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The Adoption of Electronic Health Records Among Nurses in Saudi Arabia

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Introduction: The transition to Electronic Health Records (EHRs) from paper-based patient records has presented various challenges, such as coordinating care, usability of software interfaces, privacy and cybersecurity issues, new types of medication errors, and psychological distress leading to burnout and a negative user experience. Similar difficulties have been observed at a Specialized Cardiac Centre in Saudi Arabia that recently implemented new EHRs software with nurses expressing dissatisfaction towards the changes.

Objectives: This study aimed analyse the factors influencing the adoption of EHRs among nurses at a Specialized Cardiac Centre in Saudi Arabia.

Methods: A cross-sectional study was utilized to collect data from 141 clinical nurses at Specialized Cardiac Centre in Saudi Arabia that used EHRs in delivering direct patient care at inpatient, ambulatory, and specialised nurses' units from October and November 2023.

Results: The data were analysed using IBM SPSS version 24.0. The results show that 23.4% of male nurses and 76.6% female nurses were expressed their acceptance towards the adoptions of EHRs in the hospital. The regression analysis was carried out to determine the association between the EHR usability, digital competency, attitude towards technology, organisational training on perceived usefulness and perceived ease of use. The study found that factors are associated with perceived usefulness and perceived ease of use.

Conclusions: EHRs facilitate the digitalization of medical records and provide healthcare professionals with the ability to access patient data in real-time, thus improving the quality of care and reducing the likelihood of medical errors. However, the adoption of EHRs is not without its challenges. There are several factors that influence the adoption of EHRs, including the digital skills and attitudes of healthcare professionals, the functionalities of the system, and support from the organization. In conclusion, the adoption of EHRs has the potential to revolutionize the healthcare industry.

INTRODUCTION

Electronic Health Records (EHRs) have been defined by the Healthcare Information and Management Systems Society (HIMSS) as a sophisticated electronic documentation system that captures patient data from multiple encounters in various care delivery settings. This includes a wide range of information such as diagnoses, demographic details, medical histories, treatments, vital signs, diagnostic results, and progress notes (HIMSS, 2020).

The introduction of EHRs has significantly transformed the way healthcare information is recorded and accessed. This digital system has replaced traditional paper-based records, offering healthcare organisations an efficient solution for storing and managing patient data. It has also enabled healthcare providers to remotely access patient information, improving the quality of care and patient outcomes.

From the patient's perspective, EHRs offer numerous benefits that enhance the overall healthcare experience. One major advantage is the efficient access to relevant health information. Unlike traditional paper records, EHRs provide patients with the convenience of having all their health information stored in one secure digital platform (Shibu et al., 2022). This centralized access to information not only saves time but also ensures that healthcare providers have a comprehensive understanding of a patient's health status, leading to more accurate diagnoses and personalized treatment plans (Kanade & Kumar, 2021).

From an organizational perspective, the deployment of EHRs can significantly influence the operational efficiency of the healthcare system. EHRs enable the automation of existing workflows, enhance medical practices, improve adherence to clinical processes and chronic care, and promote collaboration and integration across multiple levels of healthcare organizations (Atasoy, Greenwood, and McCullough 2019). This improved practice leads to a higher standard of quality care, thus significantly reducing hospital re-admissions. Additionally, the electronic substitution of traditional paper-based operations has benefited healthcare workers by improving the communication and management of clinical information for both providers and patients.

In conclusion, EHRs have revolutionized the healthcare industry by providing an effective and efficient solution for storing and managing patient data. The benefits of EHRs extend to both patients and healthcare organizations, ultimately leading to improved quality of care and patient outcomes. As technology continues to advance, the potential for further enhancements in EHR systems remains promising, offering continued improvements in the delivery of healthcare services.

Incorporating electronic health records (EHRs) is widely recognized as essential to adapt to the rapidly changing healthcare landscape. Among the various healthcare professionals, nurses constitute the largest workforce and their effective utilization of EHRs is integral to delivering high-quality patient care (Vehko et. al, 2019). In the context of this study, nurses are considered the primary end-users of EHRs, and their experiences and feedback play a crucial role in determining the overall success of EHR adoption.

However, the transition from traditional work processes to digital documentation has brought about certain challenges. These include socio-technical issues related to care coordination, concerns about software interface and usability, privacy and cybersecurity considerations, the emergence of new types of medication errors, and the consequent psychological distress leading to burnout and negative user experiences (Abraham et al., 2020; Vehko et al., 2019). These challenges have contributed to a poor perception of meaningful use of EHRs, resulting in a slow transition towards adoption and the potential regression to outdated workflow practices (Cherif, Bezaz and Mzoughi, 2020; Kaihlanen et al., 2020).

LITERATURE REVIEW

Adoption of EHRs

Nurses are essential contributors to patient care globally, and as healthcare systems around the world continue to embrace digital health records, nurses are faced with the challenge of adapting to new methods of documenting patient care. The integration of technology into nursing practice through digital health records brings both opportunities and challenges from an international perspective of nursing professionals (Booth et. al, 2021).

While the adoption of digital health records has shown significant benefits in countries that have implemented them, such as improved patient safety, enhanced communication among healthcare providers, and increased efficiency in care delivery, the process has been slow in many regions (Cherif, Bezaz and Mzoughi., 2020; Kaihlanen et al., 2020). Limited resources, inadequate technological infrastructure, and legal and policy barriers have

hindered the widespread adoption of digital health records in healthcare systems globally.

Nurses play a pivotal role in the implementation and utilization of digital health records, as they are responsible for documenting patient care, monitoring patient progress, and facilitating communication among healthcare providers (Vehko et. al, 2019). Therefore, it is imperative that nurses receive comprehensive training in using digital health records and have access to ongoing support and education. Additionally, the use of digital health records raises concerns about data privacy and security, necessitating that nurses are well-informed about the legal and ethical implications of accessing and sharing patient information, and are compliant with relevant policies and regulations.

The adoption of digital health records presents both opportunities and challenges for nurses on a global scale. Adequate training, ongoing education, and awareness of legal and ethical implications are essential to fully realize the benefits of digital health records while ensuring patient privacy and security (Tharenou, Saks, & Moore, 2007).

Perceived Usefulness

Perceived usefulness plays a vital role in the adoption of technology, particularly within the healthcare industry. It refers to the perception that utilizing a specific system will enhance job performance within an organizational context. The more useful a technology is perceived to be, the more likely it is to be adopted by healthcare organizations. In the context of electronic health records (EHRs), nurses are more inclined to adopt them if they perceive them as beneficial and helpful in their daily workflow.

Numerous studies have underscored the significance of perceived usefulness in technology adoption. Research by Shudayfat et al. (2020), Aldosari (2014), and Seligman (2001) has demonstrated that perceptions of user-friendliness can significantly influence practitioners' intention to adopt technology. Factors such as improved access to patient information, streamlined documentation processes, and enhanced communication within the healthcare team shape this decision-making process.

The adoption of EHRs can substantially enhance nursing practice by promoting efficiency and reducing the administrative burden. With access to a patient's complete health history, nurses can make more informed decisions about the appropriate course of treatment, ultimately leading to improved patient outcomes and reduced medical errors (Alhur, 2023). Furthermore, EHRs enable nurses to analyze vast amounts of patient data, allowing for the identification of trends and patterns that can inform evidence-based practice. Additionally, they facilitate communication and collaboration among healthcare professionals, contributing to the quality and continuity of care, especially in interdisciplinary settings where multiple healthcare professionals are involved in patient care (Tubaishat 2018).

By leveraging EHR data, nurses can contribute to the growing body of nursing knowledge and research. They can identify gaps in practice, evaluate the effectiveness of interventions, and generate evidence to inform nursing education and professional development (Tsai et al. 2019; Arkorful et al., 2020). By recognizing the benefits and opportunities that these systems offer, nurses can not only improve their own workflow but also contribute to enhanced patient care, informed decision-making, and the advancement of nursing knowledge and research.

Perceived Ease of Use

Perceived ease of use (PEOU) is a crucial factor in determining an individual's willingness to adopt and utilize a specific technology. It reflects the subjective expectation of how effortless or challenging it would be for the user to employ a given technology. In the context of Electronic Health Records (EHRs), PEOU signifies the level at which nurses anticipate that using EHRs will be uncomplicated and require minimal effort.

The Technology Acceptance Model (TAM) places significant emphasis on PEOU as it represents an individual's perception of the effort and simplicity required to use a particular technology. According to TAM, PEOU significantly affects the Perceived Usefulness (PU) of technology, consequently influencing the user's attitudes, satisfaction, and intention towards its usage. Research indicates that if users do not find a system useful and easy to utilize in performing tasks within their intended work environment, system acceptance will be adversely affected. Therefore, technologies that are relatively straightforward to integrate into task performance in the targeted work setting will positively influence people's attitudes and intentions toward using such technologies.

A study conducted in Jordan utilizing TAM to determine the level of PEOU of EHRs among nurses

found that nurses' PEOU, along with PU, significantly influenced nurses' acceptance of EHRs. Nurses' acceptance and use of EHRs in healthcare settings are influenced by their familiarity, experience, and skills with the technology, thus impacting their PEOU (Tubaishat, 2017). The findings indicate that nurses are more inclined to accept and utilize EHRs in their work when they view them as easy to use. As a result, the PEOU plays a significant role in shaping the adoption of EHRs by nurses within healthcare environments.

A high level of PEOU can lead to enhanced communication that contributes to better patient outcomes. A study by Watterson et al., (2020), investigating how the ease of using EHRs affects relational coordination among primary care team members revealed a positive correlation between the perceived ease of EHRs use and RC among members of primary care teams. Specifically, an increase in ease of EHRs use corresponded to a rise in RC scores, indicating that when primary care team members perceive EHRs as easy to use, they are more inclined to effectively communicate and coordinate their tasks, ultimately leading to improved patient outcomes.

From a local perspective, a recent study conducted by Alhur (2023), found nurses' perceptions of the usefulness of EHRs through the application of TAM and found that nurses perceive the implemented EHRs as relatively easy to use. PEOU strongly correlated with the acceptance of EHRs among nurses in clinical practice. This study provides valuable perspectives on EHRs from nurses, which could benefit the adoption and integration of EHRs in healthcare facilities within Saudi Arabia.

Perceived ease of use plays a pivotal role in shaping individuals' attitudes and intentions towards technology adoption, particularly in healthcare settings where effective communication and coordination are essential for delivering high-quality patient care. As such, efforts to enhance the perceived ease of use of EHRs among healthcare professionals can potentially lead to improved patient outcomes and overall healthcare quality.

Usability of EHRs

The usability of Electronic Health Records (EHRs) is a critical factor in the adoption and successful implementation of these systems by nurses. According to the International Organization for Standardization, usability is defined as the development of products that consider the needs and preferences of users, emphasizing ergonomics and employing objective techniques. It is essential that the design process of EHRs integrates various aspects of product creation to ensure that the end result is tailored to the intended audience (de Almeida, 2016).

Nurses, as primary consumers of EHRs, are significantly affected by the design and technical aspects of EHR software (Hypponen et al., 2017; Vehko et al., 2019; DeGroot, 2020; Kaihlanen, 2020). Research conducted in Finland reported that poor integration of information systems resulted in redundant charting within a system with multiple screens, posing a prominent usability issue (Hypponen et al., 2019). Additionally, nurses experience time pressure when unable to complete EHR-related tasks within the allotted time period, which can lead to stress and affect documentation accuracy (Vehko et al., 2019).

An integrative review highlighted that nurses expressed dissatisfaction and anxiety related to the usefulness of technology, emphasizing that technical issues with software and devices used by nurses can nullify benefits in patient care and pose a risk to patient safety (Brown et al., 2020). Moreover, concerns about patient safety were raised by nurses due to poor usability of EHRs (Akhu-Zaheya et al., 2018).

Digital Competency

The integration of digital tools and technologies in the field of nursing has become increasingly vital for efficient healthcare delivery and improved patient outcomes. Nurses rely on digital resources such as telephones and computers to document patient data, access scientific literature, and communicate with patients and other healthcare professionals. These digital capabilities play a critical role in enhancing the quality of care provided to patients and enabling nurses to work more effectively and efficiently (de Almeida et al., 2016).

Digital capability among nurses encompasses the skills, knowledge, and attitudes required to effectively use digital technologies, including navigating electronic health record (EHR) systems and utilizing telemedicine platforms for virtual consultations (Brown et al., 2020). However, studies have indicated that nurses' proficiency in digital technologies is often lacking (e Maria et al., 2023). This deficiency can have significant implications for nurses' work and patient outcomes, leading to potential delays in care,

medication errors, and challenges in staying up to date with evidence-based practices (e Maia et al., 2023; Brown et al., 2020).

To address this issue, it is crucial for nursing education programs to prioritize the integration of digital health assessment, diagnostics, information management, and communication technologies into their curricula (Nes et al., 2021). Ongoing professional development and training programs focused on building nurses' knowledge and skills in using digital tools and technologies are essential. Additionally, frameworks of capabilities in using digital health developed by institutions such as the Australian Digital Health Agency and the National Health Service can guide the design of training programs tailored to the specific needs of nurses (Australasian Institute of Digital Health, 2023).

Furthermore, the development of critical thinking skills in relation to digital health is paramount for nurses to critically evaluate and analyze information provided by digital technologies, enabling them to make well-informed decisions and provide safe and effective care to their patients (van Laar et al., 2020). The integration of digital technologies in nursing care also presents opportunities for nurses to overcome internal challenges, streamline workflow, and address current healthcare system challenges such as a shortage of qualified nurses and the rising need for long-term care (Liu et al., 2023).

Organizational Training

In today's healthcare landscape, the digitalization of healthcare settings has become imperative for the health workforce to adapt and thrive in a technology-enabled environment. Healthcare professionals are increasingly expected to develop their digital proficiency in terms of capabilities, skills, and attitude in order to effectively operate and utilize digital technologies in their clinical practice.

Traditionally, healthcare workers have not been extensively trained in digital skills. With the rapid growth of digital healthcare, training programs need to be established in order to upskill the existing workforce. One area that requires attention is the efficient and accurate usage of telehealth software. As telemedicine platforms become an integral part of healthcare delivery, healthcare workers need to be trained not only on the technical aspects of using these platforms but also on how to establish patient rapport through virtual mediums.

Organizational training can play a pivotal role in equipping healthcare workers with the necessary skills and knowledge to navigate the digital landscape effectively. Training programs should cover a wide range of digital skills, including telehealth software usage, data security and privacy protocols, virtual communication techniques, and the ability to evaluate and adopt new digital technologies. Moreover, training should not be limited to technical skills alone but also encompass the development of a positive attitude towards digital healthcare.

Healthcare organizations should invest in training programs that focus on digital skills to ensure their workforce is equipped to provide high-quality care and meet the expectations of digitally savvy healthcare consumers. This can include fostering a mindset of adaptability and continuous learning in relation to digital technology, as well as emphasizing the importance of patient-centered care in a technology-enabled environment.

By providing adequate training in digital skills, healthcare organizations can enhance the overall efficiency and effectiveness of their workforce. Additionally, healthcare professionals must be able to evaluate digital treatment approaches and reflect on their attitudes towards digital healthcare. Research has shown that healthcare organizations, including pharmacies, need to adopt a structured training approach and development standards for their workforce when it comes to digital technology. Lack of structured training creates barriers for healthcare professionals to effectively integrate digital technologies into their practice and limits the potential benefits they can provide to patients.

Attitude towards Technology

The assessment of users' initial attitude toward a technology is a crucial factor in predicting the likelihood of its adoption. This attitude is considered a variable that influences the rate of innovation adoption (Jahanmir, 2018). In the context of healthcare, the attitudes of nurses toward the use of Electronic Health Records (EHRs) play a pivotal role in the successful engagement and adoption of this technology in healthcare settings (Kossman & Scheidenhelm, 2008).

Nurses' attitudes toward EHRs can significantly impact their willingness to fully embrace and utilize this technology, as well as the overall effectiveness and efficiency of their work processes. Addressing the concerns, frustrations, and preferences of nurses

regarding EHRs is essential for optimizing their usage and enhancing the overall quality of patient care (Schenk et al., 2016).

Motivation, as highlighted by Kwateng, Appiah, and Atiemo (2019), also plays a crucial role in the adoption and use of health information systems. This motivation involves the drive to participate in an activity for the pleasure or enjoyment it brings. In the context of adopting health information systems, motivation encompasses the satisfaction and enjoyment that healthcare staff experience when using the system, including its ease of use, accessibility of information, and overall user experience.

Moreover, qualitative research by Jarva et al. (2022) indicates that self-perception of digital health competence can affect the likelihood of technology utilization among healthcare professionals. Healthcare professionals may be hesitant to use digital health solutions if they feel incompetent in a specific area, potentially hindering their capacity to deliver high-quality care. Perceptions can impact the approach of healthcare professionals to learning and development, as those who perceive a lack of competence are more inclined to pursue training and educational opportunities to enhance their skills.

It is important to note that the influence of age on nurses' attitudes towards electronic medical records was not found to be significant, and most literature reports an overall positive attitude towards technology adoption among nurses (Tissera et al., 2021). Understanding and addressing the attitudes, motivations, and perceptions of healthcare professionals are essential for successful technology adoption and utilization in healthcare settings. By considering these factors, healthcare organizations can effectively implement digital innovations and ultimately improve patient care outcomes.

METHODS

The research study was carried out at the Specialized Cardiac Centre in Riyadh, Kingdom of Saudi Arabia. The centre, which has 184 beds, serves as a pivotal healthcare institution in the region. A total of 141 nurses from various departments including Ambulatory Care, Medical Surgical, Critical Care, Operating Room, and Cardiac Cath Lab took part in the study. It is important to note that these departments had already implemented the Electronic Health Record (EHR) system at the time of data collection.

The study followed a cross-sectional design, and the data collection tool used was a self-administered questionnaire. Prior approval for conducting the study was obtained from both the hospital (IRB Approval No. 1682) and IMU University (4.1/JCM-274/2023), ensuring compliance with ethical guidelines.

Prior to main data collection, the questionnaire was pilot tested by 15 nurses within the hospital. No changes were deemed necessary following this pilot test. Data collection took place between October and November 2023, during which confidentiality of the information provided by the participating nurses was strictly maintained. The study utilized a convenience sample of nurses who were using the EHR system and available during the data collection period.

The questionnaire used in the study aimed to gain insights into individual perceptions regarding the adoption of EHRs. Respondents were asked to express their level of satisfaction in response to each statement or item using a 5-point Likert scale ranging from "strongly agree" to "strongly disagree". It is worth noting that the questionnaire items were adapted from previous research studies, ensuring a comprehensive and validated approach to data collection.

RESULTS

Descriptive Analysis

A descriptive analysis was performed to provide a general background of the respondents participating in this study. The focus is given on the gender, age, educational level, department and experience using EHRs.

Table 1 summarizes the respondent profile. The majority of the respondents were female (76.6%), as compared to male respondents (23.4%). The majority (62.4%) of the respondents aged between 31 to 40 years old. and majority of the respondents had bachelor degree (87.9%). The findings revealed that respondents are from Medical Surgical (36.9%), Critical Care (27.7%), Ambulatory Care (17.7%), Operating Room (10.6%) and Cardiac Cath Lab (7.1%). In relation to experience in using EHRs, data shows 41.8% of respondents have more than 5 years' experience, 1 to 5 years (38.35), 3 months to 1 year (12.8%), Less than 3 months (5.7%) and 2 respondents (1.4%) have no experience using EHRs in the hospital.

Table 1: Profile of Respondents

Demographics	Description	Frequencies (N = 141)	Percentage (%)
Gender	Male Female	33 108	23.4 76.6
Age	20-30 years 31-40 years 41-50 years 51-60 years	17 88 24 12	12.1 62.4 17 8.5
Level of Education	Diploma Bachelor's Degree Master's Degree	12 124 5	8.5 87.9 3.5
Department	Ambulatory Care Medical Surgical Critical Care Operating Room Cardiac Cath Lab	25 52 39 15 10	17.7 36.9 27.7 10.6 7.1
Experience in Using EHRs	No experience Less than 3 months 3 months to 1 year 1 to 5 years More than 5 years	2 8 18 54 59	1.4 5.7 12.8 38.3 41.8

Factor Analysis

Kaiser-Meyer-Olkin measure of sampling adequacy between 0.602 - 0.771, above the commonly recommended value of 0.60, and Bartlett's test of sphericity was significant for all variables. Internal consistency for each of the scales was examined using Cronbach's alpha and range between 0.880 and 0.917. All items in this analysis had primary loadings over 0.5. Given these overall indicators, factor analysis was deemed to be suitable with all items.

Table 2: Factor Analysis

Construct	Loading	Kaiser-Meyer-Olkin (KMO)	Cronbach Alpha
Usability of EHRs	0.778 - 0.910	0.763	0.903
Digital Competency	0.712 - 0.885	0.602	0.856
Attitude towards Technology	0.606 - 0.912	0.673	0.885
Organizational Training	0.759 - 0.814	0.617	0.880
Perceived Usefulness	0.808 - 0.940	0.771	0.917
Perceived Ease of Use	0.653 - 0.929	0.742	0.905
Adoption of EHRs	0.716 - 0.828	0.617	0.912

Hypothesis Testing

Based on the results from regression analysis in Table 3, four independent variables studied are statistically significant at 5% levels. The variables that are significant are usability of EHRs, digital competency, attitude towards technology and organizational training towards perceived usefulness with the magnitude of the coefficients 0.1724, 0.260, 0.171, and 0.263, respectively. The results from regression analysis also revealed that four independent variables are significantly influence perceived ease of use.

The adoption of electronic health records among nurses in Saudi Arabia is significantly determined by perceived usefulness and perceived ease of use. Out of these four independent variables, organizational training is expected to have the highest impact on perceived usefulness and perceived ease of use, while attitude towards technology is the lowest on perceived usefulness and digital competency on perceived ease of use.

Table 3: Regresion Analysis

Hypothesis	Path	Path Coefficient	Std Error	t-Value
H1	USE → PU	0.174	0.070	2.299
H2	USE → PEOU	0.224	0.070	3.308
H3	DC → PU	0.260	0.071	3.623
H4	DC → PEOU	0.184	0.073	2.523
H5	ATT → PU	0.171	0.062	2.755
H6	ATT → PEOU	0.277	0.067	4.163
H7	OT → PU	0.263	0.055	4.810
H8	OT → PEOU	0.376	0.059	6.314
H9	PU → EHR	0.340	0.054	0.367
H10	PEOU → EHR	0.790	0.025	3.214

Note:
USE - Usability of EHR; DC - Digital Competency; ATT - Attitude towards Technology; OT - Organizational Training; PU - Perceived Usefulness; PEOU - Perceived Ease of Use; EHR - Adoption of EHR

DISCUSSION

The usability of EHRs systems has been identified as a critical factor that affects the Perceive Usefulness (PU) of these systems. The usability of EHRs can be improved through various design elements such as user-interface design, system responsiveness, and customization to meet specific organizational needs and workflow. Studies have shown that tailoring EHRs to meet organizational needs and involving clinical nurses in designing and customizing interfaces can enhance their PU (Rajkomar et al., 2018). From the Electronic Health Records (EHRs) systems play a significant role in modern healthcare delivery, and

their successful adoption by nurses is crucial for improving patient care and enhancing the efficiency of healthcare professionals. The usability of EHRs has been identified as a critical factor that affects the Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) of these systems. Various design elements such as user-interface design, system responsiveness, and customization to meet specific organizational needs and workflow have been shown to enhance the usability of EHRs. Studies have demonstrated that tailoring EHRs to meet organizational needs and involving clinical nurses in designing and customizing interfaces can significantly enhance their PU (Rajkomar et al., 2018). Furthermore, from the perspective of PEOU, intuitive design, ease of navigation, and user-friendly features are crucial for the effective use of EHRs by nurses. It is evident that the usability of an EHRs system is a key factor that can significantly impact the quality of patient care and the efficiency of healthcare professionals. However, it is important to balance usability with other critical factors such as functionality and security. Improving EHRs usability through design elements such as user-interface design, system responsiveness, and customization can enhance the PU of EHRs. Nonetheless, it is important to address EHRs usability issues to ensure patient safety and overall system effectiveness.

The perception of EHRs usefulness is also influenced by the digital skills of nurses. The proficiency of nurses in using technology, navigating software, and handling digital interfaces directly impacts the ease of using EHRs (Kowitlawakul et al., 2018). Therefore, continuous education and training programs are essential to enhance nurses' digital skills and promote a culture of innovation and change within healthcare organizations.

Furthermore, the attitude towards technology is an important factor in the adoption of EHRs in healthcare. While some researchers argue that negative attitudes towards technology hinder the adoption of EHRs, others suggest that acceptance and openness towards technological advancements influence the willingness to embrace EHRs. As noted by Davis et al. (1989), acceptance and openness towards technological advancements influence the willingness to embrace EHRs. Additionally, the use of gamification strategies has been found to be effective in promoting user engagement and enhancing nurses' perception of ease of use of EHRs.

Organizational training has been considered a crucial factor that influences nurses' PU and PEOU of EHRs. However, it is important to note that training alone is not sufficient to ensure successful EHRs adoption. Other factors such as EHRs design, workflow integration, and organizational culture also play a critical role in enhancing EHRs adoption among nurses.

In conclusion, while PU and PEOU are two key factors that influence the adoption of EHRs among nurses, other factors such as the complexity of the EHRs system and the lack of training and support can also influence adoption. Healthcare organizations should focus on providing adequate training and support to nurses to improve their user experience and ultimately improve the adoption of EHRs within healthcare organizations.

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