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Improving care quality and accuracy of percutaneously inserted central catheter among healthcare professionals using objective structured clinical examination in Taiwan

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Background: Most of premature infants in critical conditions acquire fluid, nutrition, and infusion solution using Percutaneously Inserted Central Catheter (PICC). Approximately 9,800 medical tubing adverse events were reported to Taiwan Patient Safety Reporting System every year. Objected structured clinical examination (OSCE) is a multipurpose evaluative tool that can be operated to measure healthcare professionals' (HCPs) clinical competence. Very little is known about how OSCE may improve HCPs' care quality and accuracy of PICC and reduce the medical tubing adverse events simultaneously.

Purpose: To explore HCPs' care quality and accuracy improvement of PICC using the OSCE courses.

Methods: An intervention research design with purposive sampling was used. Forty-five selected subjects who work at neonatal intermediate unit were recruited. All the participants required to attend an eight-week PICC-OSCE course including standard operating procedure, care protocol, and training equipment. The data was collected from 2/20/2013 to 10/30/2013. A simple t-test and chi-square were used to test and support the study hypothesis.

Findings: When finished the PICC-OSCE course, the HCPs knowledge of PICC was improved from 87% to 91.5% ($p=0.006$). The care quality and accuracy were amplified from 59.1% to 97.3% ($p=0.05$). The proportion of unexpected tube removal was diminished from 63.6% to 20% in the neonatal intermediate unit ($p=0.05$).

Conclusion: The findings showed that HCPs were benefited by PICC-OSCE courses. Results of the study provide researchers a preliminary understanding of HCPs experiences in caring for premature neonates and infants in critical conditions using PICC and a basic knowledge for the further studies.

Biography:

Yun Shan Tseng is a full assistant professor at Department of Nursing, I-Shou University, Taiwan. She has completed her Ph.D. from University of Texas Health Science Center at Houston, Texas, USA in 2009. Her current research interests include the parental anxiety, pediatrics nursing, and nursing education.

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