

RELATIONSHIP BETWEEN THE USE OF ELECTRONIC MEDICAL RECORDS (E-MR) AND NURSING CARE DOCUMENTATION AMONG NURSES AT RSJ TAMPAN, RIAU PROVINCE

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Abstract

The implementation of electronic medical records (e-MR) in hospitals in Indonesia is a significant step forward in creating more effective, safe, and integrated healthcare services. Electronic nursing documentation offers various benefits, such as reducing the risk of recording errors and improving efficiency, but a deeper understanding of the true impact of this technology is still needed. Therefore, the researcher is interested in conducting research on the relationship between the use of electronic medical records (e-MR) and the use of nurse documentation. This study uses a quantitative approach with a cross-sectional correlation design, involving a total of 112 nurses working in the inpatient wards of RSJ Tampan, Riau Province, and utilizing the chi-square test. The statistical results obtained were a p-value of

$0.298 > 0.05$, which means H_0 is accepted. Therefore, it can be concluded that there is no relationship between the use of electronic medical records (e-MR) and the documentation of nursing care plans among nurses at RSJ Tampan in Riau Province. Regarding nurses' understanding of digital documentation, specifically the use of electronic medical records (e-MR).

Keyword: Documentation 1; Nursing Care 2; Electronic Medical Ricord 3

INTRODUCTION

Cervical cancer is a malignant tumor that develops in the cervix and is generally caused by persistent Human Papillomavirus (HPV) infection. This disease can be detected through early screening, thus increasing the chances of successful treatment (Erlani, Seriani, 2020). Globally, cervical cancer remains one of the most common cancers affecting women. The (WHO, 2018) reported approximately 570,000 new cases and over 300,000 deaths in 2018, making it the fourth most common cancer among women worldwide.

In Indonesia, the burden of cervical cancer is also quite high. Data from the 2018 Basic Health Research (Riskesdas) showed a cancer prevalence of 1.79 per 1,000 population (Sung et al., 2021). Data from Arifin Achmad Regional Hospital, Riau Province, recorded 1,167 cases of cervical cancer in 2022, ranking first among gynecological diseases. Meanwhile, 444 cases were recorded between January and June 2023, with peak incidences in February and March, each with 81 cases (Arifin Achmad Regional Hospital, Riau Province, 2023, cited in Ayatul & Rieh, (2025). This data indicates that cervical cancer remains a health problem that requires serious attention, particularly in Riau Province.

One of the main treatments for cervical cancer is chemotherapy. Chemotherapy is a systemic treatment that works by destroying cancer cells, including those that have metastasized. However, this therapy often causes physical side effects such as nausea, vomiting, diarrhea, hair loss, bone marrow depression, anemia, and a suppressed immune system. In addition to the physical impacts, patients often experience psychological disorders such as anxiety, fear, and panic Yudono, (2020). Decreased physical condition and changes in self-concept due to illness and therapy contribute to the emergence of anxiety (Nguyen et al., 2023)

Research by Syukuriah & Alfiyanti (2023) showed that the majority of cervical cancer patients experienced moderate levels of anxiety, while others experienced severe to extremely severe anxiety. This confirms that anxiety is a significant psychological problem and requires appropriate intervention. Anxiety management can be carried out through pharmacological and non-pharmacological approaches. Anti-anxiety medications such as benzodiazepines are effective in the short term but carry the risk of dependence. Therefore, non-pharmacological interventions are a safer alternative and can be performed independently.

One relaxation technique that has proven effective is Progressive Muscle Relaxation (PMR). PMR involves tensing and then gradually relaxing muscle groups, stimulating the body's relaxation response. Its mechanism involves activating the hypothalamus, which decreases sympathetic nervous system activity and increases parasympathetic activity, thereby reducing muscle tension and anxiety (Deswita & Hanifa, 2024). Research by Burhan et al., (2022) and Pazira et al., (2024) shows that implementing PMR in nursing care is effective in reducing anxiety levels and improving coping skills in cervical cancer patients.

Based on this phenomenon, the implementation of Progressive Muscle Relaxation (PMR) interventions in nursing practice is expected to help reduce anxiety levels, increase self-control, manage stress, and improve patients' quality of life during chemotherapy. Therefore, researchers are interested in conducting a study entitled: "Nursing Care Implementation of Progressive Muscle Relaxation (PMR) Interventions to Reduce Anxiety Levels in Cervical Cancer Patients Undergoing Chemotherapy in the Tulip Ward of Arifin Achmad Regional Hospital, Riau Province."

RESEARCH METHODS

This study used an Evidence-Based Practice (EBP) approach, implementing a Progressive Muscle Relaxation (PMR) intervention to reduce anxiety in cervical cancer patients undergoing chemotherapy in the Tulip Ward of Arifin Achmad General Hospital. Two patients were purposively selected based on inclusion criteria (conscious, cooperative, and having undergone ≥ 2 cycles of chemotherapy). The intervention was conducted over three consecutive days, approximately 30 minutes before chemotherapy, under the direct guidance of a nurse. Anxiety levels were measured using the Zung Self-Rating Anxiety Scale (ZSAS) developed by Zung & William (1971) before (pre-test) and after (post-test) the intervention.

Descriptive quantitative analysis was conducted by comparing pre- and post-test scores and changes in anxiety categories. The intervention was considered successful if $\geq 60\%$ of patients experienced a reduction in anxiety levels..

RESEARCH RESULTS

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Univariate analysis data on respondent characteristics can be seen as follows.

Table 1. Age

Frequency Distribution of Respondents Based on Age		
Age Category	Frequency	presentation
Young Adult (18-25 year olds)	2	1,8
Adult (25-65 year olds)	110	98,3
Total	112	100

shows that out of 112 respondents, more than half of the respondents are in young adults (18 25 years), 2 respondents (1.8) and adults (25-65 years) as many as 110 respondents (98.3%).

Tabel 2. Gender

Frequency Distribution of Respondents Based on Gender		
Gender Category	Frequency	presentation
man	30	26,8
Women	82	73,2
Total	112	100

shows that out of 112, more than half were female, namely 82 people (73.2%) and a small part were male as many as 30 people (26.8%).

Table 3. Education

Frequency Distribution of Respondents Based on Education		
Education Category	Frequency	presentation
D3	17	15,2
S1	33	29,5
Ns	62	55,4
Total	112	100

Total 112 respondents were obtained from D3 graduates, 17 respondents (15.2%), S1, 33 respondents (29.5), NS, 62 respondents (55.4%).

Table 4. Use of e-MR

Frequency Distribution of Respondents Based on e-MR usage		
e-MR usage Category	Frequency	presentation
Less	54	51,8
Good	58	48,2
Total	112	100

shows that out of 112 respondents, more than half of the respondents were obtained by using e-MR less than 54 respondent (51,8%) or 58 respondents (48,2%).

Table 5. Frequency Distribution of Respondents Based on nursing documentation

Nursing documentation Category	Frequency	presentation
while	1	0,9
Good	111	99,1
Total	112	100

shows that out of 112 respondents with nurse documentation, 1 respondent (0.9%) obtained moderate results (0.9%) Good 111 respondents (99.1%).

Bivariate Analysis

The chi-square test is a non-parametric statistical test used to compare two or more groups of categorized data. This test helps determine whether there is a relationship between variables. In this study, the chi-square test was used to examine the relationship between the use of Electronic Medical Record (e-MR) and nursing care documentation among nurses at Tampan Mental Hospital, Riau Province (Henny Syapitri et al., 2021).

If the chi-square test result shows a **p-value < 0.05**, the alternative hypothesis (Ha) is accepted and the null hypothesis (H0) is rejected, indicating that there is a relationship between e-MR use and nursing documentation. However, if the **p-value > 0.05**, the alternative hypothesis (Ha) is rejected and the null hypothesis (H0) is accepted, meaning that there is no relationship between the use of Electronic Medical Record (e-MR) and nursing care documentation among nurses at Tampan Mental Hospital, Riau Province. The results of the chi-square test in this study are presented in the following table.

Table 6. Bivariate Analysis

e-MR Utilization	Nursing Documentation				Total	p-value
	Moderate	%	Good	%		
Good	0	0.0	58	52.3	58	
Poor	1	1.9	53	47.3	54	0.298
Total	1	1.9	111	99.6	112	100

Based on the statistical results in Table 4.7, 58 respondents (52.3%) with good e-MR utilization had good nursing documentation, while 1 respondent (1.9%) had moderate documentation. Among respondents with poor e-MR utilization, 53 respondents (47.3%) had good documentation. The chi-square test result showed a p-value of 0.298 (>0.05), indicating that there was no significant relationship between Electronic Medical Record (e-MR) utilization and nursing care documentation among nurses. Thus, it can be concluded that the utilization of Electronic Medical Record (e-MR) is associated with nursing care documentation among nurses at Tampan Mental Hospital, Riau Province.

DISCUSSION

The findings of this study showed that most respondents were in the adult age group of 25– 65 years, indicating that nurses involved in this research were within a productive age range with sufficient emotional maturity and professional experience. Adult nurses generally demonstrate better critical thinking skills, responsibility, and adaptability to technological developments in healthcare, including the implementation of Electronic Medical Record (e-MR) systems. Therefore, the age characteristics of respondents may contribute positively to the quality of nursing care documentation.

Based on gender distribution, the majority of respondents were female. This finding is consistent with the general profile of the nursing profession, which is predominantly female. This dominance not only reflects workforce demographics but is also associated with characteristics such as accuracy, empathy, and effective interpersonal communication, all of which are essential in providing nursing care and maintaining proper documentation. In terms of educational background, most respondents held a professional nursing (Ners) qualification, suggesting that they possessed adequate clinical competence and academic preparation, including knowledge of standardized nursing documentation and electronic health information systems.

The results related to e-MR utilization indicated that its implementation was not yet fully optimal, with a considerable proportion of respondents categorized as having low utilization. This condition suggests that several barriers may influence the adoption of e-MR, such as limited training, the transition process from manual to digital documentation, nurses' workload, and technical factors including system accessibility, network stability, and user-

friendliness. These challenges may affect nurses' acceptance and routine use of the system, preventing the full benefits of e-MR from being realized in daily clinical practice.

Despite the variation in e-MR use, the study revealed that nursing care documentation was generally categorized as good. This finding indicates that nurses were able to maintain documentation quality in accordance with professional standards regardless of differences in e-MR utilization. High-quality documentation may be influenced by factors such as professional competence, clinical experience, managerial supervision, and the availability of clear standard operating procedures. Accurate and complete documentation plays a crucial role in nursing care as it serves as a communication tool among healthcare providers, an indicator of service quality, and legal evidence of professional accountability.

The bivariate analysis demonstrated no significant relationship between e-MR utilization and nursing care documentation. This result suggests that documentation quality is not solely determined by the presence or use of electronic systems but is also affected by other factors, including knowledge, motivation, professional attitude, work culture, and organizational support. Nurses were able to perform adequate documentation even when e-MR use was not optimal, highlighting that professional responsibility remains a key determinant of documentation quality. Nevertheless, e-MR still holds substantial potential to improve efficiency, accuracy, and continuity of documentation if supported by adequate training, user-friendly system design, and strong managerial commitment.

Overall, this study indicates that although e-MR utilization has not been fully optimized, nursing care documentation quality remained good. This finding emphasizes that technology functions primarily as a supporting tool, while the core determinant of documentation quality lies in nurses' competence and professionalism. Therefore, efforts to optimize e-MR implementation should include comprehensive training, infrastructure improvement, and better integration of electronic systems into nursing workflows to maximize the benefits of digital transformation in healthcare services.

CONCLUSION

Based on the findings of this study examining the relationship between the use of Electronic Medical Record (e-MR) and nursing care documentation among nurses at RSJ Tampan, Riau Province, it can be concluded that most respondents were adults, predominantly female, and had a professional nursing (Ners) educational background, indicating adequate competence in performing nursing care and documentation. The study revealed that e-MR utilization varied and had not yet been fully optimized, while the quality of nursing care documentation was generally categorized as good. Statistical analysis using the chi-square test showed a p-value greater than 0.05, indicating no significant relationship between e-MR utilization and nursing care documentation. This finding suggests that documentation quality is not solely influenced by electronic system use but is also affected by factors such as professional competence, experience, responsibility, and organizational support. Therefore, although e-MR has the potential to enhance efficiency and accuracy in documentation, its successful implementation requires adequate training, supportive infrastructure, and effective integration into nursing workflows to maximize its contribution to improving healthcare service quality.

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