

The Impact of Electronic Health Records on Quality of Care among Registered Nurses in Northern Jordan

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ABSTRACT

Technology has increasingly shaped healthcare delivery in recent years. Among these Technologies, Electronic health records (EHRs) are widely regarded as a key tool for improving the quality of care by strengthening patient safety, minimizing medication errors, and enhancing the accuracy, accessibility, and continuity of clinical information. However, despite their growing adoption, robust evidence supporting their impact on improving the quality of care remains limited. This study aims to assess the relationships between electronic health records and two domains of quality care: patient safety and effectiveness among Registered Nurses in Northern Jordan. This research adopted a descriptive, correlational, cross-sectional design. Four hospitals that implemented the EHR were included in this study, which employed a Google Forms survey link. 221 registered nurses completed the questionnaire; a non-probability convenience sampling method was used to select the study participants. The overall mean score for EHR system implementation was 4.24 (SD = 0.54). Regression analyses revealed strong and statistically significant associations among the study variables. EHR implementation showed a significant relationship with patient safety, $F(1, 219) = 440.48, p < .001$. Furthermore, EHR use was significantly associated with effectiveness, and the regression model was also statistically significant, $F(1, 219) = 406.00, p < .01$. This study confirms that Electronic Health Records (EHRs) are strongly linked to better patient safety and improved effectiveness. Overall, the findings underscore the crucial role of EHR systems in enhancing the quality of care. This study provides evidence on the role of EHRs in improving the quality of care. These findings emphasize leaders and policymakers' need to adopt strategies that support effective EHR implementation, particularly through addressing barriers such as inadequate financial resources, system configuration, technological infrastructure, and a lack of technical support.

Keywords: *Electronic Health Records (EHRs), Quality of Care, Registered Nurses, Patient Safety, Effectiveness*

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INTRODUCTION

Technology has played a significant role in healthcare during the last few years. This role has influenced all healthcare aspects, including information technologies in the healthcare system. A strong healthcare system requires a reliable and effective platform that enables medical

professionals to make appropriate choices and implement strategies that will support the ongoing functioning of healthcare institutions (1). In response to critical care and other healthcare events, consistent, accurate, and timely data are necessary. Thus, greater access to patient records is essential for efficient management of patients' health. In this context, Electronic Health Records (EHRs), as a part

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of information technology, can potentially improve patient safety and clinical outcomes (2).

An electronic health record is a digital copy of a patient's medical history that a provider keeps on record. It contains the necessary information, such as demographics, prescriptions, progress notes, vital signs, allergies, past medical history, vaccination records, radiology reports, and laboratory results (3). It also includes other features such as medication administration and clinical decision support systems. It is important to consider that an EHR is developed to monitor the transmission and processing of data needed for delivering care efficiently.

The efficiency of healthcare services mainly depends on the workflow that incorporates the data transmission between departments and the instant, effective transfer of the patients' data among the multidisciplinary team (including physicians, nurses, laboratories, and so forth). With the use of EHR, efficiencies in healthcare delivery may be achievable through the ability to better record, store, and share information, and improve the retrieval of patient data (2).

Electronic health records are predicted to improve the quality of care, patient safety, and reduce medical errors (4,5). Despite the aspirations that EHR can provide, evidence that EHR can improve patient safety and effectiveness has a gap in the literature and is still unclear (5,6). Some studies showed a positive relationship (2,7). Others found insignificant or no change after the adoption of EHRs (8,9), while some revealed that EHRs threaten patient safety (10,11).

In Jordan, the outcomes resulting from the implementation of the system are still unsatisfactory and miss the potential advantages of the system; Inadequate financial resources, system configuration and technological infrastructure, workflow and organizational structure, and a lack of training and technical support are the main issues that face Jordanian healthcare organizations (12,13).

Additionally, EHR success is hindered because the implementation strategy is ineffective (14). The WHO's guidelines for implementing EHRs in developing countries offer a concise model for effective system planning, emphasizing assessment of existing record structures and engagement of end users. Therefore, given the aforementioned concern, this study assesses the relationships between EHR and two domains of quality care: safety and effectiveness among Registered Nurses in Northern Jordan.

RESEARCH QUESTIONS

1. What is the relation between the use of Electronic Health Records and patient safety in Jordanian public hospitals in Northern Jordan?
2. What is the relation between the use of Electronic Health Records and effectiveness in public hospitals in Northern Jordan?

METHODS

Design and Setting

A descriptive, correlational, cross-sectional design was adopted to both characterize the study variables and assess the relationships among them. In addition, the data was collected at a single point in time. This study was conducted in four hospitals, namely: Princess Rahma Hospital, AL-Mafraq Hospital, AL-Mafraq Gynecology & Pediatrics Hospital, and Princess Badea Hospital. The total number of registered nurses in these hospitals was 488. All hospitals in the north have completely implemented EHRs. All participating hospitals operate under the auspices of the Jordan Ministry of Health.

Sampling

A non-probability convenience sampling method was used to select the study participants. The total number of registered nurses in these hospitals was 488. The inclusion criteria for nurses were registered nurses, at least one year of experience with EHRs, and willingness to participate in this study. The sample size calculated based on the Krejcie and Morgan (15) method is 215. To avoid potential attrition, an oversampling approach was adopted; 250 questionnaires were distributed, and 221 registered nurses completed the questionnaire.

Ethical Considerations

Ethical approval for study execution was obtained from the Institutional Review Board (IRB) at Al-Balqa Applied University, number (2025/2024/7/93). Authorization was also obtained from the Ministry of Health (MOH) number (MOH/REC/2025/534). The goal and objectives of the study, the time needed to complete the questionnaires, and the potential drawbacks and advantages of participation were clearly explained on the first page of the Google Form. Participation was voluntary, and respondents were informed that no identifying information (such as names or email addresses) would be collected. The participants were treated anonymously. The participants' agreement to proceed and submit their responses was interpreted as implied consent. Participants were guaranteed the right to withdraw from the study at any time without having to provide a reason or fear of the consequences. All participants were given explicit assurances regarding confidentiality.

Measures

The study developed a questionnaire based on (16) as a tool to assess the relation of EHR on patient safety and effectiveness. A pilot test was performed among 25 nurses (excluded from the final analysis). The Alpha Cronbach test verified the reliability of the questionnaire; the values were measured to be (0.750) for EHR, (0.866) for patient safety, and (0.950) for effectiveness. The reliability of all variables was 0.953.

The questionnaire was written in English. The survey was translated into Arabic. Following the methodology proposed by Brislin (18), both forward and back translation procedures were employed. Two proficient translators translated the original into Arabic. Subsequently, two additionally qualified translators conducted the back translation. The participants were

asked to respond to all items in the survey on a five-point Likert scale ranging from 1 “strongly disagree” to 5 “strongly agree”. The questionnaire has three parts: (1) demographic and professional traits, (2) EHR use, and (3) patient safety and effectiveness.

The first part contains five items including questions about demographic and professional traits. It includes information regarding the participants' gender, age, and highest qualifications. In addition, it includes items about their career, professional experiences, and attendance in a formal training program in EHRs. The second part contains five items; the questions focus on investigating EHR use including the accuracy of documentation, clinical decision support systems, organizing patient information, providing comprehensive care, and the confidentiality of medical information provided by the EHR system.

The third part contains two sections. The purpose of the first section was to assess the role that EHRs play in improving patient safety by reducing medication errors, improving access to patient information for prompt life-saving and medication reconciliation, and supporting safer clinical practices. The final section assessed perceptions regarding the relation of the EHR system to effectiveness. The items of the scale are assessed based on various dimensions such as information exchange, quality of care, adherence to clinical guidelines, and facilitation of preventive care.

Data Collection

Study data were collected by providing a Google Form survey link to participants who met the inclusion criteria. The results were subsequently exported into an Excel spreadsheet. The data collection spanned from September 1, 2025, until February 10, 2026. The Google Forms platform guaranteed the complete anonymity of all

participants, as no personally identifiable data was collected. Finally, the data was safely stored on a computer that needed a password to access.

Data Analysis

The Statistical Package for Social Sciences (SPSS, version 27) for Windows was used for data analysis. The study variables and the participants' demographic and professional traits have been described using descriptive statistics according to the measurement level. The research questions were addressed using inferential statistics, namely regression analysis, correlation, one-way ANOVA, and t-test.

RESULTS

Participants' Demographic Characteristics

The questionnaire was distributed to 250 registered nurses (RNs). The total number of participants in this study was 221 RNs (Table 1). The results showed that the majority of participants were male (55.2%, $n = 122$), while female participants represented 44.8% ($n = 99$). The majority of participants were between 30 and 40 years of age, representing 66.1% ($n = 146$). Participants aged 41–50 years represented 25.3% ($n = 56$). Those younger than 30 years represented 5 % ($n = 11$), while the smallest age group was participants older than 50 years, which comprised 3.6% ($n = 8$).

Most of the participants held a bachelor's degree, 75.6% ($n = 167$), while 24.4% had postgraduate studies ($n = 54$). More than half had more than 10 years of experience: 56.1% ($n = 124$), followed by 1 to 5 years: 27.6% ($n = 61$), and 5 to 10 years: 16.3% ($n = 36$). Furthermore, 66.1% of RNs ($n = 146$) had attended an official training program on using the electronic health record. On the other hand, 33.9% ($n = 75$) did not attend an official training program.

Table 1. Participants' demographic characteristics (N = 221)

Demographic Variables	N	Percentage %
Sex	Male	122
	Female	99
Age	Less than 30 years	11
	From 30 to 40 years	146
	From 41 to 50 years	56
	More than 50 years	8
Educational Level	Bachelor's Degree	167
	Postgraduate Studies	54
Experience	1 to 5 years	61
	5 to 10 years	36
	More than 10 years	124
Training in using EHR	Yes	146
	No	75

Descriptive Statistics of Implementation of HER

The findings indicate positive perceptions among participants toward the implementation of EHR systems. As shown in Table 2, the mean scores ranged from 3.96 to 4.41. The highest-rated items were “*EHR helps in recording nursing notes and assessments precisely*” ($M = 4.41$, $SD = 0.623$) and “*The hospital's EHR allows patient records to be arranged and captured quickly and*

accurately” ($M = 4.41$, $SD = 0.594$). By contrast, the lowest mean score was for “*EHR allows for documenting consultation requests and those related to decision support, such as reminders and alerts*” ($M = 3.96$, $SD = 0.967$). Even so, this value still reflects a high level. The overall scale mean was 4.24 ($SD = 0.54$), indicating very high agreement among participants regarding the implementation of the EHR system.

Table 2. Descriptive statistics of the implementation of HER

Statement	M	SD	Rank	Level
1. EHR helps in recording nursing notes and assessments precisely.	4.41	.623	1	Very High
2. EHR allows for documenting consultation requests and those related to decision support, such as reminders and alerts.	3.96	.967	5	High
3. The hospital applies EHR systems that contain patients' progress assessments, problems, medications, vital signs, laboratory statements, and radiological reports.	4.33	.678	3	Very High
4. The hospital's EHR allows patient records to be arranged and captured quickly and accurately.	4.41	.594	1	Very High
5. EHR provides complete information about the medical care plan and patient history in the health facility while protecting the patient's confidentiality and privacy.	4.09	.913	4	High
Overall Scale	4.240	.544	Very High	
Note: EHR: Electronic Health Record, M: Mean, SD: Standard deviation.				

Descriptive Statistics of Patient Safety

The analysis revealed positive perceptions among RNs regarding the impact of EHR on patient safety. Table 3 provides a detailed summary of these descriptive statistics, highlighting key areas such as reducing medication errors, improving access to patient information for prompt life-saving. Most of the items received very high ratings, with mean scores ranging from 4.08 to 4.43, indicating a strong, positive view toward improving patient safety. The

highest-rated items were "*The EHR facilitates safer care transitions among physicians and medical teams*" with a mean of 4.43 (SD=0.58). The item "*The EHR could jeopardize patient care through the usage of the 'copy and paste' syndrome*" scored the lowest mean 4.08 (SD=1.01) but still reflected a high level of agreement. The overall scale mean was 4.28 (SD = 0.56), which demonstrates participants generally hold a strong positive attitude toward improving patient safety.

Table 3. Descriptive statistics of participants' responses on patient safety

Statement	M	SD	Rank	Level
1. Implementation of the EHR system reduced medication errors and hospitalization-related complications more than paper-based medical records.	4.17	.833	6	High
2. The EHR system provides fast access to patient information whenever needed for prompt life-saving health care.	4.39	.656	2	Very High
3. The EHR System is more beneficial for medication reconciliation.	4.36	.657	3	Very High
4. The EHR facilitates safer care transitions among physicians and medical teams.	4.43	.581	1	Very High
5. Using the EHR system improves safety through improved management.	4.25	.719	5	Very High
6. The decision support feature in the EHR system, in the form of computerized reminders, is a significant tool contributing to better patient safety.	4.28	.722	4	Very High
7. The EHR could jeopardize patient care through the usage of the "copy and paste" syndrome.	4.08	1.019	7	High
Overall Scale	4.281	.560	Very High	
Note: EHR: Electronic Health Record, M: Mean, SD: Standard deviation.				

Descriptive Statistics of Effectiveness

The analysis revealed a strong perception among RNs regarding the positive impact of EHR on effectiveness. Table 4 provides a detailed summary of these descriptive statistics, highlighting key areas such as information exchange and adherence to clinical guidelines. Six of the items received very high ratings with mean scores ranging from 4.22 to 4.33, and one item rated high that indicates a strongly positive view of the EHR

system's impact on effectiveness. The highest-rated item was "*The EHR system helps to enhance preventive health care, including disease surveillance and monitoring*" (M = 4.33, SD = 0.61). The item with the lowest mean, although still high, was "*The implemented EHR system allows better guideline- or protocol-based care*" (M = 4.06, SD=0.85). The overall scale mean was 4.23 (SD = 0.595), indicating strong agreement among participants that the EHR system supports and enhances effectiveness.

Table 4. Descriptive statistics of participants' responses on effectiveness

Statement	M	SD	Rank	Level
1. The EHR System is more useful in exchanging meaningful clinical information among professional healthcare teams.	4.24	.675	3	Very High

2. Using the EHR system has resulted in a positive effect on patient care and clinical services provided.	4.24	.695	3	Very High
3. The implemented EHR system allows better guidelines- or protocol-based care.	4.06	.853	7	High
4. The EHR enables health workers to generate more accurate information, facilitating better outcomes of care.	4.24	.624	3	Very High
5. The EHR system helps to enhance preventive health care, including disease surveillance and monitoring.	4.33	.613	1	Very High
6. The effectiveness of health care delivery depends on daily operation and communication between different care providers, doctors, nurses, medical residents, and other interested parties in the medical field.	4.32	.523	2	Very High
7. The EHR captures point-of-care data that informs and improves practice through quality improvement projects, practice-level interventions, and informative research.	4.22	.720	6	Very High
Overall Scale	4.234	.5958	Very High	

Note: EHR: Electronic Health Record, M: Mean, SD: Standard deviation.

Inferential Statistics

A one-way ANOVA revealed statistically significant differences attributable to the age variable in the evaluation of the EHR ($F=2.913$, $p=0.035$) (Table 5). Moreover, the results showed highly statistically significant differences ($p=0.000$) (Table 6) attributable to the years of experience variable in both patient safety and

effectiveness, indicating that experience plays a key role in shaping participants' perceptions. In contrast, the results showed no statistically significant differences attributable to gender across all measures (EHR, Patient Safety, and Efficacy). Similarly, no statistically significant differences were found attributable to educational level or EHR training in patient safety and effectiveness.

Table 5. One-Way ANOVA for differences in EHR scores by age group

Age	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.527	3	.842	2.913	.035
Within Groups	62.747	217	.289		
Total	65.273	220			

Table 6. One-Way ANOVA for differences in PS and effectiveness scores by experience

PS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.685	2	2.843	9.757	.000
Within Groups	63.514	218	.291		
Total	69.200	220			
Effectiveness	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.574	2	3.787	11.707	.000
Within Groups	70.523	218	.323		
Total	78.097	220			

Note: PS: Patient Safety

The regression analysis demonstrated strong, statistically significant associations among the study variables. A simple linear regression analysis was conducted to assess whether EHR implementation was associated with patient safety. The overall model was statistically significant, $F(1, 219) = 440.48$, $p < .001$, and accounted for a substantial proportion of the variance in patient safety scores, $R^2 = .668$ (adjusted $R^2 = .666$). These results indicate that EHR implementation provides a strong explanatory contribution to the model.

As shown in Table 7, the unstandardized coefficient for EHR use was significant ($B = .841$, $SE = .040$, $t = 20.99$, $p < .001$). The standardized coefficient ($\beta = .817$) further reflects the strength of this association, demonstrating a large predictive effect. The intercept was also statistically significant ($B = .713$, $SE = .171$, $t = 4.16$, $p < .001$). Overall, the findings demonstrate that EHR implementation is a strong and meaningful predictor of patient safety.

Table 7. Regression coefficients for predicting patient safety from EHR

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	SE	Beta		
1	(Constant)	.713	.171		4.158	.000
	EHR	.841	.040	.817	20.987	.000

Note. Model summary: $R^2=.668$, adj. $R^2=.666$, $F(1, 219)=440.48$, $P < .01$.
 B =unstandardized beta; $SE B$ =standard error; β =standardized beta.

Moreover, a simple linear regression analysis was conducted to assess whether EHR use was associated with effectiveness. The regression model was statistically significant, $F(1, 219) = 406.00$, $p < .01$, and explained a substantial proportion of the variance in effectiveness scores, $R^2 = .650$ (adjusted $R^2 = .648$). This indicates that EHR use contributes strongly to the model's ability to account for variability in effectiveness.

As shown in Table 8, the unstandardized coefficient for EHR use was significant ($B = .882$, $SE = .044$, $t = 20.15$, p

$< .001$). The standardized coefficient ($\beta = .806$) indicates a large predictive effect, demonstrating that EHR use is a powerful and meaningful predictor of effectiveness. The intercept was also statistically significant ($B = .496$, $SE = .187$, $t = 2.65$, $p = .009$), representing the expected baseline level of effectiveness when EHR use is zero. Overall, these findings indicate that EHR use plays a central role in predicting effectiveness.

Table 8. Regression coefficients for predicting effectiveness from EHR

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.496	.187		2.652	.009
	EHR	.882	.044	.806	20.150	.000

Note. Model summary: $R^2=.650$, adj. $R^2=.648$, $F(1, 219)=406.00$, $P < .01$.
 B =unstandardized beta; $SE B$ =standard error; β =standardized beta.

DISCUSSION

Electronic health records offer substantial advantages to healthcare providers, including search capabilities for immediate access, patient data processing, improved information sharing among providers, and enhanced patient safety (2,18,19). Despite these benefits, EHR implementation in hospital settings is not always optimal; integration issues can affect healthcare outcomes. In the Jordanian context, existing literature reflects a gap in understanding the impact of EHRs on healthcare quality (5,20). Therefore, this study aimed to explore the relationship between EHR implementation and both patient safety and effectiveness, which are dimensions of quality of care.

Despite expectations of varying perceptions based on demographic characteristics, the results showed no statistically significant differences between males and females across all measures. This lack of gender influence can be explained by the context of the contemporary medical environment, characterized by equal opportunities in accessing technology and similar clinical tasks between genders. Furthermore, no differences were found based on educational level in the patient safety and effectiveness.

Moreover, our results showed that no statistically significant differences were found attributable to EHR training in patient safety and effectiveness. Provides strong support for Experiential Learning Theory (21). This finding suggests that for healthcare professionals who have moved beyond the initial adoption phase, the cumulative, hands-on experience gained from daily system use overrides the comparatively superficial or concise impact of a one-time training program.

On the other hand, the results showed a statistically significant difference attributable to the age variable in the evaluation of the EHR. This could be related to the fact that older nurses have more years of experience and are more likely to use EHRs, making them more effective and knowledgeable in the "potential" of the EHR (22). In

addition, the results revealed a significant relationship between years of experience and both patient safety and effectiveness, which can be explained by learning theories and professional experience. According to Dreyfus's model of skill development, an individual progresses from a novice who relies on strict rules to an expert who possesses tacit knowledge and the ability to make clinical intuitions based on past experiences (23).

In the context of the current study, long-experienced nurses possess practical knowledge that enables them to use the EHRs more safely and effectively. In addition, the automation of routine tasks, resulting from years of practice, reduces their cognitive load, allowing them greater mental space to focus on complex decision-making and ensuring patient safety, thereby positively affecting effectiveness.

The findings demonstrated a strong explanatory relation between the implementation of electronic health records and improved patient safety. The significant effect size suggests that electronic records are a fundamental pillar in building a safe clinical environment. This could be related to the fact that EHRs have enhanced the efficiency of accessing critical patient data; this facilitates prompt, life-saving clinical interventions and reduces medication errors associated with information shortages during critical care situations.

Moreover, the current study results showed that the implementation of clinical decision support features, including reminders and alerts, has been directly associated with improved patient safety by reducing medication errors and drug-related complications. These features reduce the risk of oversight and improve human vigilance by serving as an additional safety net, which is consistent with previous studies (24–26).

EHR provides medical professionals with a wealth of opportunities, including search capabilities for immediate access, processing of patient data, improved information sharing between healthcare providers, and increased

transparency by ensuring complete and accurate records. Thereby fostering an environment of trust that enables informed decision-making based on a comprehensive medical history.

In support, EHRs have improved the accuracy, completeness, and data accessibility (27–29), which led to improved patient care outcomes. On the other hand, our study results showed a high level of agreement among nurses, which is inconsistent with Upadhyay and Hu's (2022) results regarding the data accuracy, who reported that nurses had concerns regarding data accuracy.

The findings of the current study are consistent with Tubaishat's (26) study, which reported a statistically significant positive relationship between the use of EHR systems and improvements in patient safety. Our results showed enhanced data quality and safer medication management through the EHR system. Also, consistent with Mahal Alrehaili and Zayyan Alsharqi's (17) study, which showed a statistically significant positive relationship of the EHR system on both patient safety and effectiveness with high impact levels.

While EHRs improve patient safety, they also introduce new risks related to user behavior. The current study results showed that copy and paste options on the system could jeopardize patient safety. Nurses can copy and paste data taken from patient records into other patient files; this could be data that does not relate to the patient whose record it is pasted on, or it could be data that was initially incorrect, patient safety would be in jeopardy in both situations. The current-study results were congruent with previous studies, which revealed that the copy and paste option on the EHR could jeopardize patient safety (5,30,31).

Beyond their impact on patient safety, EHRs also play a critical role in enhancing effectiveness. The findings demonstrated a strong explanatory relation between the variables. This could be related to improving the quality of communication and the exchange of clinical information among healthcare providers; EHRs enhance the effectiveness of daily operations. This seamless flow of information minimizes communication gaps and reduces the risk of delays in diagnosis or treatment. The findings of the current study are consistent with previous studies (32,33). Furthermore, electronic records support adherence to protocols and standardization of practices by leveraging their comprehensive clinical data. This data enables protocol-based care, reducing unnecessary variations in treatment approaches and thereby enhancing the quality of care.

Electronic health records have also supported preventative care and community-level disease surveillance (34), thus enhancing the long-term effectiveness of the healthcare system. Building on these quality-improving advantages, participants generally reported that the adoption of EHRs has produced a measurable positive impact on effectiveness and patient care.

The findings of the current study are also consistent with a recent systematic review and meta-analysis by Elliason (10), which provided evidence supporting the positive impact of EHRs on healthcare quality outcomes. The analysis demonstrated that EHR implementation is significantly associated with improved medication safety by reducing medication errors. Additionally, the study revealed a substantial enhancement in diagnostic accuracy associated with EHR use and a positive effect on the delivery of preventive care services. These findings collectively indicate that EHRs contribute meaningfully to both patient safety and effectiveness. On the other hand, some evidence showed a weak relationship between EHRs and patient safety (28), while others found negative effects (36).

LIMITATIONS AND RECOMMENDATIONS

This study has certain limitations. Initially, participants were chosen from just four hospitals using the convenience sample technique. As a result, they may not represent nurses' opinions of electronic health records and quality of care in other medical facilities and different sectors. In addition, the nurses were selected through convenience sampling, which restricts the extent to which the study's results can be generalized. Moreover, there is a risk of bias, as participants may have chosen responses that they viewed as socially desirable rather than expressing their true opinions. Future studies should aim to recruit larger and more diverse samples from multiple geographical areas, and should consider including other healthcare professionals, such as physicians, to enhance the breadth and applicability of the findings.

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