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Reducing the Occlusion Rate of Percutaneous Central Venous Catheters in Premature Infants in NICU

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Background:
Vascular access is a major challenge in the management of preterm and critically ill term infants in neonatal intensive care units. In sick neonates these catheters have been shown to provide long-term vascular access necessary for the prolonged administration of parenteral nutrition and intravenous medications.Despite perceived benefits in neonates, peripherally inserted PCVC are associated with mechanical and infectious complications. Mechanical complications including occlusion, extravasation, dislodgement and thrombosis occur in 15 to 48% of inserted PCVC.

Purpose:
The purpose of this project was to reduce the occlusion rate of percutaneous central venous catheters in a premature Infants in NICU. In the investigated unit there was an percutaneous central venous catheters occlusion rate of 7.2%

Methods:
An analysis of the collected variables revealed that the following factors contributed to increased occlusion rate:were lack of nursing follow-up among three shifts, inconsistent care, lack of a standardized assessment checklist, lack of staff training, lack of recognition of high-risk population.
Through a structured evidence-based review process,our solutions included establishing a checklist for「high risk for percutaneous central venous catheters care」,a flow chart outlining the care process, staff education and training(0.9% sodium chloride intermittent flushing), an evaluation and tracking program, and enhancing caregiver's cognitive and care skills for percutaneous central venous catheters care.

Results:
By implementing this project,percutaneous central venous catheters occlusion rate reduced from 7.2% to 3.4%, nurses' knowledge on percutaneous central venous catheters care increased from 56 to 90, the assessment rate on percutaneous central venous catheters access improved from 64.3% to 85.4%,. The results demonstrated the effectiveness of the interventions on increasing execution accuracy and Reducing the Occlusion Rate of percutaneous central venous catheters..

Conclusion:
Cross-team communication, coupled with the evidence-based percutaneous central venous catheters care, can effectively reduce the incidence of percutaneous central venous catheters occlusion rate,achieving the goal of project to improve the quality of catheter care.This project standardized education in terms of nesting and positioning practice goals and enhanced quality care for premature infants.

Title:

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Keywords:
Occlusion rate, neonatal intensive care unit and percutaneous central venous catheters

References:
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Abstract Summary:
Occlusion rate of percutaneous central venous catheters (PCVC) in NICU is 7.2%. The increased occlusion rate factors is lack of assessment checklist - staff training and recognition of high-risk population. Our solutions included establishing a assessment checklist-Enhancing caregiver's cognitive and care skills for PCVC care. The occlusion rate decreased from 7.2% to 3.4%.

Content Outline:
Purpose: The purpose of this project was to reduce the occlusion rate of percutaneous central venous catheters in a premature Infants in NICU. In the investigated unit there was an percutaneous central venous catheters occlusion rate of 7.2%
An analysis of the collected variables revealed that the following factors contributed to increased occlusion rate:were lack of nursing follow-up among three shifts, inconsistent care, lack of a standardized assessment checklist, lack of staff training, lack of recognition of high-risk population.
Through a structured evidence-based review process,our solutions included establishing a checklist for「high risk for percutaneous central venous catheters care」,a flow chart outlining the care process, staff education and training(0.9% sodium chloride intermittent flushing), an evaluation and tracking program, and enhancing caregiver's cognitive and care skills for percutaneous central venous catheters care.
Result:The percutaneous central venous catheters occlusion rate decreased from 7.2% to 3.4%.

Conclusion: Cross-team communication, coupled with the evidence-based percutaneous central venous catheters care, can effectively reduce the incidence of percutaneous central venous catheters occlusion rate, achieving the goal of project to improve the quality of catheter care.

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