

ABSTRAK

PENGARUH PENGGUNAAN ALPEVA (ALAT PENDETEKSI VENA) TERHADAP DURASI DAN KETEPATAN PEMASANGAN INFUS DI UNIT GAWAT DARURAT

Fuji Indah Resmi¹, Iwan Purnawan², Yunita Sari³

Latar Belakang: Pemasangan infus merupakan tindakan penting di Unit Gawat Darurat (UGD) untuk pemberian cairan dan obat secara cepat. Namun, kesulitan akses vena dapat menyebabkan tusukan berulang, memperpanjang durasi pemasangan, dan menurunkan ketepatan tindakan. Penggunaan alat pendeteksi vena menjadi inovasi yang membantu visualisasi vena. ALPEVA dikembangkan sebagai alat pendeteksi vena dengan fitur pengaturan intensitas cahaya untuk meningkatkan visibilitas vena serta mengurangi kelelahan mata pengguna.

Tujuan: Mengetahui pengaruh penggunaan ALPEVA terhadap durasi dan ketepatan pemasangan infus di unit gawat darurat.

Metode Penelitian: Penelitian dilakukan dalam dua tahap, yaitu tahap pengembangan alat menggunakan pendekatan Research and Development (R&D) dengan metode prototyping, serta tahap eksperimen menggunakan quasi experiment dengan rancangan posttest kelompok intervensi dan kontrol. Kelompok intervensi menggunakan ALPEVA dan kelompok kontrol menggunakan vein finder standar, kemudian dibandingkan durasi dan ketepatan pemasangan infus. Analisis data menggunakan uji statistik non parametrik Mann-Whitney.

Hasil: Penggunaan ALPEVA mampu membantu tenaga kesehatan menemukan vena lebih jelas sehingga tindakan pemasangan infus menjadi lebih efisien dan tepat dibanding kelompok kontrol. Perbedaan durasi dan ketepatan pemasangan infus antara kedua kelompok menunjukkan hasil yang bermakna ($p < 0,05$).

Kesimpulan: ALPEVA berpengaruh dalam mempercepat durasi dan meningkatkan ketepatan pemasangan infus di Unit Gawat Darurat serta layak digunakan sebagai inovasi alat bantu keperawatan.

Kata Kunci: ALPEVA, Alat Pendeteksi Vena, Durasi Pemasangan Infus, Ketepatan Pemasangan Infus, Unit Gawat Darurat.

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ABSTRACT

THE EFFECT OF USING ALPEVA (VENOUS DETECTION DEVICE) ON THE DURATION AND ACCURACY OF IV PLACEMENT IN THE EMERGENCY ROOM

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Background: IV insertion is an important procedure in the Emergency Department (ED) for the rapid administration of fluids and medications. However, difficulty in accessing veins can lead to repeated punctures, prolonging the duration of insertion and reducing the accuracy of the procedure. The use of vein detection devices is an innovation that aids in vein visualization. ALPEVA was developed as a vein detection device with light intensity adjustment features to improve vein visibility and reduce user eye fatigue.

Objective: To determine the effect of using ALPEVA on the duration and accuracy of IV insertion in the emergency department.

Research Method: The research was conducted in two stages, namely the tool development stage using a Research and Development (R&D) approach with the prototyping method, and the experimental stage using a quasi-experiment with a posttest design for the intervention and control groups. The intervention group used ALPEVA and the control group used a standard vein finder, then the duration and accuracy of IV insertion were compared. Data analysis used the Mann-Whitney nonparametric statistical test.

Results: The use of ALPEVA helped healthcare workers locate veins more clearly, making IV insertion more efficient and accurate than in the control group. The difference in the duration and accuracy of IV insertion between the two groups showed significant results ($p < 0.05$).

Conclusion: ALPEVA is effective in accelerating the duration and improving the accuracy of IV insertion in the Emergency Department and is suitable for use as an innovative nursing aid.

Keywords: ALPEVA, Vein Detection Device, IV Insertion Duration, IV Insertion Accuracy, Emergency Department.

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