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Ethical Review Of Information Technology Use In Electronic Medical Record Management At Welas Asih Regional General Hospital, West Java Province

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Abstract

The rapid adoption of Electronic Medical Records (EMR) in healthcare presents ethical challenges related to data privacy and security. This study aimed to assess the application of ethical principles in EMR management at Welas Asih Regional General Hospital and identify the practical challenges faced by healthcare professionals. A qualitative approach was employed, utilizing data from questionnaires and observations. The sample consisted of 40 purposively selected healthcare staff. The findings revealed a high level of staff understanding and compliance with ethical protocols; 100% of respondents understood patient confidentiality, and 97.5% reported the existence of SOPs and audit trails. Despite this, a significant 60% of staff reported experiencing ethical dilemmas in their daily practice, highlighting a crucial gap between policy and real-world application. In conclusion, while the hospital's ethical framework for EMR is robust and well-understood, there is a need for continuous training and support mechanisms to address persistent ethical dilemmas. This is essential for maintaining patient trust and ensuring secure, responsible healthcare services.

Keywords: *Electronic Medical Records, Ethics, Information Technology, Privacy, Hospitals.*

INTRODUCTION

The advancement of information technology has brought significant transformations to various sectors, including healthcare. A crucial innovation in this field is the adoption of Electronic Medical Records (EMR), which aims to replace conventional paper-based medical records (Kemenkes RI, 2023). The integration of EMR systems allows for the digital documentation of patient data, facilitating connectivity between systems and accelerating diagnostic processes and clinical decision-making. This ultimately enhances the effectiveness and accuracy of healthcare services (Crolla et al., 2021). This transformation is essential in the digital era, where data is a valuable asset for improving the quality and efficiency of healthcare worldwide (Tavakoli, 2022).

Implementing EMR not only focuses on technical aspects but also requires a shift in workplace culture and ethical understanding among healthcare professionals (Zaim et al., 2022). The transition from a manual to a digital system often presents various operational challenges, such as user resistance, the need for continuous training, and system interoperability issues. Nevertheless, the benefits of EMR in improving care coordination, reducing medical errors, and providing structured data for research have been globally proven (Ahmad et al., 2023). Therefore, it is important to ensure that this implementation is not only technically successful but also supported by a strong understanding of relevant ethics and regulations.

Research Problem

Although EMR offers numerous advantages, its implementation also raises complex ethical issues, particularly concerning patient data privacy and security. In the context of information technology, ethics are not only related to user intent but also involve issues of access, authorization, and the consequences of every digital interaction (Tavani, 2021). EMR systems store highly sensitive and personal information, and even a small security vulnerability can have fatal consequences, such as data breaches or information misuse (Asgari et al., 2022). Studies show that human factors, such as a lack of training or non-compliance with policies, are often the primary causes of data security breaches in healthcare facilities (Ghareeb et al., 2022).

These ethical problems are exacerbated by social and psychological dynamics within the hospital work environment. An organizational culture that does not support privacy, a lack of adequate

supervision, and insufficient accountability can weaken data protection efforts, even when clear policies exist (Al-Fakhri & Al-Hajri, 2023). This indicates that the successful implementation of ethics in EMR systems heavily depends on the synergy between robust policies, secure technological systems, and the ethical behavior of every individual involved (Al-Fakhri & Al-Hajri, 2023). Therefore, it is important not only to measure compliance with policies but also to understand the ethical dilemmas that healthcare professionals face in their daily practice.

Welas Asih Regional General Hospital (RSUD Welas Asih), as a hospital owned by the West Java Provincial Government, has adopted a Hospital Information Management System (SIMRS) that includes EMR. Given the crucial role of EMR in healthcare services, a deep understanding of how ethical principles are applied in the real-world context of this hospital is necessary. Previous research has examined the impact of training on staff compliance (Zaim et al., 2022), but there have been no specific studies that comprehensively review the implementation of ethics in EMR management at RSUD Welas Asih, including identifying the ethical constraints directly faced by healthcare professionals. This gap creates an urgent need to critically and empirically review how ethical policies are translated into daily practice.

Research Objectives, Urgency, and Novelty

This study aims to examine the extent to which ethical principles are applied by medical professionals and staff who use the EMR system at RSUD Welas Asih and to identify the barriers encountered in the implementation of ethical policies. The urgency of this research lies in the importance of maintaining patient trust and ensuring that healthcare services are not only efficient but also secure and ethically responsible, in line with the Indonesian Ministry of Health Regulation No. 24 of 2022 concerning Medical Records. The novelty of this study is its provision of an empirical analysis focused on the specific case of RSUD Welas Asih. This research fills the existing gap and presents in-depth findings on the ethical dilemmas experienced by healthcare professionals in the field. The results are expected to provide strategic and constructive recommendations for hospital management to strengthen a more ethical, secure, and sustainable health information system in the future.

RESEARCH METHODS

Research Type and Method

This study utilizes a qualitative research approach to delve into the ethical practices and experiences of healthcare professionals in managing Electronic Medical Records (EMR). This method is particularly suited for exploring the in-depth understanding, perceptions, and real-world ethical dilemmas that are often context-dependent and difficult to quantify (Emzir, 2021). The qualitative approach allows for a rich, detailed analysis of human and social problems, moving from specific observations to broader themes and interpretations (Sugiyono, 2021). By focusing on the lived experiences of the respondents, this methodology provides a nuanced and comprehensive view of how ethical principles are applied in the complex environment of a hospital.

Data Collection Instruments and Techniques

To ensure the comprehensiveness and validity of the data, this research employed data triangulation by combining two primary data collection techniques: observation and questionnaires (Denzin, 2012). Observation was conducted to gain a firsthand, objective view of the behavior, processes, and conditions on the ground, which may differ from the self-reported perceptions of the respondents (Sugiyono, 2019). This method was crucial for directly observing the implementation of the EMR system and identifying potential barriers that might not be revealed through other means (Sudaryono, 2021). Concurrently, a structured questionnaire was administered to a large number of respondents, providing standardized data that could be efficiently analyzed and compared (Arikunto, 2018). The questionnaire, developed on Google Forms, was supported by writing tools to record field notes during observations and a laptop for data processing. This multi-method approach enhances the trustworthiness and rigor of the findings.

Population and Sample

The subjects of this study were 40 healthcare professionals at Welas Asih Regional General Hospital. This group included a diverse range of staff, such as the Head of Patient Admission, Public Service Agency (BLUD) employees, Head of Medical Records Installation, Head of Unit, clinical medical record officers, administrative officers, and registration staff. The sample was selected using a purposive sampling technique (Sudaryono, 2021). This method was chosen because these individuals

were deemed to possess relevant experience and a deep understanding of information technology and its ethical implications in EMR management. The focus of the research was on assessing the implementation of the EMR system and how ethical principles—specifically privacy, confidentiality, data security, and regulatory compliance—are applied in the daily practice of both healthcare providers and hospital management.

Research Procedure

The research was conducted systematically. First, a preliminary study and literature review were performed to identify the core research questions and establish a theoretical framework. Next, the research instruments, including the observation guide and questionnaire, were meticulously developed to align with the study's objectives. Data collection began with the distribution of the questionnaire to the purposively selected sample of 40 healthcare professionals. The survey was conducted digitally via Google Forms to ensure efficiency and ease of data management. Simultaneously, direct observation of the EMR system in use was performed to gather complementary data on the real-world application of ethical policies. The collected data were then compiled and subjected to a comprehensive analysis. Finally, the findings were synthesized, conclusions were drawn, and recommendations were formulated for the hospital management and for future research. This systematic procedure ensures the logical flow and integrity of the research process, from conception to final report.

RESULTS AND DISCUSSION

Results

The data obtained from the questionnaire and observations provide a comprehensive overview of the ethical landscape of EMR use at Welas Asih Regional General Hospital. The findings reveal a high degree of staff understanding and compliance with ethical principles, supported by institutional policies.

Table 1. Percentage of Compliance/Understanding

RME Understanding and Agreement

Statement	Understand/ Agree/Appro priate	Do Not Understand/ Disagree/Ina ppropriate	Percentage
Medical records are confidential	40	0	100%
Importance of data privacy	40	0	100%
Difference between shareable data	40	0	100%
Received ethics training	36	4	90%
Staff use personal logins	40	0	100%
Access relevant patient data	40	0	100%
Workplace has SOPs	39	1	97.5%
Access rights are granted	40	0	100%
Audit trail system exists	39	1	97.5%
Policy is easy to understand	40	0	100%
RME supports patient privacy	39	1	97.5%
Experienced ethical issues	24	16	60%
Hospital provides solutions	39	1	97.5%

Made with Napkin

Ethical Principles and SOP Compliance

The results indicate a very strong implementation of ethical principles, particularly concerning access rights and data management. A key finding is the universal adherence to established protocols: 100% of respondents reported using personal login accounts, accessing only data relevant to their duties, and having access rights that align with their specific roles and responsibilities. Furthermore, an overwhelming majority (>97%) confirmed the existence of clear Standard Operating Procedures (SOPs) for EMR management and access, as well as the presence of an audit trail system to monitor user activity. This high level of compliance suggests that the hospital's administrative and technical controls are robust and well-understood by the staff.

Healthcare Professionals' Understanding of IT Ethics

The study found that the staff's theoretical understanding of ethics is exceptionally high. All respondents (100%) demonstrated a clear understanding of patient data confidentiality, the importance of privacy, and the distinction between data that can and cannot be shared. While a significant majority (90%) had received formal training on information ethics or EMR, a small but notable gap remains, with 10% of staff yet to receive this training. This indicates that while the overall level of awareness is excellent, the hospital's training program still needs to achieve full reach to ensure universal competency.

Ethical Challenges in Practice

Despite the high levels of understanding and compliance, the data revealed a crucial insight into real-world application: 60% of respondents reported experiencing ethical dilemmas in their daily use of the EMR system. This finding is particularly significant because it shows that even with robust policies and high compliance, on-the-ground situations can still create ethical ambiguities for staff. Conversely, 97.5% of respondents confirmed that the hospital provides a structured mechanism for addressing ethical violations through solutions and guidance. This suggests that while dilemmas are frequent, the hospital has an effective system in place to manage and mitigate them.

Policies and Procedures to Ensure Ethical IT Use

The findings confirm that the hospital's policies and procedures are widely recognized and considered effective. The majority of respondents (**>97%**) acknowledged the existence of easy-to-understand policies, a reliable audit trail system, and a clear mechanism for guiding on ethical issues. This demonstrates a well-established institutional framework for ethical governance. However, the fact that ethical challenges persist suggests that while these policies and procedures are effective as a deterrent and a guide, they may not fully address the complex, multifaceted nature of ethical dilemmas that arise in a clinical setting.

Discussion

The findings from this study reveal a multifaceted picture of ethical compliance and understanding among healthcare staff at Welas Asih Regional General Hospital. The discussion below elaborates on these findings, linking them to existing academic literature and contextualizing their implications.

Staff's Level of Understanding of Ethical Principles

The survey results highlight an impressive level of ethical awareness among the staff. The finding that 100% of respondents understand the confidential nature of medical records, the importance of patient privacy, and the difference between shareable and non-shareable data is a critical indicator of the hospital's success in fostering a culture of ethics. This high level of understanding serves as the foundation for ethical behavior, aligning with the principle that awareness is a significant factor in shaping a person's actions (Notoatmodjo, 2012). Furthermore, this awareness is consistent with the core tenet of EMR management, where safeguarding the confidentiality of medical information is paramount (Hatta, 2018). The high level of staff comprehension is a vital asset for preventing ethical breaches and data leaks, forming the first line of defense in information security.

Implementation of Policies and Procedures for Patient Information Security

The data strongly suggest that the hospital's policies and procedures are not merely theoretical but are actively and effectively implemented. The near-universal compliance with standard procedures, including the use of personal login accounts (100%), restricted access based on job roles (100%), and the presence of EMR management SOPs (97.5%), points to a well-governed system. The existence and use of a robust audit trail system (97.5%) further confirms the hospital's commitment to accountability. As Simamora (2020) notes, SOPs and audit trails are essential technical and administrative controls for maintaining data security. These findings are also in full compliance with national regulations,

specifically the Minister of Health of the Republic of Indonesia Regulation Number 24 of 2022, which mandates the implementation of access control procedures to protect data integrity and confidentiality. The results clearly indicate that Welas Asih Hospital has successfully translated national regulations into practical, daily procedures.

System and Policy Support for Patient Privacy and Confidentiality

The strong alignment between staff perception and institutional policies is another key finding. Nearly all respondents (97.5%) feel that the EMR system effectively supports the principles of privacy and confidentiality. Moreover, 100% of the staff find the hospital's EMR policies easy to understand. This aligns with Jogiyanto's (2017) argument that clear and comprehensible policies are crucial for increasing user compliance. The system's design, which provides a sense of security to its users, demonstrates that the hospital's EMR is not just a technical solution but also a secure and trusted tool. This is a testament to the system's design philosophy, likely incorporating the "privacy by design" principle (Purwanto, 2014), which ensures sensitive patient data is protected from the very beginning.

Ethical Challenges and Handling of Violations

Despite the high rates of understanding and compliance, a notable portion of the staff (**60%**) reported encountering ethical challenges while using the EMR system. This finding reveals a significant distinction between theoretical knowledge and practical application. While staff may know what is right, real-world situations can present complex ethical dilemmas that are not easily solved by following a set of rules. However, the study also highlights a positive aspect: almost all respondents (97.5%) confirmed that the hospital provides clear solutions or guidance for ethical violations. This indicates that the hospital has a well-defined follow-up mechanism. As Sugiyono (2019) suggests, on-the-ground challenges are normal during system implementation, but the success of an institution depends on its evaluation and guidance mechanisms. This is further supported by Setiawan (2021), who emphasizes that a proactive approach with clear guidance and consequences is vital for enforcing ethical use of technology in healthcare. Thus, even with the occurrence of ethical dilemmas, the hospital's robust support system helps minimize their negative impact.

CONCLUSION

In conclusion, this study confirms that the implementation of ethical principles in the use of information technology for Electronic Medical Record (EMR) management at Welas Asih Regional General Hospital has been largely successful. Key findings indicate a high level of staff understanding and adherence to confidentiality, privacy, and access policies, as evidenced by near-universal compliance with SOPs and the use of personal login accounts. Despite this strong foundation, a significant portion of staff (60%) still encounter ethical dilemmas in practice, underscoring a gap between theoretical knowledge and real-world application. This research, however, is limited by its primary reliance on a questionnaire, which offers a valuable but restricted view of a complex issue and may not fully capture the nuanced dynamics of ethical challenges. Future research should address these limitations by incorporating mixed-methods approaches, such as interviews and direct observation, to gain a more in-depth understanding of the specific ethical dilemmas faced by staff. Additionally, future studies should consider exploring the relationship between ethical compliance and healthcare quality indicators to provide a more comprehensive view of the impact of ethical practices on patient care.

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