AP072
VeinViewer-assisted peripheral venous access in pediatric patients: A randomized controlled trial

Min Young Kim, Sung Phil Chung
Yonsei University College of Medicine, Seoul, Republic of Korea

Background: Peripheral venipuncture in infants and children is technically challenging because their veins are small and located deep in the subcutaneous tissue which makes them difficult to palpate or visualize. In this study, we sought to determine if the use of the VeinViewer (Luminetx Corporation, Memphis, Tenn) in children facilitates peripheral venous access.

Materials and Methods: This was a nonblinded, randomized controlled trial of a convenience sample of pediatric patients younger than 20 years old requiring intravenous access in the pediatric ward. Prior to the randomization, the DIVA (difficult intravenous access) score of 4-variable proportionally weighted rule (3 points for prematurity, 3 for younger than 1 year, 1 for 1–2 years of age, 2 for vein not palpable, and 2 for vein not visible) was estimated. We also decided vein categories (easy, intermediate and difficult) according to nurse opinion. Then patients were randomly allocated to undergo VeinViewer-assisted or standard peripheral venous access. Primary end point was the first-attempt success rate. Stepwise logistic regression analysis was used to identify factors associated with the first-attempt success.

Results: A total of 111 patients were evaluated: 54 in the VeinViewer group and 57 in the traditional group. Patient demographics and factors related to the success of venous access were similar in both groups. Analysis by vein assessment category yielded a similar rate of successful first-attempt in both groups for easy veins. However, for difficult veins over DIVA score 4, first-attempt success rate increased from 25% in the traditional group to 58.3% in the VeinViewer group (p=0.026). Factors associated with the first-attempt success were patient age and type of delivery. Patient body mass index and the experience of nurse had no significant impact on the first-attempt success.

Conclusion: The VeinViewer facilitates the peripheral venous access in pediatric patients with difficult veins enhancing the first-attempt success rate.

AP073
How well do nursing students in Iceland retain knowledge following ILS courses?

Hildigunnur Svavarsdottir1, Hildigunnur Svatvarsdottir2, Hrafnhildur Lilja Jonsdottir2
1University of Akureyri, Akureyri, Iceland
2Akureyri Hospital, Akureyri, Iceland

Research findings have revealed that nurses are likely to discover the victims of in-hospital cardiac arrest and thus necessary to have enough knowledge and training in resuscitation. Research findings point out that knowledge is not generally retained.

Purpose: To find out if knowledge retains by nursing students after participating in an Immediate Life Support (ILS) course and whether it is affected by age.

Methods: Quantitative descriptive research method were used. The sample consisted of 91 nurse students and data collection took place in the period from Autumn 2009–Spring 2011. The questionnaires, included BLS and ALS questions, were handed out at the end of each ILS course (QI) and a follow up 5–6 months later (QII).

Findings: Results show that there is a significant difference between QI and QII with average of 14.2% deterioration in knowledge. There is also a difference concerning age groups. The average deterioration was 16.5% in the age group of 20–20 years, 9.8% for 31–40 years and 13.6% for older than 40 years. The results also revealed that knowledge score was highest in the youngest age group (8.98 in QI and 7.31 in QII) and lowest in the oldest group (7.82 in QI and 6.45 in QII). The BLS questions were correctly answered in 95.5% cases of QI and 81% in QII. The ALS questions were correctly answered in 74.2% cases of QI and 58.7% in QII. The largest decline concerned knowledge about the length of the breathing check or 30.4% between QI and QII.

Conclusions: Findings show nursing students retain theoretical knowledge to some extent but the knowledge degrades in all aspects of the theoretical knowledge over time. Regular continuing education for nursing students and nurses is important in order to maintain the knowledge retention.