Title: **The Comparison of Bacterial Colonization in the Centralized Venous Catheters by Peripheral Vessel in the Upper Limbs with the Lower Limbers of the Hospitalized Premature Newborns in the Neonatal Intensive Care Unit.**

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Introduction: In the recent years although the cares during pregnancy and the premature births control have promoted, the overall prevalence of premature births has increased.Due to long-term hospitalization of premature newborns and as most of them need to the central vein for total parenteral nutrition and also the importance of controlling and preventing from infection in the newborns and the effects of embedding place of intravenous catheter in the incidence of bacterial colonization, selection the appropriate embedding place of the catheter is necessary.So the present study was conducted with the purpose of comparing the bacterial colonization of central venous catheter by peripheral vessel in the upper limbs with the lower limbs in the hospitalized premature newborns in the neonatal intensive care units.

Method: This study is as an interventional study and it type is clinical trial. The number of 389 premature newborns 26-36 weeks that in the were hospitalized in the neonatal intensive care unit of Isfahan hospitals of Al Zahra and Shahid Beheshti, easy randomly were participated in the study. For 207 newborns central venous catheter by the in the peripheral vessel in the upper limb and for 182 newborns the central venous catheter by the peripheral vessel was embedded in the lower limbs. After passing 15 days the catheter was exited and 4 centimeter from the tip of catheter to culture and determining the bacterial colonization was sent to the laboratory; then bacterial colonization under two class were analyzed and were compared.

Conclusions: The results showed that the colonization in 23 case (15.9%) was created in the upper limbs and 18 case (9.9%) in the lower limbs was observed; and there was a significant different between two groups as the bacterial Colonization in the upper limbs was seen more than lower limbs (p=0/04).

Keywords: colonization, premature newborn, central venous catheter through a peripheral vein.