Role of Peer-Assisted Learning (PAL) for Point of Care Ultrasound in Nursing Education

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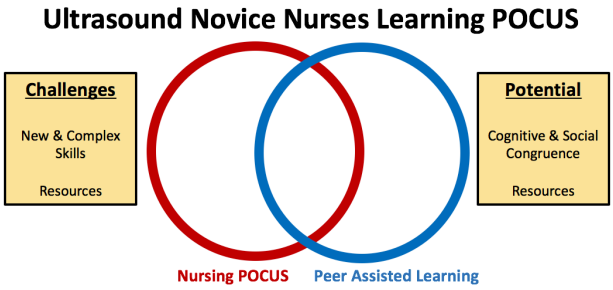
Introduction

The utilization of ultrasound for placement of peripheral intravenous cannulation is now a recognized skill within the scope of a registered nurse. Challenges facing though is learning this technique as a new skill to ultrasound novice. Cognitively, it is a paradigm shift seen a totally new and complex skill. Faculty resources are limited as training is usually provided by physicians.



Peer-Assisted Learning (PAL) is a new method of teaching used in various disciplines and has the potential to overcome these challenges. Peers having social and cognitive congruency are able to achieve better learning from each other. The greater availability of peer tutors achieves positive outcomes of the PAL.

Near-Peers (NP) Learning and **Same-Level Peers (SLP) Learning** are types of PAL in reference to seniority between tutor and learner yet of the same educational background.

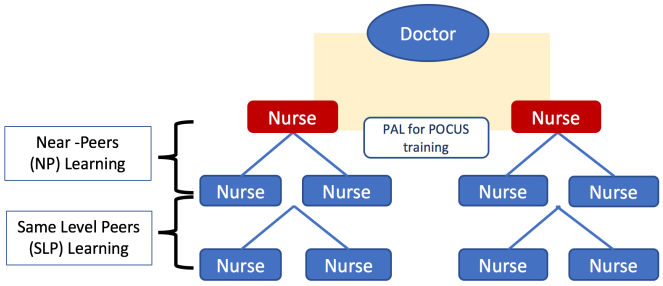
Objective of the Study

To compare the competency of RNs who were trained and assessed by the principal investigator (designated as NP) versus RNs who were trained and assessed by NP (designated as SLP).

Methodology

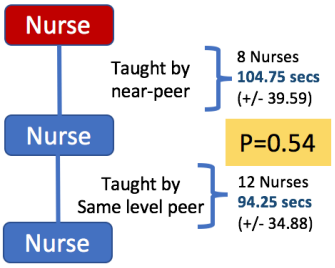
We designed a prospective quasi-experimental research to evaluate the competency of ultrasound novice nurses who learn ultrasound guided peripheral intravenous cannulation (UG-PIVC) from near peers (NP) versus same level peers (SLP).

Competencies are defined as the time to complete the UG-PIVC task on a standardized mannequin. A visual aid was created to scaffold peer learning and teaching.



Two senior nurses were trained by a recognized POCUS expert physician to perform UG-PIVC on the mannequin. They were designed as NP and trained a group of 8 nurses. After training, these 8 nurses were designated as SLP and subsequently trained another group of 12 nurses. The competencies of these two group of nurses were recorded and compared using the t-test.

Results



Nurses who were taught by the NP and SLP completed the UG-PIVC task with a **mean of 104.75 seconds (SD 39.59)** and **94.25 seconds (SD 34.88)** respectively, **p = 0.540.**

Conclusion

There is **no statistical significance** in the time to task completion for both groups. The result suggests that ultrasound novice nurses could learn UG-PIVC skills from same level peers as effectively, if not more, compared to learning from near peers. PAL has the potential to alleviate faculty teaching pressure in nursing POCUS education.

References:

Charlier, N., Van Der Stock, L., & Iserbyt, P. (2016). Peer-assisted Learning in Cardiopulmonary Resuscitation: The Jigsaw Model. *Journal of Emergency Medicine*, *50*(1), 67–73

Tai, J., Molloy, E., Haines, T. et. Al. (2016). Same-level peer-assisted learning in medical clinical placements: A narrative systematic review. *Medical Education*, *50*(4), 469–484.

Stein, J., George, B., River, G., Hebig, A., & McDermott, D. (2009). Ultrasonographically Guided Peripheral Intravenous Cannulation in Emergency Department Patients With Difficult Intravenous Access: A Randomized Trial. *Annals of Emergency Medicine*, *54*(1), 33–40.

Storer A, Proehl J, Spiro M, Summers-Sitarski K, White A. GA11-014 Resolution Title: US-Guided Peripheral Intravenous Access. In: *Emer. Nurses Assoc Gen Assembly* 2011.