Outcome of infants with decompensted congenital heart disease exposed to skin-to-skin care

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The growing evidence of the benefits of skin to skin care (SSC) shown by different studies has encouraged us to study the possibility of introducing this technique with babies with CHD. We are unaware of any other similar studies that have examined the relationship between SSC and congenital heart disease.There is also much controversy about the effect of breastfeeding compared to artificial feeding on the health and growth and development of babies with congenital hear disease (CHD).Our study included 55 babies with congenital heart disease that were divided into three groups as follows: 19 breastfeeding and 21 artificial fed babies and 15 babies who were taken as control babies with CHD but not exposed to the intervention irrespective of their mode of feeding.Group I: 19 breastfeeding babies with CHD who were exposed to SSCGroup II: 21 Infant milk formula feeding babies with CHD who were exposed to SSCGroup III: 15babies with CHD not exposed to SSC control group both breastfed and artificially fedSelection criteria:- All infants under 24 months of age hospitalized for heart failure.- Almost fully breastfeeding in the first six months and received foods after 7 months with continued breastfeeding or received infant milk formula before six months and were then only on formula or other milks feeding.- Receive medication for heart failure-- Neither exposed to operative procedure nor operative procedure with residual cardiac dysfunction necessitating treatment.Exclusion criteria in the intervention groups:• Infants with heart failure due to any other cause.• Other congenital anomalies apart from heart defect• Neurological disease• Mother sickness or severe malnutrition.• Infant with CHD that was totally corrected and heart failure is secondary to chest infection or other cause than heart.All subjects included in the study were subjected to the following:1. Thorough family history including maternal illness and history of the previous pregnancies.2. Thorough maternal antenatal history (with special focus on smoking, infections, drugs and any medical problems occurred during pregnancy).3. Thorough obstetric history.4. Postnatal history including respiratory distress, cyanosis or jaundice.5- Assessment of the babyAll infant were admitted for one day and assessed as follow:- Weight to nearest gm. Supine height to nearest mm and body mass index. Head circumference. Vital signs (H.R, R.R, temp.)Pao2 saturation, H.R, PO recorded just before the feeding, every min. during feeding & last 5min. after feeding (without SSC.). Assessing feeding protocol including type of feeding and its frequency and amount. Assessing the breastfeeding to ensure

correct attachment via observation of the mother position, infant holding, and usage of both breasts alternatively and ensure exhaustion of one breast before shifting to the other. Counseling the mother to resolve any problems faced her during feeding or care by SSC.6. Infants of group (1) were breastfed and cared for by SSC, while infants of group (11) were artificially fed and cared by SSC. Group (III) infants were not exposed by SSC and considered as control group.7. The mothers of all neonates underwent assessment for anxiety using the STAI test and were done by self assessment questionnaires.The aim of our study was:1- Compare health, growth and developmental outcome of infants with CHD exposed to almost fully breastfeeding for six months and continued breastfeeding into the second year with infant with CHD exposed to any formula feeding from before six months and early cessation of breastfeeding before one year (after controlling for severity of defect and operative procedures).2- Compare complications of CHD as chest infections, cyanotic spells, anemia and liver disease of infants with CHD exposed to almost fully breastfeeding for six months and continued breastfeeding into the secondyear with infant with CHD exposed to any formula feeding from before six months and early cessation of breastfeeding before one year (after controlling for severity of defect and operative procedures).3- Evaluate the clinical intervention of SSC on the outcome of infant with decompensated congenital heart disease (CHD) in breast fed and artificially fed infants. This will be assessed as follows:- Does SSC improve the blood gases status?- Does SSC reduce complications or control already present complications?- Does hospital stay improve mother satisfaction and lessen her anxiety scores?Our results showedIn the study we found that bronchitis as one of the lower respiratory tract infection was the most common cause of morbidity in comparison with others and we found that its incidence was higher in formula feeding than breastfeeding.In our study we found statistically significant increase followed by a decrease in heart rate within normal value, and increase in oxygen saturation in both breastfed and formula fed groups exposed to SSC in comparison to the group that was not exposed to SSC. We found that heart rate decrease was within the normal physiological range in both groups. However the breastfed group showed a lower decrement than that of the formula fed group. This suggests synergistic effect of both SSC and breastfeeding.In our study, we found that mothers who practiced SSC whether breastfeeding or formula feeding had a significant decrease in their anxiety score when compared to mothers who did not practice. Moreover when STAI was measured before and after SSC, there was considerable reduction in the anxiety state in both breastfed and artificially fed babiesOur study showed an even better psychological state (less anxiety score) among mothers who practiced SSC with breastfeeding in comparison with mothers who practiced SSC with formula feeding, which indicate that breastfeeding has an additive or augmenting and synergistic effect on the emotional state of mothers .Severe and very severe states of anxiety were much higher among the formula feeding mothers compared to the exclusively breastfed mothers. This indicates that formula feeding increases the stress state of mothers and decreases their coping.There was statistically significant difference in oxygen saturation during feeding session and at 10 minutes after feeding in both groups. In the breastfeeding group oxygen saturation did not decrease below 90% while formula fed babies

scored lower resultsAlso, in our study there were significant difference in heart rate between breastfed group and formula fed group with the mean heart rate of the breast fed babies lower than that of formula fed babies.