ANALYSIS OF ELECTRONIC MEDICAL RECORD DATA SECURITY IN THE SIMRS APPLICATION BASED ON THE CIA TRIAD ASPECTS AT BHAYANGKARA HOSPITAL OF YOGYAKARTA REGIONAL POLICE

Melvaya Shifa Roswidia[1], Abdul Hadi Kadarusno[2], Anton Kristijono[3]
[1,2,3]*Medical Records and Health Information Study Program of Health Polytechnic Ministry of Health Yogyakarta,*
Jl. Mangkuyudan MJ III/304, Yogyakarta, 555143.
Email: melvaya12@gmail.com, abdul.hadik@poltekkesjogja.ac.id, kristijonoanton@gmail.com.

ABSTRACT

Background: *Electronic Medical Records (EMR) Electronic Medical Records (EMR) is a critical component of healthcare service digitalization that requires information security to protect patient data. Information security is based on the CIA Triad principles, consisting of confidentiality, integrity, and availability. RS Bhayangkara Polda DIY has implemented a Hospital Management Information System (SIMRS), therefore, an analysis of EMR data security based on the CIA Triad principles is necessary.*
Objective: *This study aimed to analyze the security of electronic medical record data in the SIMRS application based on the CIA Triad aspects at Bhayangkara Hospital of Yogyakarta Regional Police.*
Methods: *This study used a descriptive qualitative method. Data were collected through in-depth interviews, observations, and documentation. The informants consisted of 10 people, including the head of SIMRM, administration staff, health workers from several service units, and one triangulation informant from the information technology unit. Data were analyzed through data condensation, data presentation, and conclusion drawing.*
Results: *The results showed that the confidentiality aspect has been implemented through access control using usernames and passwords based on user roles, although account sharing among staff still occurs. The integrity aspect has been supported by restrictions on data editing, mandatory field validation, and time limitations for data changes. Meanwhile, the availability aspect has been implemented through system integration between service units and periodic data backup, although system disruptions and the absence of UPS in some units were still found.*
Conclusion: *The implementation of electronic medical record data security in the SIMRS application based on the CIA Triad aspects has generally been implemented but has not yet been fully optimal. Improvements are needed in the form of strengthening security policies, developing specific SOPs, increasing user awareness, and improving technological infrastructure.*

Keywords: *Data Security, Electronic Medical Record, SIMRS, CIA Triad.*

TINJAUAN KEAMANAN DATA REKAM MEDIS ELEKTRONIK PADA APLIKASI SIMRS BERDASARKAN ASPEK CIA TRIAD DI RS BHAYANGKARA POLDA DIY

Melvaya Shifa Roswidia[1], Abdul Hadi Kadarusno[2], Anton Kristijono[3]
[1,2,3]Prodi Rekam Medis dan Informasi Kesehatan Poltekkes Kemenkes Yogyakarta,
Jl. Mangkuyudan MJ III/304, Yogyakarta, 555143.
Email: melvaya12@gmail.com, abdul.hadik@poltekkesjogja.ac.id,
kristijonoanton@gmail.com.

ABSTRAK

Latar Belakang: Rekam Medis Elektronik (RME) merupakan komponen penting dalam digitalisasi pelayanan kesehatan yang memerlukan keamanan informasi untuk melindungi data pasien. Keamanan informasi didasarkan pada prinsip CIA Triad yang terdiri dari *confidentiality*, *integrity*, dan *availability*. RS Bhayangkara Polda DIY telah menerapkan Sistem Informasi Manajemen Rumah Sakit (SIMRS) sehingga diperlukan analisis keamanan data RME berdasarkan prinsip CIA Triad.
Tujuan: Penelitian ini bertujuan untuk menganalisis keamanan data rekam medis elektronik pada aplikasi SIMRS berdasarkan aspek CIA Triad di RS Bhayangkara Polda DIY.
Metode: Penelitian ini menggunakan metode deskriptif kualitatif. Pengumpulan data dilakukan melalui wawancara mendalam, observasi, dan studi dokumentasi. Informan dalam penelitian ini berjumlah 10 orang yang terdiri dari Kepala SIMRM, petugas administrasi/kasir, tenaga kesehatan dari beberapa unit pelayanan, serta satu informan triangulasi dari bagian teknologi informasi. Analisis data dilakukan melalui kondensasi data, penyajian data, dan penarikan kesimpulan.
Hasil: Pada aspek *confidentiality* telah diterapkan pengaturan hak akses melalui penggunaan *username* dan *password* sesuai peran pengguna, namun masih ditemukan penggunaan akun secara bersama. Pada aspek *integrity* telah diterapkan pembatasan pengubahan data, validasi pengisian data, serta pembatasan waktu perubahan data. Pada aspek *availability* SIMRS telah terintegrasi antar unit pelayanan dan didukung dengan *backup* data secara berkala, namun masih ditemukan kendala seperti gangguan sistem dan belum tersedianya UPS di beberapa unit.
Kesimpulan: Penerapan keamanan data rekam medis elektronik pada aplikasi SIMRS berdasarkan aspek CIA Triad di RS Bhayangkara Polda DIY secara umum telah berjalan, namun belum sepenuhnya optimal. Oleh karena itu, diperlukan penguatan kebijakan keamanan data, penyusunan SOP khusus, peningkatan kesadaran pengguna, dan pengembangan infrastruktur teknologi.

Kata Kunci: Keamanan Data, Rekam Medis Elektronik, SIMRS, CIA Triad.