ISSN 2354-8428
e-ISSN 2598-8727

JURNAL KEPERAWATAN

KOMPREHENSIF

COMPREHENSIVE NURSING JOURNAL

Published by :

Sekolah Tinggi Ilmu Keperawatan
PPNI Jawa Barat

Vol. 10 No. 2, April 2024

JURNAL KEPERAWATAN KOMPREHENSIF	VOL. 10	NO. 2	Bandung April 2024	ISSN 2354-8428	e-ISSN 2598-8727

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 2 April 2024

Research Article

Assessing the Impact of Visual Educational Interventions on User Adoption of Electronic Medical Records in the Inpatient Ward of RSUD Dr. Soeselo, Tegal Regency

Eko Prihati[1]* | Septo Pawelas Arso[2] | Farid Agushybana[3]

[1]Mahasiswa Magister Kesehatan Masyarakat, Fakultas Kesehatan Masyarakat, Universitas Diponegoro, Indonesia

[2]Departemen Administrasi Kebijakan Kesehatan, Fakultas Kesehatan Masyarakat, Universitas Diponegoro, Indonesia

[3]Departemen Biostatistik dan Kependudukan, Fakultas Kesehatan Masyarakat, Universitas Diponegoro, Indonesia

***contact**

prihatieko@gmail.com

Received : 01/04/2024
Revised : 25/04/2024
Accepted : 27/04/2024
Online : 30/04/2024
Published : 30/04/2024

Abstract

Aims: Electronic medical records (EMRs) are information systems used to store and manage patients' medical information electronically. Despite being a well-established technology, their implementation often faces resistance, particularly in terms of users' readiness to adapt to new technologies. This study aims to evaluate the acceptance of EMRs among healthcare professionals in the inpatient installation of RSUD Tegal.
Methods: The study employed a Quantitative Pre-Experimental method with a One group Pre-test Post-test experimental design. It assessed changes or differences in user acceptance by examining attitudes and behavioral intentions of users before and after learning through video-based instruction. Pre-test and post-test questionnaires were used for data collection.
Results: Data analysis revealed an Asymp.Sig. value of 0.000, which is less than 0.05. This indicates that Ho (the null hypothesis) is rejected, suggesting a difference in the average results of the Pre-test on the six variables related to user acceptance of EMRs. Similarly, the Friedman Test Post-test yielded an Asymp. Sig. value of 0.000, also less than 0.05. This further supports the rejection of Ho, indicating a difference in the average results of the six variables. Additionally, the influence of video-based learning on behavioral intentions to use EMRs was determined with a Wilcoxon Signed Ranks Test, resulting in an Asymp.sig (2-tailed) value of 0.000.
Conclusion: The study found that there is an increase in behavioral intentions to use EMRs after learning through video-based methods.

Keywords: Visual Educational, Electronic Medical Records, technologies, manage patients, video based instruction

INTRODUCTION

The mandate of Minister of Health Regulation No. 24 of 2022, Article 3, number 1, which necessitates the maintenance of electronic medical records (EMR) by every Indonesian health facility, marks a significant stride towards modernizing healthcare management. The transition to EMR systems is not merely a procedural change but a transformative move that promises multifaceted benefits. Economically, the adoption of EMR can lead to substantial savings by streamlining administrative processes, enhancing cost efficiency, and ensuring increased billing accuracy, thereby optimizing the financial operations of healthcare institutions (1) Clinically, EMR systems are instrumental in elevating the quality of healthcare services. They facilitate a more accurate and timely diagnosis, enable better patient monitoring,

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 2 April 2024

and reduce the incidence of medical errors, contributing to overall patient satisfaction and safety (2, 3). From an information management perspective, EMRs are pivotal in augmenting the accessibility of patient data, thereby supporting healthcare providers in making informed decisions. They also play a crucial role in safeguarding patient confidentiality, ensuring that sensitive health information is shared and accessed securely (4, 5).

Despite these advantages, the implementation journey is fraught with challenges. Hospitals may encounter obstacles in integrating EMR systems within their existing infrastructure, necessitating a reevaluation of their information system strategies. The criticality of adopting new technologies that bolster privacy and confidentiality cannot be overstated, as it is essential for maintaining the trust of patients and complying with regulatory standards (6). Furthermore, training and support from management in utilizing Electronic Medical Records (EMR) have been identified as inadequate (7). Consequently, continuous training sessions tailored for healthcare professionals, particularly nurses, emerge as pivotal measures to foster and streamline the integration of EMRs (7). This sentiment is echoed by Kuek et al., emphasizing the significance of structured training initiatives, both face-to-face and online, as crucial determinants for the successful implementation of electronic medical records (8). Furthermore, Zayyad et al. underscore the indispensable role of training in bolstering the efficiency and efficacy of EMR utilization within hospital settings (9). Hence, these assertions collectively highlight the imperative for comprehensive and ongoing training programs aimed at equipping healthcare personnel with the necessary skills and knowledge to navigate and leverage EMR systems effectively, thereby enhancing overall healthcare delivery and patient outcomes.

The implementation of Electronic Medical Records (EMR) at RSUD dr. Soeselo, Tegal Regency, particularly in the inpatient installation, has encountered challenges despite its initiation in 2021, with initial socialization efforts encompassing manual modules elucidating EMR implementation procedures (10, 11). Although EMR applications were extended to include Emergency EMR (IGD), Inpatient EMR, and Intensive Care Unit (ICU) modules, operational efficiency remains elusive. Consequently, a thorough investigation into factors impeding user acceptance of EMR at RSUD dr. Soeselo is warranted. One theoretical framework suitable for this inquiry is the Unified Theory of Acceptance and Use of Technology (UTAUT) proposed by Venkatesh et al., which elucidates various determinants of technology adoption, including performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention, and actual usage behavior (12). This study endeavors to scrutinize the impact of training on user acceptance regarding EMR implementation within the inpatient installation at RSUD dr. Soeselo, Tegal Regency.

METHODS

Design

In line with this methodological framework, participants will undergo an initial pre-test assessment to gauge their baseline understanding and acceptance of EMR, followed by a post-test evaluation subsequent to the training intervention.

Population and sample

The population in this study consisted of providers of patient care and services at the Inpatient Installation of RSUD dr. Soeselo, Tegal Regency, who use EMR. The inclusion criteria for the respondents were those who work in the inpatient installations, such as DPJP, nursing staff, and other health workers at RSUD dr. Soeselo Tegal Regency, and those who were willing to participate in this research. On the other hand, the

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 2 April 2024

exclusion criteria for this research included respondents who were currently receiving treatment in the hospital, on leave, or on external service for an extended period of time. The sample size in this study was 83 respondents, and the sampling technique used was systematic random sampling.

Instrument

The research employed questionnaires and observation sheets as primary instruments for data collection. Specifically, a questionnaire was utilized to assess user acceptance in implementing EMR. This questionnaire was adapted from a prior study titled "Understanding EHRs continuity intention to use from the perspective of UTAUT: practice environment moderating effect and top management support as predictor variables." The validity of the questionnaire was confirmed through rigorous analysis, ensuring that all 31 questions exhibited loading values > 0.5, large variance extracted (AVE) > 0.5, Composite Reliability (CR) > 0.6, and Cronbach's alpha > 0.6 (13). These robust validation criteria ensure the reliability and validity of the questionnaire, rendering it suitable for future research endeavors.

Intervention

The production process of learning videos for EMR implementation encompasses several stages. Beginning with the preparatory stage, researchers compile tools, materials, and storyboards, detailing sequential features and instructions within the EMR system. Subsequently, the production stage involves shooting, focusing on lighting, blocking, and camera angles, while also incorporating animation or motion graphics for enhanced visualization. The final completion stage involves image editing, sound mixing, and dubbing activities to refine the video content.

Following video production, training sessions on EMR implementation are facilitated, guided by the PDE Team. Prior to training, informed consent and validated questionnaires are distributed to participants. Training sessions include theoretical explanations by the PDE team, viewing learning videos, and hands-on practice sessions lasting 3 hours. After completion, nurses access the videos on computers within the inpatient care setting, while doctors receive them via WhatsApp message for individual use.

Data analysis

A descriptive analysis was conducted to examine respondent characteristics such as profession, gender, age, highest level of education, and work experience. Additionally, bivariate analysis was performed using the Friedman Test and the Wilcoxon Signed Ranks Test.

RESULTS

Respondent characteristics

A total of 83 health workers participated in the study. Nurses accounted for the highest number of respondents, with 64 individuals or 77.1%. There were also 48 female respondents, making up 57.8% of the total participants. In terms of age, 37 respondents (44.6%) fell within the 21-30 age range. In regards to education, the majority held a D3 level of education, representing 61.4% of the participants. Furthermore, 35 individuals (42.2%) had worked in hospitals for 1-5 years. **Table 1** provides a breakdown of the respondents' characteristics.

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 2 April 2024

Table 1. Characteristics of Respondents

Variable	n	%	Behavior intervention (p Value)
Profession:			0.5200
- Nurse	64	77.1	
- Analyst	3	3.6	
- Pharmacist	3	3.6	
- Radiologist	1	1.2	
- Physiotherapist	2	2.4	
- DPJP	10	12.0	
Gender:			0.5344
- Man	35	42.2	
- Woman	48	57.8	
Age:			0.8304
- 21-30 years old	37	44.6	
- 31-40 years old	34	41.0	
- 41-50 years old	9	10.8	
- >51 years	3	3.6	
Length of working:			0.5243
- 1-5 years	35	42.2	
- 6-10 years	22	26.5	
- >11 years	26	31.3	
Education:			0.6754
- DIII Nursing	51	61.4	
- S1 Nursing + Nurse	13	15.7	
- DIII Health Analyst	3	3.6	
- DIII Radiology	1	1.2	
- DIII Physiotherapy	2	2.4	
- Medical specialist	10	12.0	
- Pharmacist	3	3.6	

Validation of the questionnaire

In addition to the validation steps mentioned earlier, we further evaluated the questionnaire items for internal consistency using Alpha Cronbach analysis. This analysis helps determine the reliability of the measurement instrument by examining how closely the items within the same theme are correlated. The results of the Alpha Cronbach analysis showed a strong level of internal consistency, confirming the questionnaire's reliability (**Table 2**).

Table 2. Alpha Cronbach analysis

Scale	Alpha_Cronbach.raw_alpha	Alpha_Cronbach.std.alpha	Alpha_Cronbach.average_r	Alpha_Cronbach.S.N	Alpha_Cronbach.mean	Alpha_Cronbach.median_r
Performer expectations	0.761555579	0.761679398	0.197334079	3.196028337	3.606469689	0.167160931
Effort expectancy	0.761555579	0.761679398	0.197334079	3.196028337	3.606469689	0.167160931
Social Influence	0.761555579	0.761679398	0.197334079	3.196028337	3.606469689	0.167160931

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 2 April 2024

Facilitating conditions	0.761555579	0.761679398	0.197334079	3.196028337	3.606469689	0.167160931
Top management support	0.761555579	0.761679398	0.197334079	3.196028337	3.606469689	0.167160931

Acceptance of EMR pre-test and post-test

Table 3 presents the values of the six Behavioral Intention to Use (BIU) dimensions assessing user acceptance of Electronic Medical Record (EMR) implementation, both prior to and subsequent to the educational intervention. The six indicators yielded a p-value of 0.000 at both measurement points, indicating a statistically significant difference in the mean scores of the pretest and posttest for the EMR user acceptance variables. The analysis of variance, as indicated by the Friedman test results, reveals a substantial shift in the mean user acceptance values post-education. Specifically, there was a notable increase in the mean value for the 'behavioral intention to use' dimension, escalating from 11.2268 to 15.8775. Similarly, the 'facilitating conditions' dimension exhibited growth, with the mean value rising from 6.2297 to 9.5567. Conversely, a decline was observed in the 'Top Management Support' (TMS) dimension, with the mean value decreasing from 23.8179 to 22.5339.

This data suggests that the educational component significantly influenced the user acceptance levels of EMR, enhancing the behavioral intention to use and the facilitating conditions, albeit with a slight reduction in support from top management. These findings underscore the importance of educational interventions in fostering user acceptance and highlight areas for further administrative support to optimize EMR implementation outcomes.

Table 3. Behavior Intention to Use EMR pre-test and post-test

Variables	STS F (%)	T.S F (%)	N F (%)	S F (%)	SS F (%)	Pretest p-value	STS F (%)	T.S F (%)	N F (%)	S F (%)	SS F (%)	Posttest p -value
Behavior Intention to use	0	0	22 (26)	51 (62)	10 (12)	0,000	0	0	1 (1)	30 (36)	53 (63)	0,000
PerfoEMRd expectations	0	1 (1)	25 (30)	46 (55)	11 (14)		0	0	1 (1)	32 (39)	50 (60)	
Effort expectancy	0	0	21 (25)	52 (63)	10 (12)		0	0	1 (1)	27 (33)	55 (66)	
Social Influence	0	2 (3)	18 (21)	54 (65)	9 (11)		0	0	1 (2)	30 (36)	52 (63)	
Facilitating conditions	0	0	28 (34)	46 (55)	9 (11)		0	0	1 (1)	25 (30)	58 (69)	
Top management support	0	2 (3)	30 (36)	43 (52)	8 (9)		0	0	1 (1)	31 (37)	52 (62)	

STS: Strongly Disagree, TS: Disagree, N: Neutral, S: Agree, and SS: Strongly Agree

The application of the Wilcoxon Signed-Rank Test to the study's data revealed a statistically significant increase in the Behavioral Intention to Use Electronic Health Records (EHR) post-education compared to pre-education levels. Specifically, among the 74 participants, a Positive Rank was observed, indicating an enhancement in the propensity to utilize EMR following the learning intervention. The Mean Rank, representing the average increment, was calculated at 45.97, with the aggregate of Positive Ranks reaching 3402.00. This finding substantiates the

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 2 April 2024

hypothesis that the Posttest BIU scores surpass the Pretest BIU scores. Furthermore, the absence of Ties, with a value of zero, corroborates the lack of identical values between pre-education and post-education BIU scores. The statistical significance of the results is underscored by the Asymptotic Significance (2-tailed) value of 0.000, which, being less than the alpha level of 0.05, leads to the acceptance of the alternative hypothesis (Ha). Consequently, it can be deduced that the video-based educational method exerts a positive influence on the behavioral intentions of participants to use EMR systems.

DISCUSSION

The concept of BIU, as delineated in this investigation, encapsulates the user's degree of aspiration or determination to persistently employ EMR to augment the efficacy and efficiency of service provision to patients within inpatient wards. Subsequent to an educational intervention utilizing video media, a notable augmentation in EMR users' performance expectations was observed. Such enhanced performance expectations are posited to exert an influential effect on the propensity to maintain the use of EMR. This correlation aligns with the findings of Maillet et al. (14), which postulated that the congruence of EMR system design with the requisites of nurses is imperative; incongruence may precipitate diminished work productivity and engender frustration among nurses, whereas a design tailored to their needs can enhance work productivity (14). Furthermore, post-intervention, an escalation in effort expectation was reported among EMR users in the inpatient installation, indicative of an ameliorated perception regarding the ease of EMR adoption and its subsequent mastery, which invariably impacts the intention to utilize EMR in said milieu. This outcome is corroborated by the research of Alsyouf et al., which elucidated that nurses' effort expectations and the intention to persist with EMR usage exhibit variance across specialized units (7). Social influence in connection with the results of this study shows an increase in the user's positive perception of how important it is that other people in the workplace approve of the acceptability of using EMR so that it can influence the intention to continue using. This is in accordance with research by Zadvinskis et al., which states that social influence is also a factor that can have a positive impact, such as the support of fellow nurses as users(15).

The empirical evidence suggests that the Facilitating Condition exerts a significant positive impact as an objective determinant, markedly simplifying task execution within hospital settings. Concurrently, the deployment of video media as a pedagogical tool, coupled with supplementary support for addressing challenges encountered during the EMR implementation in inpatient contexts, substantially enhances the propensity for continued EMR utilization. Corroborating this, the investigation by A Rosyada et al., posits that the initial acceptance of an information system is predicated upon the provision of adequate infrastructural support (16). The perceptions of healthcare professionals regarding system usage critically shape their overall perception of the system's utility. Furthermore, this aligns with the findings of Gueye et al., which underscore the efficacy of hospital-conducted EMR training programs (17). These programs are tailored to the specific roles of new users, who are then supported in their routine tasks by a duo of proficient EMR software users, thereby facilitating a smoother transition during initial use phases.

The implementation of EMR learning revealed a marginal decline in the acceptance of TMS, with the post-training results indicating a non-significant reduction (18). This phenomenon can be attributed to the insufficiency of requisite infrastructure, such as the provision of computers and laptops within each inpatient ward, which hindered the officers' ability to fully operationalize the system.

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 2 April 2024

Furthermore, the training duration, limited to a mere two days, was evidently inadequate for comprehensive system mastery. Additionally, there was a notable lack of user involvement in the decision-making process pertaining to the EMR system design and feature customization, which is crucial for aligning the system with the actual workflow and requirements. The absence of a dedicated EMR team, tasked with the ongoing monitoring and evaluation, further exacerbates the situation, indicating a gap in continuous quality improvement and system optimization efforts (19,20).

The implementation of video-mediated education, coupled with the consistent monitoring and evaluation of EMR users within the inpatient unit of Dr. Soeselo Hospital, has markedly enhanced the positive reception and acceptance of EMR among healthcare professionals. This paradigm shift aligns with the findings of previous work, which highlighted the initial inadequacies in training and managerial support preceding the deployment of EMR systems (7). However, post-implementation, the introduction of continual educational interventions has been instrumental in empowering users, particularly nurses, thereby fostering a conducive environment for system utilization and streamlining their workflow. Furthermore, the research by Kuek et al. corroborates the notion that the commitment of management to provide structured training—both in-person and virtual—is an essential determinant for the successful adoption and functionality of EMR systems (8). The aforementioned studies underscore the critical role of sustained educational support in facilitating the transition to and the effective use of electronic health records, ultimately contributing to the optimization of patient care delivery.

CONCLUSION

The study conclusively demonstrates that video-based instruction significantly enhances healthcare professionals' readiness to adopt Electronic Medical Records (EMRs) in RSUD Tegal's inpatient installation. Statistical analysis confirms the rejection of the null hypothesis, indicating a notable improvement in the attitudes and behavioral intentions towards EMR usage post-training. This positive shift underscores the effectiveness of video-based learning in increasing user acceptance of EMRs, suggesting a valuable approach for facilitating the transition to digital medical record systems in healthcare settings.

RESEARCH LIMITATIONS

The absence of a designated temporal framework for training may introduce variability in the learning process and the completion of questionnaires, potentially influencing the outcomes of the study. The research methodology was augmented by field observations, conducted in collaboration with personnel from the Electronic Data Center (PDE), and was further substantiated by ancillary references. This multifaceted approach was employed to fortify the empirical data derived from the investigation.

REFERENCES

1. Yulia Y, Oktamianiza O, Putri KA, Ilahi V, Sari AP. SOSIALISASI KELENGKAPAN PENGISIAN DATA PENUNJANG MEDIS TERHADAP KEJADIAN PENDING KLAIM DI RST. REKSODIWIRYO PADANG 2023. Empowering Society Journal. 2023;4(3).
2. Watkinson-Powell A, Lee A. Benefits of an electronic medical records system in rural Nepal. Journal of the Nepal Medical Association. 2012;52(188).
3. Fritz F, Tilahun B, Dugas M. Success criteria for electronic medical record implementations in low-resource settings: a systematic review. Journal of the American Medical Informatics Association. 2015;22(2):479-88.

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 2 April 2024

4. Indira ZN, Widodo AP, Agushybana F. Literature Review: The Effectiveness of Electronic Medical Records (RME) On Hospital Service Quality. J-Kesmas: Jurnal Fakultas Kesehatan Masyarakat (The Indonesian Journal of Public Health). 2023;10(1):57-64.
5. Jepisah D, Sari TP, Octaria H. Peranan Rekam Medis Elektronik (RME) Terhadap Sistem Informasi Manajemen Rumah Sakit Di Rumah Sakit Umum Daerah Provinsi Riau Tahun 2021. Community Engagement and Emergence Journal (CEEJ). 2022;3(2):202-6.
6. Andriani R, Wulandari D, Margianti R. Rekam medis elektronik sebagai pendukung manajemen pelayanan pasien di RS Universitas Gadjah Mada. J Ilm Perekam dan Inf Kesehat Imelda. 2022; 7 (1): 96–107.
7. Alsyouf A, Ishak AK. Understanding EHRs continuance intention to use from the perspectives of UTAUT: Practice environment moderating effect and top management support as predictor variables. International Journal of Electronic Healthcare. 2018;10(1-2):24-59.
8. Kuek A, Hakkennes S. Healthcare staff digital literacy levels and their attitudes towards information systems. Health informatics journal. 2020;26(1):592-612.
9. Zayyad MA, Toycan M. Factors affecting sustainable adoption of e-health technology in developing countries: an exploratory survey of Nigerian hospitals from the perspective of healthcare professionals. PeerJ. 2018;6:e4436.
10. Rosadi AA, Janah EN, Hediyanto W. Asuhan Keperawatan Pada An. R Dengan Gangguan Sistem Pencernaan: Dispepsia Di Ruang Dahlia RSUD dr. Soeselo Kabupaten Tegal. Jurnal Medika Nusantara. 2023;1(4):194-205.
11. MAWARNI DM, Garmelia E, Amalia R, Garmelia E, Amalia R, Fadhilah IQ, et al. FAKTOR–FAKTOR PENYEBAB PENGEMBALIAN BERKAS KLAIM OLEH BPJS KESEHATAN DI RSUD DR. SOESELO SLAWI KABUPATEN TEGAL. 2021.
12. Venkatesh V, Thong JY, Xu X. Unified theory of acceptance and use of technology: A synthesis and the road ahead. Journal of the association for Information Systems. 2016;17(5):328-76.
13. Manerikar V, Manerikar S. Cronbach's alpha. Aweshkar Research Journal. 2015;19(1).
14. Maillet É, Mathieu L, Sicotte C. Modeling factors explaining the acceptance, actual use and satisfaction of nurses using an Electronic Patient Record in acute care settings: An extension of the UTAUT. International journal of medical informatics. 2015;84(1):36-47.
15. Zadvinskis IM, Chipps E, Yen P-Y. Exploring nurses' confirmed expectations regarding health IT: A phenomenological study. International journal of medical informatics. 2014;83(2):89-98.
16. Rosyada A, Lazuardi L, Kusrini K. Persepsi petugas kesehatan terhadap peran rekam medis elektronik sebagai pendukung manajemen pelayanan pasien di rumah sakit panti rapih. Journal of Information Systems for Public Health. 2016;2(1):29-36.
17. Gueye M, Ndiyae MD, Diouf AA, Diallo M, Wade M, Mbodji A, et al. Using the Diffusion-of-Innovation Theory to Examine Factors Influencing the Implementation of an Electronic Medical Record in Obstetrics. Integrative Journal of Medical Sciences. 2022;9.
18. Staggers N, Elias BL, Makar E, Alexander GL. The imperative of solving nurses' usability problems with health information technology. JONA: The Journal of Nursing Administration. 2018;48(4):191–6.

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 2 April 2024

19. Sulistya CAJ. Literature Review: Tinjauan Kesiapan Penerapan Rekam Medis Elektronik Dalam Sistem Informasi Manajemen Di Rumah Sakit. Indonesian Journal of Health Information Management. 2021;1(2).

20. Weigel FK, Hazen BT. Diffusion of innovations: A foundational theory for medical informatics research. In: Advancing medical practice through technology: Applications for healthcare delivery, management, and quality. IGI Global; 2014. p. 136–53.

https://doi.org/10.33755/jkk