Immediate and sustained increases in confidence at performing six curriculum matched procedures following one day practical procedures course

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Introduction

Since the introduction of the EWTD, there has been a relative reduction in the opportunities for junior doctors to undertake invasive procedures. Changes in medical education, including simulation training, allow the practice of these clinical skills in ‘near to real life’ situations, providing opportunities for skills development, practice and feedback whilst eliminating patient risk.

Feedback from trainees locally and nationally has suggested the need for more training in procedural skills, particularly those which form a core part of the GIM curriculum at Core and Higher levels.

Aim

To introduce a practical procedures course based on GIM curriculum requirements and assess its effectiveness on trainee confidence.

Methodology

The experience and confidence of 30 local medical trainees was assessed through a 10 point, Likert-style questionnaire (1=not confident, 10=confident).

A one day practical procedures course was then designed and introduced with participant trainee confidence assessed pre, immediately post and at 3 months to look for sustained improvements in confidence. An ANOVA analysis was undertaken to look for statistically significant changes in confidence (p<0.05).

Results (continued)

Graph 1: Trainee confidence at immediate pre, post and 3 months after practical procedures course training * indicates statistically significant improvements

On average immediate post course confidence increased by 46% across all procedure groups. Of the 6 procedures, at three months all had significant p-values (<0.05), correlating to continued confidence in performing the procedures.

Table 3: p-value comparing variance of means of confidence at 3 months

<table>
<thead>
<tr>
<th>Procedure</th>
<th>p-value</th>
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</thead>
<tbody>
<tr>
<td>Lumbar puncture</td>
<td>0.009</td>
</tr>
<tr>
<td>Intercostal chest drain insertion</td>
<td>0.001</td>
</tr>
<tr>
<td>CVC insertion (ultrasound guided)</td>
<td>0.002</td>
</tr>
<tr>
<td>Knee joint aspiration</td>
<td>0.001</td>
</tr>
<tr>
<td>External Pacing</td>
<td>0.001</td>
</tr>
<tr>
<td>Direct current cardioversion (DCCV)</td>
<td>0.001</td>
</tr>
</tbody>
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Limitations

Improvements in confidence may well not reflect improved competence, as is well documented, and indeed improved confidence may reflect other factors such as increased exposure in routine clinical care to performing procedures (a control group may help delineate this).

Conclusions

Simulation training is increasingly being used in many forms of medical education and we provide further data to support its use for the training of core procedures.

We demonstrate deficiencies among trainees in experience of these procedures, and show that one-day intensive simulation course can lead to sustained improvements in confidence across a range of procedures.

We recommend their routine use in junior medical training programmes (for example F2 level and above) to ensure trainees receive adequate experience in performing core procedures prior to taking up senior specialist training posts.

Figure 1: Snapshot of 32 page booklet to accompany course for trainees, including procedural instructions, risks, benefits

References


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# Abbreviations:
EWTD: European Working Time Directive  GIM: General Internal Medicine