

Abstract:

INTRODUCTION: Multimodal interventions (MMI) are frequently used in various healthcare settings to encourage change in healthcare personnel practices and improve patient safety. In 2013, an MMI conducted in an Australian metropolitan ED used clinician champions, guidelines, education sessions and promotional materials to encourage a reduction in unused and inappropriate peripheral intravenous cannulas (PIVC). A 60-day postintervention demonstrated a successful reduction in the number of unused PIVCs without changes in appropriate insertions. We aimed to investigate if this MMI produced a sustained effect in reducing the frequency of unused PIVCs inserted in this ED.

METHODS: A single-centre retrospective cohort study of adult patients presenting to the above ED in Victoria, Australia, was conducted in April 2018. A random sample of 380 patients with a PIVC inserted in ED was assessed to determine if the PIVC was used (termed 'Long-term follow-up'). The appropriateness of unused PIVCs was assessed. Our findings were compared with previously collected data in 2013 ('Pre-Intervention' and 'Immediately Post-Intervention') to determine a sustained reduction in the frequency of unused PIVC insertions was achieved. Long-term analysis of the MMI, including the overall frequency of PIVC insertions in ED before and after the MMI, was also collected.

RESULTS: In our Long-term follow-up cohort, 101 of 373 (27.1%, 95% CI 22.6% to 31.9%) PIVCs were unused (seven cases excluded). This was significantly lower than the Pre-Intervention cohort (139/376, 37.0%, 95% CI 32.1% to 42.1%). While not significant, the frequency of unused PIVCs in the Post-Intervention cohort was lower in comparison (73/378, 19.3%, 95% CI 15.4% to 23.7%). No significant change in the appropriateness of unused PIVCs was observed between the Post-Intervention and Long-term follow-up. The overall proportion of patients receiving a PIVC has remained low since the MMI.

CONCLUSION: An MMI aimed at reducing unused PIVC insertions in ED has been effective in eliciting sustained change. Unused but appropriately inserted PIVCs seem unaffected by the intervention.

Reference:

Lim, Z.J., Nagle, D., McAllan, F., Ramanan, R., Dendle, C., Stuart, R.L. and Egerton-Warburton, D. (2020) Evaluating the sustained effectiveness of a multimodal intervention aimed at influencing PIVC insertion practices in the emergency department. *Emergency Medicine Journal*. May 15th. doi: 10.1136/emered-2019-208852. (Epub ahead of print).