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EVALUASI IMPLEMENTASI SISTEM PERESEPAN ELEKTRONIK DALAM MENURUNKAN MEDICATION ERROR DAN MENINGKATKAN
PELAYANAN RESEP RAWAT JALAN DI RUMAH SAKIT UNIVERSITAS SEBELAS MARET
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Intisari

Penggunaan sistem kesehatan digital di Indonesia meningkat, namun evaluasi implementasi *electronic prescribing* yang mengintegrasikan aspek klinis (*medication error*) dan penerimaan teknologi masih terbatas, khususnya di rumah sakit pendidikan. Penelitian ini bertujuan menganalisis efektivitas Sistem Peresepan Elektronik (SPE) di RS UNS dalam menurunkan *medication error* administratif, mempercepat waktu tunggu resep rawat jalan, serta mengevaluasi penerimaan pengguna berdasarkan kerangka *Technology Acceptance Model* (TAM).

Desain penelitian menggunakan *intervention mixed method* dengan pendekatan *quasi-experimental pre-post test without control group*. Tahapan meliputi analisis kebutuhan, perancangan model melalui wawancara dan pengembangan instrumen, implementasi sistem, serta evaluasi efektivitas dan penerimaan. Data kuantitatif diperoleh dari observasi 400 resep periode pra-implementasi (Oktober–Desember 2023) dan 400 resep pasca-implementasi (September–November 2024) dengan *consecutive sampling*. Jenis *medication error* yang diukur mencakup *prescribing error* (11 indikator administratif), *transcribing error* (2 indikator), dan *dispensing error* (5 indikator). Analisis efektivitas dilakukan dengan uji Chi-Square, Wilcoxon Signed-Rank, dan *paired t-test*. Penerimaan pengguna diukur melalui survei terhadap 50 responden (dokter, apoteker, tenaga vokasi farmasi) dan dianalisis dengan regresi linear berganda sesuai jalur TAM.

Hasil menunjukkan SPE menurunkan *prescribing error* administratif dari 81,5% menjadi 0% ($\chi^2 = 383{,}763$; $p < 0{,}001$; OR ≈ 30,4). Waktu tunggu resep berkurang signifikan dari rata-rata 41,1 menit menjadi 26,0 menit ($p < 0{,}001$). Faktor eksternal berpengaruh positif terhadap persepsi kemudahan ($R^2 = 52{,}3\%$), yang bersama-sama memengaruhi persepsi manfaat ($R^2 = 74{,}9\%$). Sikap pengguna menjadi prediktor terkuat terhadap niat penggunaan berkelanjutan ($\beta = 0{,}617$; $p = 0{,}007$). Namun, *dispensing error* tidak menunjukkan perbaikan signifikan (14,75% vs 14,50%; $p = 0{,}920$). Secara keseluruhan, SPE terbukti efektif mengeliminasi kesalahan penulisan resep dan meningkatkan mutu pelayanan, meski keberlanjutan sistem memerlukan penguatan infrastruktur jaringan dan pelatihan teknis.

Kata kunci: Sistem Peresepan Elektronik, *Medication Error*, *Technology Acceptance Model*, mutu pelayanan, RS UNS.

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Abstract

The adoption of digital health systems in Indonesia has increased, yet evaluations of electronic prescribing that simultaneously integrate clinical outcomes (*medication error*) and technology acceptance remain limited, particularly in teaching hospitals. This study aimed to analyze the effectiveness of the Electronic Prescribing System (EPS) at UNS Hospital in reducing administrative prescribing errors, shortening outpatient prescription waiting times, and assessing user acceptance based on the Technology Acceptance Model (TAM).

The research employed an intervention mixed-method design with a quasi-experimental pre-post test without control group. The stages included needs analysis, system design through interviews and instrument development, implementation, and evaluation of effectiveness and acceptance. Quantitative data were collected from 400 prescriptions during the pre-implementation period (October–December 2023) and 400 prescriptions during the post-implementation period (September–November 2024) using consecutive sampling. Medication errors measured comprised prescribing errors (11 administrative indicators), transcribing errors (2 indicators), and dispensing errors (5 indicators). Effectiveness was analyzed using Chi-Square, Wilcoxon Signed-Rank, and paired t-tests. User acceptance was assessed through a survey of 50 respondents (physicians, pharmacists, pharmacy technicians) and analyzed with stepwise multiple linear regression according to TAM pathways.

Results showed that EPS reduced administrative prescribing errors from 81.5% to 0% ($\chi^2 = 383.763$; $p < 0.001$; OR ≈ 30.4). Prescription waiting times decreased significantly from an average of 41.1 minutes to 26.0 minutes ($p < 0.001$). External factors positively influenced perceived ease of use ($R^2 = 52.3\%$), which together affected perceived usefulness ($R^2 = 74.9\%$). User attitude was the strongest predictor of sustained system use ($\beta = 0.617$; $p = 0.007$). However, dispensing errors showed no significant improvement (14.75% vs. 14.50%; $p = 0.920$). Overall, EPS proved effective in eliminating prescribing errors and improving service quality, though sustainability requires strengthened network infrastructure and enhanced technical training.

Keywords: Electronic Prescribing System, Medication Error, Technology Acceptance Model, service quality, UNS Hospital