Archives of Nursing and Care

Risk factors for intra-hospital transport of newborn patients: A new solution to an old problem

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Background:
In many hospitals, resuscitation and transfer of sick newborns from delivery room to NICU requires transfer from a radiant warmer to an incubator or use of a transport incubator for transfer to the NICU. This usually means significant thermal stress as well as possible respiratory and hemodynamic instability. We have reduced unnecessary transfers between beds for critically ill Neonates and VLBWI by using a hybrid (OmniBed), which incorporates an overhead warmer and an incubator into one device, to improve the thermoneutral environment during this early critical phase. The purpose of this study was to compare the impact of using this device on admission thermal stability and stress to the newborns with traditional caregiving methods.

Methods:
500 newborns were included in this cohort study. 335 infants with birth weights of less then 1500 g (range 420 – 1490 g) and 65 sick children (CDH, n = 60, CCAM n = 5) were transported in a Giraffe OmniBed from delivery room to the NICU. This hybrid device was upgraded for this study with a cardiorespiratory monitor, a mechanical ventilator, a suction source and gas supply. After delivery, the babies were resuscitated in the labor and delivery area using the device in the open bed, radiant warmer mode and then transported in closed bed, incubator mode to the NICU (a distance of approximately 500 m).

Results:
All initial resuscitation procedures including catheterization of the umbilical vessels were performed without any problems using the overhead mode. The average rectal temperature measured immediately upon admission to the NICU for all babies was 36,82 °C (median, range 36,1 – 37,5 °C; VLBW 36,61 °C). The average temperature was 0,51 °C higher than in the historical control group of 500 babies transported with a conventional transport incubator ($p<0.0001$). After operations in the OmniBed, no baby was colder than 36,1 °C rectal temperature.

Conclusions:
Using this novel hybrid device for resuscitation in the delivery room, for transfer to the NICU, for resuscitation on the NICU and for surgical intervention resulted in improved thermal stability. This device allows clinicians to initiate and maintain mechanical ventilation without disruption and may help to maintain continuing life support, resulting in admission of more stable infants to the NICU. The hybrid can be modified according to the clinical situation for a child's particular diagnosis. Further, a cost reduction effect may be realized because of a reduced need for transport incubator(s) and open beds in the NICU

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Biography

Loersch has finished her Diploma Degree in Nursing in the academic then she started to work on some researches related to nursing care, nursing profession and nursing job satisfaction. She is currently working with MSF international organization as a maternity nurse and train the paramedical staff to develop their skills.

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