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Introduction: Ultrasound-guided technique is a gold standard of central venous catheterization. However, lethal complications have been reported, even while using ultrasound guidance. We introduced skill assessment to the conventional hands-on seminar. A high task test is likely to produce negative emotions. On the other hand, positive emotions can produce motivation to learn and facilitate the development of competence. Therefore, in this study, we surveyed the emotional impact of the task test on participants.

Method: The ethics committee approved the research. Residents were recruited using a poster. The seminar was scheduled for 180 minutes and consisted of a short lecture, demonstration by an ultrasound expert, and hands-on training using a simulator under expert supervision. The residents freely participated in the task test. Skill assessment was conducted based on three factors: needle visualization (evaluated to 5 levels, 5: clearly visible, 1: invisible), hand-eye coordination (5: excellent, 1: unacceptable), and no penetrating the posterior wall. The achievement goal was set to level 3 or higher, and necessitated no posterior wall penetration. A post-seminar evaluation questionnaire was administered, and self-confidence was measured using a Likert scale.

Results: Twenty-three residents participated. All residents took and passed the task tests until the end of the course and agreed to respond to the questionnaire. They were very satisfied with the course (median 5: “extremely satisfied,” range 5-4) and reported high levels of self-confidence (median 4: “my skill progressed well,” range 5-3).

Discussion and Conclusion: The task test evaluating skills is key for outcome-based education. Usually, tests cause a negative impact on education. However, trainees are likely eager to understand their own skill levels. This seminar resulted in high satisfaction and self-confidence. We believe that this task test for ultrasound-guided central venous catheterization will have good emotional impacts.

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P012

Short- and intermediate-term use of peripherally inserted central catheters in Europe: A systematic literature review

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Introduction: The aim of this systematic review was to examine the efficacy, safety, and costs associated with the short/intermediate-term use of peripherally-inserted central catheters (PICCs) in comparison with centrally-inserted central catheters (CICCs) and peripheral intravenous catheters (PIVCs) among adults in Europe.

Method: Medline, EMBASE, Cochrane, and EconLit databases were searched for records dating from January 2000 to March 2017. Full-text versions of potentially relevant records were assessed according to pre-specified inclusion and exclusion criteria.

Results: Of 457 identified records, 56 studies were included in the review. Data ranges for efficacy outcomes across all studies did not suggest any clear advantages or disadvantages between PICCs and CICCs or PIVCs. However, individual studies reported statistically significant higher patient satisfaction with PICCs versus both comparators ($P < 0.001$), and fewer venipunctures required for successful insertion compared with PIVCs ($P < 0.01$). Across studies, rates of removal due to complications were 3.5–48% with PICCs compared to 67–81.2% with PIVCs and 26–78% with CICCs. The proportion of patients reporting catheter migration/dislocation was 0–7.7% with PICCs compared to 9.6–15% with CICCs, whereas the proportion was 0–27.2% versus 0–9.6%, respectively, for those experiencing venous thrombosis, with individual studies reporting significant differences ($P \leq 0.01$). Limited evidence showed higher costs with PICCs than with CICCs or PIVCs, but not all relevant costs were included in the analyses.

Discussion & Conclusion: This review showed that PICCs offer several advantages compared to CICCs and PIVCs, including greater patient satisfaction, fewer complications leading to removal, and less catheter migration/dislocation, despite a slightly higher rate of venous thrombosis.

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Bewilderment and dismay at lack of staff competence

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Introduction: As there are many complications associated with vascular access devices (VADs), healthcare professionals (HCPs) dealing with VADs require knowledge and skills to manage them safely. It is often decided what training and education is required at a local level. As a result, many HCP do not receive education and training for VAD use which causes poor and varied practice. This issue was highlighted in a recent study focusing on the patient's experience of vascular access.