The Utility of Video-recording and a Competency Checklist for off-site assessment during Ultrasound-guided Regional Anaesthesia Training

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Introduction

Having an effective competency assessment in Ultrasound-Guided Regional Anaesthesia (UGRA) training is important. To date, off-site assessment for UGRA has yet to be evaluated. The aim of this study is to evaluate if an **off-site assessment** performed by viewing a video-recording using a validated assessment tool can be as **reliable** as the **traditional on-site assessment**.

Methodology

With ethics board's approval, 30 residents performing UGRA were recruited. The on-site assessment was completed by the supervisor using a validated checklist and GRS. The video-recordings of these UGRA procedures were obtained according the schematic diagram (Figure 1 & 2) and were separately assessed by two independent and blinded assessors using the same assessment tool.

Figure 1. Schematic diagram showing devices and software used to obtain video-recordings of block techniques and ultrasound images in synchrony.

Figure 2. Screenshot of picture-in-picture synchronized video-recording taken for off-site assessment.

Block success, pain scores and satisfaction scores of patients were recorded. Two-way random Intraclass Correlation Coefficient (ICC) analysis with absolute agreement was performed. **An ICC of ≥ 0.5 denotes at least moderate reliability.**

Results

There was **moderate reliability** for the checklist scores between the two video assessors (ICC=0.587, $p=0.010$), on-site and average video scores (ICC=0.715, $p<0.001$), on-site and first video score (ICC=0.598, $p=0.009$) and on-site and second video score (ICC=0.689, $p=0.001$). Although reliability was found to be poor for the GRS between the two video assessors (ICC=0.436, $p=0.018$), it was moderate for on-site and first video assessor (ICC=0.573, $p<0.001$) and second video assessor (ICC=0.649, $p=0.001$). (Table 1) 80% of patients had no immediate postoperative pain, block success was 96.7% and satisfaction rate was 90%.

Type of scores	Intraclass Correlation Coefficient	P value
Competency checklist score		
2 Video assessors	0.587	0.010
on-site vs video average	0.715	<0.001
on-site vs 1 st video assessor	0.598	0.009
on-site vs 2 nd video assessor	0.689	0.001
Global Rating Scale (GRS)		
2 video assessors	0.436	0.018
on-site vs 1 st video assessor	0.573	<0.001
on-site vs 2 nd video assessor	0.649	0.001

Table 1. Intraclass correlation coefficients (ICC) for the scores obtained. $P < 0.05$ is considered statistically significant. $ICC \geq 0.5$ is considered at least moderate reliability.

Discussion

We conclude that the off-site video assessment for residency training in UGRA has **moderate reliability** when compared to traditional on-site assessment, and this assessment method is **worth exploring**. Further larger studies, video feedback and its utility in other anaesthetic procedures can be considered in future.

References

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