



A STUDY ON EFFECTIVENESS OF UMBILICAL CORD MILKING PRACTICE AMONG NEONATES ACROSS NATION.

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ABSTRACT

Introduction: Preterm birth rate is increasing globally which is around 15 million. Among these about a million dies due to consequences of preterm mostly due to anaemia. Umbilical cord milking significantly improves blood pressure and hemoglobin levels and reduces anaemia and need for blood transfusion in future. **Aim:** The main aim of the study is to assess the umbilical cord milking practices in india. **Material and Methods:** In this study survey was conducted by using semi structured questionnaire regarding practices of umbilical cord milking. Study duration is about 3 months with a sample size of 50. **Results:** A Total of 50 responses were obtained after fulfilling the inclusion criteria. Majority of the study population were consultant pediatricians and faculty pediatricians and neonatologists working at teaching hospitals. 77.6% were aware of two types of umbilical cord milking and 22.4% were not aware regarding practice and 59.2 % were preferring hands on workshop regarding umbilical cord milking. 72.9 % in study were in a opinion that umbilical cord milking should be a standard practice among neonates. **Conclusion:** Umbilical cord milking could be universally adopted practice without causing any ill effects on neonatal health and eventually becomes cost effective intervention for immediate prevention of anaemia in childhood and improves overall health and reduces future need for blood transfusion

KEYWORDS : Umbilical Cord Milking, Hemoglobin, Blood Transfusion.

INTRODUCTION

Preterm birth rate is increasing globally which is around 15 million. Among these about a million dies due to consequences of preterm mostly due to anaemia⁽¹⁾. Anaemia leads to hypoxia in various organs of premature infants which leads to prolonged hospital stay and in later stages anaemia can effect the growth and development of premature infants and some times it may damages Nervous system⁽²⁾. Placental blood transfusion can increase iron stores and hemoglobin level and improves post natal adaptability^(3,4,5,6). This procedure also decreases blood transfusion demand which reduces complications like hemolysis and infection. Placental blood transfusion includes delayed cord clamping which is slow and passive transfer of blood from placenta to new born baby by uterine contractions and other procedure is umbilical cord milking which is a speedy procedure in which milking of blood from part of umbilical cord to fetus after delivery which usually takes 20 seconds of time^(7,8,9). Delayed cord clamping requires up to 3 minutes of time which delays resuscitation of newborn but this umbilical cord milking ensures the placental blood transfusion without delaying resuscitation period which improves prognosis of premature infants.

Umbilical cord milking can be performed in two ways which are intact umbilical cord milking and cut cord milking. Intact umbilical cord milking is done with cord still attached to placenta even after delivery of baby which provides more transfusion and this is usually preferable. Cut cord milking includes clamping and cutting the cord at 25 cm from umbilical stump after delivery of baby. The long cord is taken by pediatrician and milks whole contents in to infant⁽¹⁰⁾. This cut umbilical cord milking is safer for preterm babies less than 28 weeks or when urgent resuscitation but this gives very smaller transfusion.

MATERIAL AND METHODS

This is a prospective study which is conducted by using semi structured questionnaire to assess the umbilical cord milking practices in india. Study duration is about 3 months with a sample size of 50.

Statistical Analysis

Data was collected and exported to excel spread sheet and

analysed for qualitative variables and their associations. The variables were tested for significance using chi square test which p value ≤ 0.05 was considered significant.

RESULTS

A Total of 50 responses were obtained after fulfilling the inclusion criteria. Majority of the study population were consultant pediatricians and faculty pediatricians and neonatologists working at teaching hospitals. 77.6% were aware of two types of umbilical cord milking and 22.4% were not aware regarding practice and 59.2 % were preferring hands on workshop regarding umbilical cord milking. Most of the faculty who were practicing umbilical cord milking were working at private teaching institutes constituting 48% and 38% from corporate hospitals and remaining 14% from government institutes and 50% of the practitioners were performing umbilical cord milking. Among these 30% were practicing cut cord umbilical milking and 54% were practicing intact cord milking and 16% were practicing both methods. 20.4% were using cut umbilical cord milking routinely and 18.4% were practicing intact umbilical cord milking routinely. Most of the practitioners in this study 38.3% were using umbilical cord milking in gestational age of 37 weeks and above and then 33.9% were using for 34-37 weeks of gestational age. Very few 27.8% population were using this practicing for less than 34 weeks of gestation. 42.9% practitioners in study were milking cord for 1-2 times and 34.7% were milking for 3-4 times and 22.4 % were not having standard practice regarding milking frequency. 27.7 % were milking 10cm length of umbilical cord and 23.4% were milking 20 cm length of cord and 19.1% were milking 30 cm length of cord and 29.8% were not having any specific criteria.

16.3% practitioners were having standardized protocol for intact umbilical cord milking and 12.2% were having protocol for cut umbilical cord milking and 28.6% were having standardized protocol for both cut and intact umbilical cord milking. Most of the study population 29.8% were practicing umbilical cord milking based on previous studies. 17% were practicing based on experts opinion.

34.7% practitioners receive formal training on umbilical cord

milking and 65.3% were not having any training and 21.3 % practitioners were fully confident regarding procedure. Clinical guidances and hands on workshop helped to improve skills in umbilical cord milking practice. By using this methods 35.4 % practitioners stated that there is reduced need for transfusion and 29.2% stated that there is higher hemoglobin or hematocrit levels after practicing this method and major challenges for this procedure is due to lack of standardized protocol and limited staff training. 68.5 % practitioners did not face any difficulty during procedure and 31.5 % faced hurdles . 39.6% were preferring intact umbilical cord milking and 37.5% were preferring cut umbilical cord milking. 72.9 % in study were in a opinion that umbilical cord milking should be a standard practice among neonates. 66.7% stated that umbilical cord milking increases hemoglobin and hematocrit and iron levels and reduces need for transfusions in future.

DISCUSSION

In our study we found, Most of the practitioners are from private teaching hospitals who are practicing umbilical cord milking. In this study most of the practitioners are performing cut umbilical cord milking routinely. They are using this procedure for >34 weeks gestation age followed by 34-37 weeks. Most of the practitioners in this study were milking cord 1-2 times followed by 3-4 times. Most of the review studies are suggesting 3-4 times is preferable.

There is no uniform standard for length of umbilical cord milking^(11,12,13). In this study we observed some preferred 10 cm length of umbilical cord milking others preferred 20 cms and 30 cms of length. A clinical trail performed by Zhang et al⁽¹⁴⁾ showed that 20-30 cms length is safe and effective which significantly improves blood pressure and hemoglobin levels and reduces anaemia and need for blood transfusion in future. Most of the responses in this study stated that intact umbilical cord milking is used as routine practise and it has improved hemoglobin levels and hematocrit levels and reduced need for blood transfusion. There are similar researches Hunton et al⁽¹⁵⁾, Hosno et al⁽¹⁶⁾, reported positive effect of milking on reduced need for blood transfusion furtherly.

Through this study, We observed that most of the practitioners opined that there should be more hands on training and clinical guidance and need for standardized protocols to improve the skill for umbilical cord milking which significantly improves the practice of umbilical cord milking which reduces anaemia and deteriorating effects on infants health and also reduces future need of blood transfusions furtherly thus significantly improves overall health.

CONCLUSION

Umbilical cord milking could be universally adopted practice without causing an ill effects on neonatal health and eventually becomes cost effective intervention for immediate prevention of anaemia in childhood and improves health of hypoxic neonates, improves blood volume, hemoglobin levels, hematocrit and iron levels in blood and cerebral oxygenation and improves cognitive abilities. This practice of umbilical cord milking results in better outcomes in resuscitation of infant and overall it helps in reduction of infant mortality rate.

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