№ 324

EXPLORING THE EFFECT OF ULTRASOUND GUIDED FEMORAL NERVE BLOCK (USGFNB) TEACHING MODULE ON THE LEVEL OF KNOWLEDGE AND ATTITUDE AMONG MEDICAL OFFICERS IN EMERGENCY DEPARTMENT (ED)

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INTRODUCTION

USGFNB offers effective pain relief for lower limb trauma but remains underused due to limited training. This study assessed the effect of a structured USGFNB teaching module on ED medical officers' (MO) knowledge and attitudes in Hospital Canselor Tuanku Muhriz (HCTM).

METHODOLOGY

We conducted an interventional study involving 23 ED medical officers at HCTM. Participants completed a structured USGFNB teaching module comprising lectures, video demonstrations, hands-on practice, and simulation *(Figure 1 & 2)*. Knowledge was assessed at three points: pre-intervention, post-intervention, and one-month follow-up. Attitude was assessed at pre- and post-intervention. Paired sample t-tests were used to determine statistical significance.

RESULTS

1) Effect of USGFNB Module on the Level of Participants' Knowledge (N=23)

Category	Scores	N (%) PRE	POST	RETENTION
Mean, SD	25	13.22, 1.68 (52.87)	19.39, 1.83 (77.57)	17.17, 2.06 (68.70)
Good	20 – 25	0	11 (47.8%)	11 (47.8%)
Moderate	15 – 19	4 (17.4%)	12 (52.2)	12 (52.2%)
Poor	0 – 14	19 (82.6%)	0	0

Comparison	Mean	Std D.	t	df	p
Pre-intervention vs Post-intervention	-24.696	7.88	-15.04	22	<.001
Pre-intervention vs 1-Month Retention	-15.826	9.22	-8.23	22	<.001

Figure 1: Participant performing USGFNB on a self-made gelatin-based simulation model.

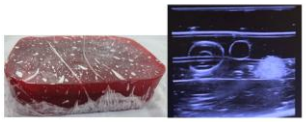

Figure 2: Self-made gelatin model for USGFNB simulation (left) and corresponding ultrasound image visualizing anatomical landmarks (right)

2) The effect of USGFNB Teaching Module on the Level of Participants' Attitude (N=23)

5=Strongly Agree 4= Agree 3= Unsure 2= Disagree 1= Strongly Disagree

No	Attitude Statement	Mean (Pre)	Mean (Post)	Mean Difference	t	p-value
	POSITIVE STATEMENT					
1	I believe USGFNB is important in my field of study	4.22	4.61	-0.39	-2.11	0.047
2	USGFNB may improve the morbidity in lower limb trauma patients	4.04	4.48	-0.44	-2.87	0.009
3	In my opinion, my hospitals should provide more clinical skills training on USGFNB	4.39	4.52	-0.13	-1.37	0.186
4	I am confident to perform USGFNB for lower limb trauma patients	2.61	4.00	-1.39	-5.76	<0.001
5	I am confident in managing adverse events that may arise during USGFNB procedures	2.91	3.91	-1.00	-4.80	<0.001
6	I am proficient in identifying femoral nerve in ultrasound imaging	3.30	4.22	-0.91	-5.52	<0.001
	NEGATIVE STATEMENT					
7	USGFNB is less effective than IV analgesia in treating lower limb trauma patients	3.57	3.91	-0.35	3.43	0.002
8	In managing major lower limb trauma, USGFNB has a suboptimal role and outcome	3.48	3.87	-0.39	2.24	0.036
9	In managing major lower limb trauma, femoral nerve blocks have higher risk of complications than systemic analgesia	3.00	3.83	-0.83	4.03	<0.001
10	Assessing high-risk patients before performing USGFNB is not important	4.39	4.30	+0.09	0.39	0.704
11	I believe USGFNB should be performed only after referring to the Orthopaedic team	4.04	3.48	+0.57	2.51	0.020
12	I feel that performing USGFNB will take significant amount of procedural time	2.52	3.35	-0.83	-3.70	0.001

DISCUSSION

The USGFNB teaching module significantly improved medical officers' knowledge and enhanced attitudes toward the clinical value and confidence in using USGFNB. While knowledge remained above baseline after one month, a decline was noted, highlighting the need for periodic reinforcement. Sustaining attitude and practice change also requires ongoing mentorship and organizational support.

CONCLUSION

The USGFNB module led to measurable educational benefits and retained impact over time. These results support integrating structured, simulation-based training into emergency medicine education to strengthen procedural pain management skills.

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