] Currently cord clamping practice vary in different settings and reviews suggests early cord clamping is practiced frequently.

Understanding from the experiences from studies conducted in India, physiological cord clamping allows the natural delivery of placenta without active expectant management of third stage of labour would benefits the newborns in multiple ways. In this, the placenta is allowed to deliver physiologically with uterine contraction and gravity without any cord traction or cord pull. The umbilical cord is cut only after the complete placental delivery and until the newborn continue to rest on the mother's chest for breastfeeding. This prolonged placental transfusion provides an additional 30% blood volume and 60% of red blood cells, approximately 214 gms of weight gain to the infants. Except if the placenta is not delivered within 15 minutes, increased bleeding after the delivery of newborn, bradycardia of the newborn and major malformation demanding resuscitation, the decision of manual separation of placenta can be taken by the medical officer.

This procedure has demonstrated as simple, safe, friendly and acceptable by the community. There is additional transfusion of iron stores which prevents the iron deficiency anemia in infancy and improving cognitive, motor and behavioral development. It is evident that newborns with physiological cord clamping demonstrates higher SpO_2 and better APGAR when compared to those with early cord clamping.[4] The prolonged transfusion facilitates transfer of immunoglobins and stem cells to the newborns causing beneficial effects followed cellular injury and inflammation and organ dysfunctions.[5] This has shown a beneficial effect to mothers where women with active management had 2.76 times of higher blood loss when compared to physiological management of cord delivery.[6]

The state of Gujarat in India had shown a successful outcome from physiological cord clamping. Implementing the same in whole country could bring a natural environment to mother during childbirth and avoiding unnecessary medical interventions and improving the child survival.[4]

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Cite this article as: Liaquath Ali F, Maruthupandian J, Pragadeesh RV. Physiological cord clamping: dawn to halt anemia in infancy. Int J Community Med Public Health 2020;7:1203-4.