

THE RELATIONSHIP BETWEEN ELDERLY PATIENTS' KNOWLEDGE OF ELECTRONIC MEDICAL RECORDS AND COMPLIANCE WITH BRINGING IDENTIFICATION AT LEMBANG REGIONAL GENERAL HOSPITAL

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ABSTRACT

The increasing number of elderly people drives a greater need for health services supported by the implementation of Electronic Medical Records (EMR). However, the level of elderly knowledge regarding EMR is suspected to affect their compliance in carrying identification when receiving health services. This study aims to analyze the relationship between the level of elderly knowledge regarding Electronic Medical Records and compliance in carrying identification at Lembang Regional General Hospital. The study used a quantitative approach with a correlational analytical design. The study population consisted of 2,400 elderly patients, with a sample of 343 respondents selected using an accidental sampling technique. Data were collected through questionnaires and analyzed using the Chi-Square test and Spearman correlation. The results showed that 44.9% of respondents had a sufficient level of knowledge and 63.3% of respondents were classified as compliant in carrying identification. The Chi-Square analysis showed a significant relationship between the level of knowledge and compliance in carrying identification ($p = 0.000$), while the Spearman test produced a correlation coefficient of 0.372, indicating a low-strength positive relationship. It was concluded that increasing elderly knowledge regarding Electronic Medical Records is related to increased compliance in carrying identification, so patient education needs to be continuously improved to support the quality of health services.

Keywords : Administrative Compliance, Electronic Medical Records, Elderly Patients, Health Information Systems, Patient Identification

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INTRODUCTION

Changes in demographic structure, marked by an increasing number of elderly people, have become a global and national phenomenon (WHO, 2022; United Nations, 2023). In Indonesia, the proportion of elderly people continues to increase, reaching approximately 11.75% of the total population in 2023, or approximately 30 million people (Central Bureau of Statistics, 2023). This condition indicates that Indonesia has entered an era of aging population accompanied by an increasing population dependency ratio (WHO, 2022). Elderly people have different characteristics compared to other age groups because they experience decreased organ function and an increased risk of degenerative and chronic diseases, making them the group that utilizes the most health services in hospitals (WHO, 2021; Ministry of Health of the Republic of Indonesia, 2022).

Along with the increasing need for healthcare services, developments in information technology have also driven the transformation of service systems through the implementation of Electronic Medical Records (EMR) (Hatta, 2019). This system plays a role in digitally recording and managing patient medical data to improve service speed, data accuracy, and the quality of healthcare

services (Minister of Health Regulation of the Republic of Indonesia Number 24 of 2022). In addition to providing ease in managing medical information, EMR also supports patient access to more effective healthcare services (Hatta, 2019). In its implementation, accurate patient identification is a crucial component because complete and accurate identity ensures the integration of medical data and minimizes the risk of clinical service errors (Huffman, 2016). Therefore, patient identity is an integral part of the implementation of Electronic Medical Records in hospitals (Ministry of Health of the Republic of Indonesia, 2023).

Despite its numerous benefits, the implementation of EMR still faces challenges related to human factors, particularly in elderly patients (Ministry of Communication and Informatics of the Republic of Indonesia, 2022). Elderly individuals generally have a lower level of technological literacy than those of the productive age group, thus experiencing difficulties in understanding digital-based healthcare administration systems (UNESCO, 2021). This situation has the potential to impact the readiness of elderly individuals to follow service procedures that support EMR implementation, including compliance with carrying identification when receiving healthcare services (Ministry of Communication and Informatics of the Republic of Indonesia, 2022). Furthermore, incomplete patient identification can lead to service delays, data duplication, and a decrease in the quality of electronic medical record management (Huffman, 2016; Ministry of Health of the Republic of Indonesia, 2023).

This problem was also found at Lembang Regional General Hospital. Based on a preliminary study, the number of elderly patient visits reached approximately 2,400 in one year of service. However, elderly patients were still found to arrive without identification, hampering the registration process, patient identification, and data retrieval in the medical record system, especially after the implementation of EMR. Initial interviews also indicated that some elderly patients did not fully understand the function of Electronic Medical Records (EMR) or the importance of carrying identification in the healthcare process. This situation indicates a gap between the ideal situation, which requires every patient to carry identification as part of administrative procedures, and the actual situation in the field. The elderly's level of knowledge regarding EMR is suspected to be a factor influencing compliance with carrying identification (Green & Kreuter, 2018; Notoatmodjo, 2018). This problem has the potential to impact the quality of medical record data, service efficiency, and patient safety if not addressed properly (WHO, 2022; Indonesian Minister of Health Regulation No. 24 of 2022). Previous research findings also show that patient age and level of understanding can influence patient administrative compliance in health services (Sari & Putri, 2021; Pratama et al., 2022).

Based on these conditions, this study aims to analyze the relationship between the level of knowledge of the elderly regarding Electronic Medical Records and compliance with carrying identification in Lembang Regional Hospital. This research is important because it is expected to provide empirical evidence regarding the relationship between aspects of knowledge and compliance behavior of elderly patients in supporting the implementation of Electronic Medical Records. Thus, the results can be the basis for developing patient education programs, improving the quality of administrative services, and strengthening the management of electronic medical records in hospitals (Sugiyono, 2022). The novelty of this study lies in examining the relationship between the level of knowledge of the elderly regarding Electronic Medical Records and compliance with carrying identification in elderly patients at Lembang Regional Hospital, specifically linking aspects of knowledge regarding EMR with patient administrative behavior in healthcare (Creswell & Creswell, 2018).

RESEARCH METHODS

This study uses a quantitative approach with a correlational analytical design to analyze the relationship between the level of knowledge of the elderly regarding Electronic Medical Records (EMR) and compliance with carrying identification when receiving health services at Lembang Regional General Hospital. The quantitative approach was chosen because this study aims to test hypotheses formulated based on theory and previous research, so that the results can be measured objectively and analyzed using statistical techniques. The correlational analytical design was used to determine the direction and strength of the relationship between the independent variable, namely the level of knowledge of the elderly regarding Electronic Medical Records, and the dependent

variable, namely compliance with carrying identification without providing treatment to both variables (Sugiyono, 2022; Arikunto, 2020; Notoatmodjo, 2018).

The population in this study was all elderly patients aged 60 years or older, visiting Lembang Regional Hospital, and registered in the Electronic Medical Record system during 2025, with a total of 2,400 patients. The determination of the elderly group refers to Law Number 13 of 1998 concerning the Welfare of the Elderly. The study sample is part of the population that meets the inclusion and exclusion criteria. The sampling technique used accidental sampling, namely the selection of respondents based on elderly patients visiting Lembang Regional Hospital and willing to be research respondents (Sugiyono, 2022). Inclusion criteria included elderly aged 60 years or older, having visited the hospital at least once, registered in the Electronic Medical Record system, able to communicate verbally, and willing to be respondents. The exclusion criteria included elderly with severe cognitive impairment, patients in emergency conditions, and respondents who did not complete the questionnaire completely (Notoatmodjo, 2018). The number of samples was calculated using the Slovin formula with an error rate of 5 percent, resulting in a sample size of 343 respondents (Sevilla et al., 2007).

The research data were collected through primary and secondary data. Primary data were obtained using a questionnaire distributed to elderly respondents with the assistance of the researcher to ensure each question was well understood according to the respondents' characteristics. Secondary data were obtained from supporting documents such as hospital profiles, Electronic Medical Record implementation policies, and general data on elderly patient visits (Sugiyono, 2022; Arikunto, 2020; Notoatmodjo, 2018). The research instruments consisted of a questionnaire on the level of knowledge regarding Electronic Medical Records containing multiple-choice or true-false questions and a questionnaire on compliance with carrying identification using a five-level Likert scale to measure respondents' behavior in carrying identification when receiving health services. Before use, the instruments were tested for validity using the Pearson Product Moment correlation and for reliability using the Cronbach's Alpha coefficient with a minimum value of 0.70 (Arikunto, 2020; Ghazali, 2021). The variable of knowledge level was categorized as good, sufficient, and poor, while the variable of compliance was categorized as compliant and non-compliant. The relationship between the two variables was analyzed using the Chi-Square test with a significance level of 0.05.

The research was conducted at Lembang Regional General Hospital, which has implemented an Electronic Medical Records system because it aligns with the characteristics of the research variables and has a sufficient number of elderly patient visits for sampling (Sugiyono, 2022). The research phase began with proposal development and a preliminary study, followed by respondent selection based on research criteria, data collection using questionnaires and supporting documents, and instrument validity and reliability testing. Data processing and analysis were then conducted to determine the relationship between the elderly's level of knowledge regarding Electronic Medical Records and compliance with carrying identification. The research is scheduled to begin in March 2026, according to the established research schedule.

RESULTS AND DISCUSSION

Respondent Characteristics

Table 1. Distribution Table of Respondent Characteristics

Characteristics	Category	Frequency (n)	Percentage (%)
Age	60-69 years	198	57.7
	70-79 years	103	30.0
	≥80 years	42	12.3
Gender	Man	147	42.9
	Woman	196	57.1
Education	No school	36	10.5
	Elementary School	126	36.7
	JUNIOR HIGH SCHOOL	82	23.9

	SENIOR HIGH SCHOOL	79	23.0
	College	20	5.9
Visit	1-2 times	94	27.4
	3-5 times	103	30.0
	>5 times	146	42.6

Table 1 shows that the characteristics of the respondents indicate that the majority of respondents are aged 60–69 years, namely 198 people (57.7%). Based on gender, the majority of respondents were women, numbering 196 people (57.1%). Based on education level, the majority of survey participants had an educational background of elementary school (SD) with a total of 126 people or 36.7%. Based on the number of visits to Lembang Regional Hospital, most respondents had visited more than 5 times, namely 146 people (42.6%).

Level of Elderly Knowledge of Electronic Medical Records

Table 2. Distribution Table of Elderly Knowledge Levels Regarding Electronic Medical Records

Level of Knowledge	Frequency (n)	Percentage (%)
Good	118	34.4
Enough	154	44.9
Not enough	71	20.7
Total	343	100

Based on Table 2, it is known that the majority of respondents (154 respondents (44.9%)) had sufficient knowledge. Meanwhile, 71 respondents (20.7%) had insufficient knowledge.

Compliance Brings Identity

Table 3. Distribution Table of Compliance with Carrying Identity

Compliance	Frequency (n)	Percentage (%)
Obedient	217	63.3
Not obey	126	36.7
Total	343	100

Based on table 3, it is known that the majority of respondents were compliant in bringing identification when visiting the hospital, as many as 217 respondents (63.3%).

Relationship between Knowledge Level and Identity Carrying Compliance (Chi-Square Test)

Table 4. Relationship between Knowledge Level and Identity Carrying Compliance (*Chi-Square Test*)

Level of Knowledge	Compliance Carrying Identity Not obey		Compliance Carrying Identity Obedient		Total n	p-value
	n	%	n	%		
Not enough	48	67.6	23	32.4	71	0,000
Enough	58	37.7	96	62.3	154	
Good	20	16.9	98	83.1	118	
Total	126	36.7	217	63.3	343	

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	49.048a	2	.000
Likelihood Ratio	50.218	2	.000
Linear-by-Linear Association	48.152	1	.000
N of Valid Cases	343		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 26.08.

Figure 1. Chi-Square Test Results

Based on Table 4, it is known that of the 71 respondents who had a low level of knowledge, as many as 48 respondents (67.6%) did not comply with carrying identification, while 23 respondents (32.4%) complied with carrying identification. Respondents with a sufficient level of knowledge were 154 people, consisting of 58 respondents (37.7%) who did not comply and 96 respondents (62.3%) who complied with carrying identification. Meanwhile, of the 118 respondents who had a good level of knowledge, as many as 20 respondents (16.9%) did not comply and as many as 98 respondents (83.1%) complied with carrying identification when visiting Lembang Regional Hospital.

Based on the results of statistical tests using the Chi-Square test, a p-value of 0.000 ($p < 0.05$) was obtained. Thus, H_0 was rejected and H_a was accepted, so it can be concluded that there is a significant relationship between the level of knowledge of elderly patients regarding Electronic Medical Records and compliance with carrying identification at Lembang Regional Hospital. The better the level of patient knowledge regarding Electronic Medical Records, the higher the tendency of patients to comply with carrying identification when receiving health services.

Table 5. Relationship between Knowledge Level and Identity Carrying Compliance (Spearman Correlation Test)

Variables	Coefficient Correlation (r)	p-value
Knowledge with Compliance Brings Identity	0.372	0,000

Based on the results of the Spearman correlation test, a correlation coefficient (r) of 0.372 was obtained with a significance value of 0.000 ($p < 0.05$). These results indicate that there is a positive and significant relationship between the level of knowledge of elderly patients regarding Electronic Medical Records and compliance with carrying identification at Lembang Regional Hospital. The correlation coefficient value of 0.372 indicates that the relationship that occurs is included in the low (weak) category, but has a positive direction. This means that the higher the level of knowledge of elderly patients regarding Electronic Medical Records, the higher the patient's compliance in carrying identification when visiting the hospital. Conversely, the lower the patient's level of knowledge, the greater the tendency not to carry identification.

Discussion

Level of Elderly Knowledge of Electronic Medical Records

The research results showed that most respondents had a fairly good understanding of electronic medical records. This suggests that some older adults already understand what electronic medical records are and their benefits, but some still don't understand the importance of identity in an electronic healthcare system.

Knowledge is influenced by various factors such as age, education, experience, and access to information. In this study, the majority of respondents had a basic education, which could influence their ability to understand information about electronic medical records.

According to Notoatmodjo (2018), knowledge is a crucial factor that can influence how a person acts in healthcare. People with good knowledge typically better understand the benefits and purpose of a healthcare procedure.

Compliance Brings Identity

The research results showed that many respondents were compliant with carrying identification when visiting the hospital. This indicates that many older adults understand the importance of identification in healthcare.

Despite this, some respondents still fail to carry their identification. This can be due to several factors, such as habit, forgetfulness, lack of understanding, or the elderly's dependence on family members.

Patient compliance in carrying identification is very important to help smooth service and ensure correct patient identity in the electronic medical record system.

The Relationship Between Knowledge Level and Compliance Carrying Identity

Based on the statistical test results, a p-value of 0.000 ($p < 0.05$) was obtained. Therefore, it can be concluded that there is a relationship between the level of knowledge of electronic medical records among the elderly and their compliance with carrying identification.

The study's findings indicate that individuals with better knowledge tend to be more compliant in carrying their identity documents than those with less knowledge. This aligns with health behavior theory, which states that knowledge is a factor that can influence a person's behavior. This study also aligns with Notoatmodjo's (2018) theory, which states that better knowledge leads to better health behavior.

Comparison of Research Results with Previous Research

This study shows a strong correlation between the elderly's level of knowledge about Electronic Medical Records and their habit of carrying identification when visiting Lembang Regional General Hospital, with a p-value of 0.000, which is less than 0.05. The more the elderly understand Electronic Medical Records, the better they comply with the rules for carrying identification when visiting the hospital. This suggests that knowledge plays a significant role in shaping how patients approach healthcare procedures.

The results of this study are in accordance with research (Luo et al., 2021) which showed that digital health literacy skills influence how well patients can use electronic medical record systems. The difference lies in the role of knowledge in improving patient attitudes toward electronic services. The difference is that the study examined the use of electronic personal health records, while this study focuses on compliance with identity verification as part of the implementation of electronic medical records in hospitals.

This research is also in accordance with the opinion (Dwi et al., 2021) which states that knowledge influences the quality of medical record implementation. In addition, research (Salerno et al., 2020) showed that correctly identifying patients is a critical factor in ensuring patient safety in Electronic Medical Records systems. Both studies reinforce the findings of this study that knowledge and ability to identify patients are critical to the successful implementation of Electronic Medical Records. The results of this study are also supported by (Ichsan Nur Hamdan, Yanuar Jak, 2026; reska, 2026) which found a relationship between knowledge level and patient adherence. Although the two previous studies were conducted on healthcare workers, while this study was conducted on elderly patients, both studies showed that the higher a person's knowledge level, the better their adherence to healthcare procedures.

Based on this comparison, the results of this study align with previous research that found that knowledge influences compliance with healthcare services. Therefore, it is important to continue educating elderly patients about Electronic Medical Records and the need to carry their identification to support smooth healthcare delivery and improve the implementation of Electronic Medical Records at Lembang Regional Hospital.

CONCLUSION

The results of the study showed that most elderly patients at Lembang Regional General Hospital had a sufficient level of knowledge regarding Electronic Medical Records (EMR) and most of them were compliant in carrying identification when receiving health services. Analysis using the Chi-Square test showed a significant relationship between the level of elderly knowledge regarding Electronic Medical Records and compliance in carrying identification ($p = 0.000$). The results of the Spearman correlation test also showed a positive relationship with a low correlation strength ($r = 0.372$), which indicates that the better the level of elderly knowledge regarding Electronic Medical Records, the higher their compliance in carrying identification when visiting the hospital.

This study still has limitations because it was conducted in a single hospital using an accidental sampling technique, so the results cannot be generalized to a wider population. Furthermore, data measurement using a questionnaire relies on respondents' answers, thus still allowing for response bias. Future research is recommended to involve more healthcare facilities, use a more representative

sampling technique, and include other factors that could potentially influence patient compliance, such as family support, digital literacy, and the quality of healthcare worker education. Practically, the results of this study can serve as a basis for Lembang Regional General Hospital to strengthen its educational program regarding Electronic Medical Records and increase public awareness of the importance of carrying identification to support accurate patient identification, smooth administration, and improve the quality of healthcare services.

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