Abstrak

PENGEMBANGAN DAN UJI EFEKTIVITAS MEDIA PEMBELAJARAN VR-BVAP TERHADAP PENGETAHUAN DAN KEPATUHAN PERAWAT DALAM PENCEGAHAN *VENTILATOR ASSOCIATED PNEUMONIA* (VAP) DI RUANG *INTENSIVE CARE UNIT*

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Latar Belakang: Pasien ICU yang menggunakan ventilator mekanik memiliki risiko tinggi mengalami VAP. Perawat berperan penting dalam pencegahan VAP melalui penerapan *bundle* VAP, sehingga diperlukan metode pembelajaran yang inovatif dan efektif.
Tujuan: Mengembangkan media pembelajaran *Virtual Reality Bundle Ventilator-Associated Pneumonia* (VR-BVAP) serta menguji efektivitasnya terhadap pengetahuan dan kepatuhan perawat dalam pencegahan VAP.
Metode: Penelitian dilakukan dalam dua tahap. Tahap pertama menggunakan metode *Research and Development* dengan model ADDIE untuk mengembangkan media VR-BVAP. Tahap kedua menggunakan desain *quasi-experimental* dengan pendekatan *pre-test* dan *post-test with control group*. Sampel terdiri dari 50 perawat ICU yang dibagi menjadi kelompok intervensi (n=25) menerima media pembelajaran VR-BVAP dan kelompok kontrol (n=25) menerima materi bundle VAP berupa *powerpoint*. Uji validitas dan reliabilitas dilakukan menggunakan CVI, *Cohen's Kappa*, ICC dan *Cronbach's Alpha*. Analisis data menggunakan uji Wilcoxon dan Mann–Whitney.
Hasil: Media VR-BVAP menunjukkan validitas dan reliabilitas yang baik (S-CVI 0,8, *Cohen's Kappa* 0,737, *Cronbach's Alpha* 0,777, dan ICC *average measures* 0,786). Hasil uji efektivitas menunjukkan bahwa terdapat perbedaan bermakna skor pengetahuan antara kelompok intervensi dan kontrol ($p=0,018$; $r=0,33$). Kepatuhan *self-reported* tidak menunjukkan perbedaan bermakna ($p>0,05$), sedangkan kepatuhan berdasarkan observasi menunjukkan peningkatan skor pada kelompok intervensi ($\Delta=16,44$; $r=0,26$) meskipun tidak signifikan secara statistik ($p=0,061$).
Simpulan: Media VR-BVAP terbukti layak, reliabel dan efektif meningkatkan pengetahuan, serta menunjukkan peningkatan kepatuhan berdasarkan observasi, meskipun belum berdampak signifikan pada kepatuhan *self-reported,* sehingga berpotensi digunakan sebagai media pendukung pembelajaran pencegahan VAP.

Kata kunci: Kepatuhan, Pengetahuan, Perawat, *Ventilator-Associated Pneumonia*, VR-BVAP

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Abstract

Development and Effectiveness Testing of VR-BVAP Learning Media on Nurses' Knowledge and Compliance in Preventing Ventilator-Associated Pneumonia (VAP) in the Intensive Care Unit

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Background: Patients in intensive care units (ICUs) receiving mechanical ventilation are at high risk of ventilator-associated pneumonia (VAP). Nurses play a critical role in VAP prevention through consistent implementation of VAP bundles; therefore, innovative and effective learning strategies are needed.
Objective: This study aimed to develop a Virtual Reality–based Bundle Ventilator-Associated Pneumonia learning media (VR-BVAP) and to examine its effectiveness in improving nurses' knowledge and compliance in VAP prevention.
Methods: This study was conducted in two phases. The first phase employed a Research and Development approach using the ADDIE model to develop the VR-BVAP learning media. The second phase used a quasi-experimental design with a pre-test and post-test control group approach. A total of 50 ICU nurses were recruited and divided into an intervention group (n = 25), which received VR-BVAP learning media, and a control group (n = 25), which received VAP bundle materials in the form of PowerPoint presentations. Validity and reliability were assessed using CVI, Cohen's Kappa, ICC, and Cronbach's Alpha. Data were analyzed using the Wilcoxon Signed-Rank Test and the Mann–Whitney U Test.
Results: VR-BVAP demonstrated good validity and reliability (S-CVI = 0.80; Cohen's Kappa = 0.737; Cronbach's Alpha = 0.777; ICC = 0.786). A significant difference in knowledge scores was found between groups ($p = 0.018$; $r = 0.33$). Self-reported compliance showed no significant difference ($p > 0.05$), while observed compliance increased in the intervention group ($\Delta = 16.44$; $r = 0.26$) without statistical significance ($p = 0.061$).
Conclusion: VR-BVAP was valid, reliable, and effective in improving nurses' knowledge, and showed increased observational compliance, despite no significant impact on self-reported compliance, indicating its potential as a supportive learning tool for VAP prevention.

Keywords: Compliance, Knowledge, Nurses, Ventilator-Associated Pneumonia VR-BVAP

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