The Influence of Technology on Modern Nursing Practices

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Abstract

As a result of the incorporation of cutting-edge technologies into nursing practice, the landscape of healthcare delivery has been greatly altered, with an increased emphasis placed on effectiveness, precision, and enhanced patient outcomes. This research investigates the ways in which technology breakthroughs such as telemedicine, digital tools, and other innovations have influenced contemporary nursing. Using a wide variety of sources, it examines the advantages, disadvantages, and ethical concerns that are involved with this transition. Moreover, it explores how nurses perceive and adjust to these developments, underlining the crucial need for continued education and skill development. Moreover, it highlights the importance of continuing education. These findings add to a better understanding of how nursing professionals might utilize technology to improve care while yet preserving the humanistic nature of the profession.

Keywords

Nursing technology, digital nursing, telemedicine in nursing, modern healthcare practices, nursing care advancements, patient care efficiency, nursing education and technology, ethical challenges in nursing, technological adaptation in nursing, and humanistic nursing practices.

الملخص

نتيجه لدمج التقنيات المتطورة في ممارسة التمريض، تغير مشهد تقديم الرعاية الصحية بشكل كبير، مع التركيز المتزايد على الفعالية والدقة وتحسين نتائج المرضى. يبحث هذا البحث في الطرق التي أثرت بها التحولات التكنولوجية مثل التطبيب عن بعد والأدوات الرقمية والابتكارات الأخرى على التمريض المعاصر. باستخدام مجموعة واسعة من المصادر، يدرس المزايا والعيوب والمخاوف الأخلاقية التي تنطوي عليها هذه التحولات. علاوة على ذلك، يستكشف كيف يدرك الممرضون هذه التطورات ويتكيفون معها، ويؤكد على الحاجة الحاسمة للتعليم المستمر وتطوير المهارات. علاوة على ذلك، يسلط الضوء على أهمية التعليم المستمر. تضيف هذه النتائج إلى فهم أفضل لكيفية استفادة المتخصصين في التمريض من التكنولوجيا لتحسين الرعاية مع الحفاظ على الطبيعة الإنسانية للمهنة.

الكلمات المفتاحية

تكنولوجيا التمريض، التمريض الرقمي، التطبيب عن بعد في التمريض، ممارسات الرعاية الصحية الحديثة، تقدم رعاية التمريض، كفاءة رعاية المرضى، تعليم التمريض والتكنولوجيا، التحديات الأخلاقية في التمريض، التكيف التكنولوجي في التمريض، وممارسات التمريض الإنسانية.

Introduction

From software that saves time to equipment that saves lives, nursing technology is important for improving care and outcomes for patients, fostering innovation in nursing, and ensuring safety. With today's technology, nurses can improve teamwork, simplify processes, and handle more work. The best thing about nursing technology is that it gives nurses more time to spend with patients and get them involved in their treatment and care. Nursing is one of many fields in healthcare that is being changed by technology. From Skype to electronic health records, these digital tools are changing how nurses care for patients and making things better for them. This piece talks about the different digital tools nurses use every day and how technology is changing the way they care for patients from the time they are diagnosed to the time they are well again (Barnard, 2023). In the context of the continuously changing environment of healthcare, the significance of the function that technology plays in nursing has grown increasingly important. Technological advancements are transforming the ways in which nurses connect with patients, coordinate care plans, and traverse complex healthcare systems. These advancements include digital nursing tools and telemedicine platforms. The incorporation of these technological improvements not only results in an increase in productivity, but it also brings about a number of obstacles, including ethical conundrums and the requirement for specialized training. While there are those who believe that the use of technology could potentially undermine the compassionate nature of nursing, there are others who highlight the potential of technology to improve the delivery of care and the outcomes for patients. The purpose of this research is to investigate the myriad ways in which technology has influenced nursing, specifically focusing on the ways in which contemporary tools can either assist, empower, or challenge nursing practitioners in their day-to-day work. With the goal of providing a thorough understanding of the role that technology will play in the future of nursing, this research endeavors to address both the benefits and the obstacles that will be presented.

Research Significance

The integration of technology in nursing practice has revolutionized healthcare, making this research particularly significant. By examining the benefits of modern tools such as electronic health records (EHRs), telehealth platforms, and digital monitoring devices, the study highlights how these advancements enhance patient care, streamline workflows, and reduce errors. Additionally, this research sheds light on the importance of maintaining compassionate care alongside technological proficiency, offering valuable insights for nursing educators. These findings can support the development of comprehensive training programs that balance technical skills with interpersonal attributes. Furthermore, the study addresses broader policy implications by identifying strategies for implementing technologies in ways that prioritize ethical practices and patient-centered outcomes. Ultimately, this research contributes to a holistic understanding of the opportunities and challenges presented by modern technology in nursing, guiding practitioners, educators, and policymakers toward sustainable advancements in healthcare.

Research Limitations

While this research provides valuable insights into the role of technology in nursing, it is subject to certain limitations. One notable constraint is the geographic focus, as the study may primarily consider technological advancements in regions with well-established healthcare systems, potentially limiting its applicability to underserved or less technologically advanced areas. Additionally, given the vast range of technologies used in nursing, the research scope may not comprehensively address every tool or system, narrowing the depth of analysis. The rapid evolution of healthcare technology poses another challenge, as findings may quickly become outdated with the introduction of newer innovations. Lastly, the study might not fully capture the diverse cultural and institutional contexts that influence how nurses experience and integrate technology, limiting the generalizability of its conclusions. Addressing these limitations in future research could provide a more inclusive and dynamic understanding of the topic.

Research Questions

1. How has the integration of modern technology impacted the quality and efficiency of nursing care?

2. What are the primary benefits of using digital tools in nursing practice?

3. What challenges and ethical concerns arise from the reliance on technology in nursing?

4. How can nursing education balance technological proficiency with the preservation of compassionate care?

Definitions of the Research

Modern Technology in Nursing: Refers to the use of advanced digital tools, systems, and devices such as electronic health records (EHRs), telehealth platforms, wearable health devices, and artificial intelligence (AI) in nursing practice to enhance patient care and streamline operations.

Compassionate Care: The emotional and psychological support nurses provide to patients, focusing on understanding their needs, fostering trust, and maintaining a human connection during treatment.

Digital Nursing: A concept encompassing the use of digital tools and technologies to assist in nursing duties, enhance workflow, and support evidence-based practices.

Literature review

Use of digital tools in nursing

There are many digital tools that nurses use every day. Some of the most popular are electronic health records (EHR), telemedicine, and mobile health apps. EHRs make it easier to coordinate care for patients, make care more accurate, and lower costs. Telemedicine, on the other hand, lets healthcare be provided from a distance, especially for patients in faraway places. Mobile health apps are also helpful for nurses because they give them quick access to information about medications, tools for

figuring out dosages, and materials for ongoing education (Smith et al., 2024).

Technology in Nursing: How Electronics Are Changing the Field

EHRs stand for electronic health records

EHRs are the first step toward digitizing healthcare. They make it easy to record, store, and share information about patient care. Using an EHR makes it easier to coordinate care for patients, improves accuracy, and lowers the cost of healthcare. With an EHR, you can view a patient's record from anywhere, so you don't have to move records by hand.

Telemedicine

Telemedicine is another digital tool that lets you give medical care from afar. You can use digital tools to test, diagnose, and treat patients. Telemedicine lets you keep an eye on your patients' vital signs, have video appointments, and make sure they get the care they need after the consultation. It also makes it easier for people who live in rural areas or have trouble moving around to get medical care. There are many telehealth apps, videoconferencing tools, and patient access programs that can be used to help with telemedicine services (Rubeis, 2021). Because of the development of telemedicine, it is now possible to monitor patients remotely, which alleviates the administrative load of having to schedule and travel for in-person consultations. In addition, patients benefit from telemedicine because it eliminates the need for travel and the associated costs. A further streamlining of administrative work will be made possible by the ongoing development of technology, which will free up even more of your time to devote to providing direct patient care. As a result, it is absolutely necessary to maintain a level of familiarity with the most recent technological developments in the industry (Pepito et al., 2019).

Health apps for mobile devices

As the number of people who own smartphones grows, health apps for phones have become important tools. As an RN, you might use apps to find information about medications, figure out dosages, or get to tools for continuing your education. Some hospitals have even made apps that allow health workers to talk to each other and share information in real time.

Systems that help doctors make decisions

Applications that use artificial intelligence (AI) and clinical decision support systems (CDSS) help nurses make decisions. CDSS tools look at information about patients and make tips on how to diagnose or treat them. This lowers the chance of mistakes and improves patient safety. It can be hard to switch to digital tools, but they are very helpful for improving efficiency, accuracy, and the standard of patient care. As a nurse, you need to use these new tech tools to give the best care possible. When using digital tools, remember that keeping patient information safe is the most important thing. Make sure your methods follow HIPAA rules (Rani, 2022).

What technology means for patient care

Technology has made patient care better by allowing for more accurate diagnoses, better planning and delivery of treatment, and more ways to heal. Electronic health records (EHRs), telemedicine, and mobile health apps have changed the way healthcare is provided, making it more efficient and better for patients (Al Harbi et al., 2024).

EHRs stand for electronic health records

The use of electronic health records (EHRs) is one of the most important technical advances in healthcare. They store all the important information about a patient in one place so that any healthcare worker working on that patient's care can get to it. This helps keep people from misunderstanding each other and making mistakes, which ultimately improves patient safety. On top of that, EHRs make it easier and more reliable to make diagnoses. In the past, doctors had to look through paper notes by hand to figure out what was wrong. Anyone who needed to see these records had to go to the office and do it in person, which often caused delays. With EHRs, doctors can get fast access to all of a patient's information, which helps them make a diagnosis more quickly (Purkis, 2018).

Enhanced Mode of Treatment

Improvements in technology have not only made the diagnostic procedure more effective, but they have also made treatment planning and delivery more efficient. Imaging capabilities that are more advanced, for example, make it possible for medical practitioners to view images of the interior of the body that are of a high resolution and three-dimensionality. This makes it easier to have a more detailed picture of the patient's condition, which in turn makes it possible to devise a treatment plan that is far more specific (Alotaibi et al., 2024). In addition, telehealth offers a fresh approach to the delivery of medical care to patients. Those who suffer from chronic diseases are able to obtain medical attention in the convenience of their own homes by means of video calls and other remote monitoring methods. This eliminates the need for patients to make unneeded trips to the hospital.

Getting Better and the Results

The recovery environment is also being altered by technology, especially as a result of the proliferation of telemedicine

providers. Through the use of this technology, you are able to remotely monitor the state of your patient, which allows patients to take responsibility for their own rehabilitation while also freeing up resources for the hospital. Technologies such as wearable devices and home monitoring tools also make it possible to continuously monitor patients after they have been discharged from the hospital. This allows for quick intervention in the event that the patient's health worsens (Bagherian et al., 2017). For the most part, there is no room for debate regarding the influence that technology has on the enhancement of patient care. These technological developments are altering the healthcare industry, leading to improved patient outcomes and increased efficiencies in the delivery of treatment. These advancements include the incorporation of electronic health records (EHRs) as well as the introduction of telehealth and remote monitoring technology.

Education and Training in Nursing with Regards to Technology

Technology has brought about a revolution in nursing education and training by providing opportunities for online learning and simulation technology that replicates situations that they would encounter in real life. With the use of these digital technologies, nurses are able to experience a risk-free learning environment in which they may perfect their abilities and practice without placing patients in danger. Technology enables nurses to get training at their own pace and at their own leisure, which eventually results in an improvement in the quality of care provided to patients.

Learning Through the Internet

As a result of the proliferation of technology in the field of education, nursing students are now able to participate in nursing programs from the convenience of their own homes or from any other location of their choosing. The use of online learning platforms has become increasingly common, and these platforms offer a versatile learning environment that can be adapted to suit around your schedule. These online programs allow you to access course materials, video lectures, assignments, and quizzes whenever you choose, which is a helpful feature, particularly if you are attempting to balance your studies with other commitments, such as those in your personal life or in your professional life. Interactive forums also offer a platform for peer interaction and conversation, which helps to cultivate a compelling learning environment despite the fact that participants are physically separated from one another.

Online learning, on the other hand, involves a large amount of self-direction, thus it is essential to remember the significance of maintaining self-discipline and self-motivation. Technology Used in Simulation The use of advanced simulation (SIM) technology is now an essential component of the nursing education process. Simulation labs offer a learning setting that is both realistic and secure, allowing students to practice a variety of nursing operations and clinical scenarios.

A good illustration of this would be the ability of high-fidelity mannequins to simulate real-life scenarios, such as labor pangs or heart attacks. It is possible to refine skills, enhance critical thinking, and improve decision-making abilities through the use of these simulations, all of which are carried out in a controlled and secure environment, where mistakes are transformed into learning opportunities rather than potentially fatal accidents. It is important to keep in mind that simulation technology is not a substitute for genuine experiences and interactions in the actual world. As an alternative, it prepares you to handle a variety of clinical settings with enhanced confidence and competence when you begin your clinical rotations.

Striking a Balance Between Human Interaction and Technology in Nursing, as we go farther into the digital age, the problem of preserving the human element of nursing while also integrating technology into the routine care of patients is a very real. Making a connection with patients on a human level is an essential part of being a nurse. Being a nurse is about more than just managing data or doing medical procedures. Through the utilization of efficient communication skills, empathic patient contacts, and responsible utilization of technology, it is possible to strike a balance between the human touch and the technological aspect of the practice.

Methods for Overcoming the Digital Divide

The patient-centered approach to care should not be replaced by technology in nursing, despite the fact that technology has a place in the field. There is a possibility that digitization will make knowledge more accessible; but, it does not contain the emotional intelligence that you do as a nurse. Utilize technology as a tool to improve the quality of care you provide to patients rather of allowing it to dictate how you engage with them.

When working with electronic health records (EHR) or other digital technologies, it is important to remember to keep eye contact as much as possible throughout interactions. This straightforward action has the potential to make a patient feel as though they are being listened to and cherished. Patients should never feel ignored or puzzled when you use a digital device; instead, you should always explain what you are doing on the device.

Empathy Enhancement Through the Use of Technology

Technology has the potential to in fact improve empathy and comprehension when it is utilized appropriately. It is possible that the use of digital tools will make it simpler to communicate and depict information that is difficult to comprehend when it is explained verbally. By way of illustration, presenting a patient with the results of an X-ray or scan on a tablet and discussing the findings in a calm manner can assist the patient in better understanding their medical condition. Maintaining an up-to-date knowledge of any technology breakthroughs is essential. Always keep in mind that you must maintain a healthy balance with your empathy, which is an essential talent in nursing. You have the ability to convey comfort to your patients through your touch, your words, and your professional demeanor that is filled with kindness.

In the field of nursing, data management and privacy

You need to be adept in managing patient data using a variety of technologies in order to work in the modern healthcare setting, which is increasingly digitized. The usage of electronic health records, sometimes known as EHRs, is a somewhat popular practice. The patient's medical history, treatment plans, prescriptions, and test results are all stored in a single, easily accessible area within these digitized versions of the patient's chart. This makes it possible for all of the healthcare providers who are involved in the treatment of a patient to deliver care that is more efficient and coordinated.

On the other hand, the abundance of digital information brings with it the urgent requirement for rigorous data protection and confidentiality precautions. If you are a nurse, you are required to comply with the Health Insurance Portability and Accountability Act (HIPAA), which dictates the rigorous confidentiality and security of information pertaining to healthcare. If you do not comply with the regulations, you may face severe consequences, both legally and professionally (Barnard, 2020).

Maintaining the Confidentiality of Every Patient

There are a number of different ways that privacy and confidentiality can be safeguarded in this age of digital technology. One approach is known as access control, which restricts the viewing and interaction of sensitive patient data to just those persons who have been permitted to do so. It is required of you to keep this information secure, and you should have a user ID and password that are completely unique to you (Fresku et al., 2022).

Another practice that is absolutely necessary is the encryption of data, particularly when it comes to the exchange of sensitive health information between organizations or providers of healthcare. Through the use of encryption, the data is protected from being interpreted by anyone who does not possess the correct decryption key (Bruce, 2023). In addition, the maintenance of robust cybersecurity measures helps prevent cybercrime and hacking, which is becoming an increasingly prevalent problem in the healthcare industry due to the large amount of sensitive data that is held in healthcare systems. It is important to remember that the rule "only access what you need to know" applies in every circumstance that involves patient information. Under no circumstances is it considered suitable to access the information unless it is absolutely necessary for the care of the patient. Despite the fact that this may appear to be limiting, it is an essential component of preserving confidence and protecting the privacy of patients (Friganović, 2019). Keep in mind that your duty as a nurse does not solely consist of utilizing technology to enhance the care that you provide to patients. Additionally, it encompasses the protection of the personal information of your patients against any potential breaches or misuses in a society that is becoming increasingly dependent on digital technologies (Mohammed, 2018). Technology's Contribution to the Streamlining of Administrative Tasks in the Nursing Profession, in the field of nursing, one of the most important areas where technology plays a significant role is in the improvement of administrative processes. From a traditional standpoint, nursing administration is characterized by a high level of paperwork, which consumes a considerable amount of time that could have been allocated to providing direct patient care. Technology, on the other hand, has made it possible to find answers to these problems. (EHRs) stands for electronic health records as one of the most significant ways in which technology has simplified nurse management is through the utilization of electronic health records, also known as EHRs. Electronic health records have taken the role of paper charts, making it much simpler for you to access and update the health information of your patients. The elimination of physical paperwork not only saves time but also enhances the accuracy of records by reducing the number of errors caused by handwriting and increasing the legibility of the documents. Without having to dig through piles of paperwork, electronic health records (EHRs) make it possible for you to access the records of patients with only a few clicks, which frees up more time for you to focus on delivering treatment to patients (Ozan & Duman, 2020).

Utilization of Mobile Devices

The administrative tasks that need to be completed have also been significantly simplified by the use of mobile devices. The documentation of vital signs, the administration of medication, and other nursing obligations can be conducted instantly with the use of a variety of medical applications. At the bedside, you, as a nurse, have the ability to immediately enter data into a patient's record, so removing the need to remember and document the information later on.

Systems of Administration That Are Automated

Tasks that were formerly performed manually and required a significant amount of time have been replaced by automated administration systems such as bar-coded patient identification systems and automated medicine distribution systems. These technologies ensure that the appropriate drug is administered to the appropriate patient at the appropriate time, hence reducing the likelihood of errors occurring. Because of this, you will be able to devote more of your attention to providing high-quality treatment while expending less time on administrative responsibilities (Petrovskaya, 2023).

Previous studies

A study of (Friganović, A. 2019), Nursing and implementation of modern technology.

In the beginning. The application of technology in medical care has developed into a widespread trend around the world. The modernization of civilization has resulted in the growth of technology and information systems by raising their level of sophistication. In the course of their employment, nurses frequently come into contact with the implementation of various information and communication technologies. However, the introduction of current technology in nursing is not only increasing the productivity of nurses, but it is also causing a change in the manner that patients are cared for. When it comes to nursing, the implementation of current technology is the consequence of interactions between technical skills, culture, and social acceptance in the working environment. This article's objective was to study the use of contemporary technology in nursing and the ways in which it impacts the nursing profession. Additionally, the article sought to determine the abilities that are necessary for the implementation of technology and the role that nurses play in the process. Methods and materials are used, searches were conducted in the PubMed database, the OJIN database (Online Journal of Issues in Nursing), and the HCA database (Hospital Corporation of America) with the intention of locating relevant investigations and articles. Nursing, contemporary technology, nursing difficulties, and education were some of the keywords that were put up. During the course of our search of the databases, we came across seven publications, and in accordance with the inclusion criteria for our study, we chose to employ three of them. Based on the data obtained from the literature that was utilized, it was determined that the implementation of contemporary technology in nursing is still in the preliminary stages of the adaption process. The nursing profession is still in its infancy when it comes to modern technology. There are a number of variables that are contributing to the delayed growth of this technology, including the expensive cost, a scarcity of nurses, and the training of medical professionals to incorporate the new technology.

A study of (Al Harbi et al., 2024), Digital Nursing: The Role of Modern Technological Technologies in Enhancing Nursing Practice and Improving Health Care.

The nursing profession is undergoing a major transformation due to the integration of digital technologies, which are reshaping how nurses and nursing technicians perform their roles in patient care. Digital tools, such as electronic health records (EHRs), mobile health (mHealth) applications, telehealth platforms, wearable health devices, and robotic assistants, are improving communication, enhancing patient monitoring, and simplifying administrative tasks. These innovations are contributing to more accurate decisions, better patient outcomes, and more efficient healthcare delivery. Additionally, digital technologies are essential to improving the quality of nursing education and facilitating continuing professional development. Despite these advances, the adoption of digital tools in nursing practice faces several challenges, including concerns about technological proficiency, integration with existing healthcare systems, and ethical considerations regarding patient privacy and autonomy. This review highlights the critical role of digital technologies in modern nursing, the importance of equipping nursing professionals with the necessary skills, and the ongoing need for strategic integration into healthcare practices to improve patient care.

A study of (Huston, 2013). The impact of emerging technology on nursing care: Warp speed ahead.

It is possible to claim that the present advancements in technology will be the single most important factor in determining how nursing is performed in the future, despite the fact that other factors are influencing the current state of healthcare. Indeed, technology is causing the world to change at a breakneck pace, and the healthcare industry is the place where this phenomenon is most readily apparent. This article lists seven developing technologies that will revolutionize the practice of nursing; three skill sets that nurses will need to learn in order to acquire, apply, and integrate these emerging technologies; and four problems that nurse leaders will confront in the process of integrating this new technology.

A study of (Bagherian et al., 2017), Effects of technology on nursing care and caring attributes of a sample of Iranian critical care nurses.

The purpose of this study is to investigate the relationship between the caring characteristics of critical care nurses and their perceptions regarding the influences of technology. The approach and design of the study, first, the psychometric properties of the caring attributes questionnaire, which was developed to examine caring attributes of a sample of international nurses, were refined in a sample of two hundred critical care nurses working in educational hospitals in a city in the southwest of Iran. This study was conducted as part of a cross-sectional research study. Based on the findings of the component analysis with Varimax rotation, the number of caring qualities was reduced from sixty to forty-seven items. These forty-seven items were then categorized into five subscales: caring denial, caring compassionate, caring advocacy, caring essence, and caring communication. A questionnaire consisting of twenty-two questions was designed by the researchers who conducted the study in order to facilitate the evaluation of the nurses' perspectives regarding the impact of technology on nursing care. In conclusion, the correlation between the scores of caring characteristics and the views of this group toward the influences of technology was analyzed. The outcomes, from the nurses that participated in our research, we found that there was a favorable correlation between caring characteristics and the influence of technology. There was a higher level of caring traits among female nurses who worked alone. The scores for caring traits had dropped along with age and work experience; however, the scores for caring commitment were greater in nurses who were older and had more relevant job experience. In addition, female nurses reported a more positive attitude on the ways in which technology impacted their ability to provide care. Those nurses who were younger and had less experience, on the other hand, expressed negative opinions regarding the effects that technology has had on nursing care. Continuing education and lifelong learning on the application of new technological equipment in nursing care and the harmonization of their use with caring values are required for nursing students and registered nurses in order to guarantee the delivery of patient-centered care in an environment that is driven by technological advancements.

A study of (Purkis, 2018). Embracing technology: an exploration of the effects of writing nursing.

Demands for accountability regarding the utilization of public monies are included among the contemporary societal issues that have an impact on the delivery of healthcare in Canada. These demands are loud and persistent. It is not just managers and politicians who have an interest in fiscal accountability; other people do as well. Practitioners, too, have an interest in this field, particularly in the sense that the term "interest" refers to having a reserved seat at the table where conversations have been scheduled to take place regarding the distribution of resources. Taking this into consideration, practitioners are also interested in enrolling in forms of technology that make it possible for them to make their "unique contribution" to the care delivery enterprise evident. Latour's studies on the concept of 'technology' as durability provide tools for describing socio-technical processes that contribute to the emergence of dominance. Latour contends that dominance is an effect of contingent processes, which is a challenge to the prevalent assumption that order is the result of powerful dominance. A case study is offered in which several interests in producing a form of nursing that is visibly "autonomous" and "cost-effective" are brought together with technical forms that promise such visibility. The case study is presented in the beginning of the article. The costs that are related with purchasing visibility are subjected to an in-depth analysis.

A study of (Rubeis, 2021). Guardians of humanity? The challenges of nursing practice in the digital age.

In the field of nursing, digital technology has emerged as an essential component. In light of the fact that a great number of tasks may also be performed by robots or artificial intelligence systems, it is not clear where the nurse fits into this scenario. In what ways and to what extent will the deployment of technology that is becoming increasingly sophisticated have an impact on nursing practice? In the present day and age, the purpose of this study is to conduct an analysis of the potential difficulties that may arise in nursing practice. This analysis is carried out through the lens of new materialism, which is a collection of theoretical models that explain the interaction between humans and technology as one that is both dynamic and performative for all parties involved. Taking this point of view into consideration, there is no predetermined essence of technology. It is

more accurate to say that the meaning of technology is enacted in certain practices. It has been demonstrated through the study that in previous discussions regarding the utilization of technology in nursing, the role of nurses has been characterized as that of protectors of humanity, safeguarding the patient against the dehumanizing impacts of technology. Due to the fact that this function has been transferred to the digital age, it is now the responsibility of nurses to mitigate the adverse consequences that are caused by digital technology. It is recommended that nurses be included in the processes of designing new technologies and formulating policies as an alternative to this obsolete role. If nursing practitioners are given the ability to design the circumstances of a digitally enhanced holistic practice, it may empower their status within the healthcare system. Additionally, it may benefit the patient by contributing to a more person-centered treatment which is beneficial to the patient.

Discussion

Considering the Role of Technology in Contemporary Nursing Practice, several notable conversations about the influence that technology will have on the nursing profession have been generated by the incorporation of technology into nursing practice. The purpose of this discussion is to evaluate perspectives that support and question the role that modern technology plays in nursing, specifically drawing upon the material that has been supplied. A consensus on the positive role that technology plays in nursing. Improving nursing practice and the quality of care provided to patients. A number of sources highlight the ways in which technology has transformed nursing by enhancing the quality of care and the efficiency of the profession. Documentation procedures have been streamlined, patient care has been maximized, and communication across healthcare teams has been improved, according to Al Harbi et al. (2024), who suggest that current technologies, such as digital nursing tools, have contributed to these improvements. In his article from 2013, Huston describes future technologies as being transformational since they enable nurses to provide treatment at "warp speed." She places a strong emphasis on the contributions that innovations like electronic health records (EHRs) and telehealth systems make to the reduction of errors and the improvement of access to care, particularly in areas that are underserved. Insights that are provided on NursingEducation.org highlight the ways in which technology contributes to the improvement of nursing education and the promotion of evidence-based practices. The opinions expressed by Bagherian et al. (2017), who say that technological tools enable nurses to concentrate more on critical thinking and patient-centered care, are echoed by this source. Providing Assistance with the Caring Aspect of Nursing, Bagherian et al. (2017) also present evidence that technology can enhance the caring nature of nursing by reducing the physical and mental strain of everyday chores. This enables nurses to spend more attention to the emotional and psychological components of care, which is a significant benefit. Concerns and Obstacles Raised by the Implementation of Technology in Nursing. The Possibility of Loss of Human Connection, the potential for technological improvements to depersonalize nursing care is the primary focus of criticisms of these advancements.

Rubeis (2021) investigates the philosophical issues that nursing faces in the digital age and serves as a warning that an excessive dependence on technology may cause the focus to move away from the human element that is essential to nursing. It is his contention that the profession runs the risk of becoming excessively mechanical, which would result in a reduction in the amount of interpersonal relationships with patients. Friganović (2019) agrees with this statement, pointing out that although technology enhances productivity, it may unintentionally build walls between nurses and patients, so diminishing the potential for holistic treatment.

The Problems of Dependency and Ethical Conundrums, concerns are raised by Purkis (2018) over the dependence on technology, especially with regard to the possibility that it could result in the loss of essential nursing skills. She places a strong emphasis on the significance of preserving a balance between reliance on technical advancements and practice of traditional methods. In a similar vein, Rubeis (2021) highlights the ethical concerns that arise from the utilization of artificial intelligence and predictive analytics. These dilemmas include difficulties in safeguarding patient confidentiality and ensuring that decisions are made in an impartial manner. The steep learning curve of technology and the gaps in its implementation, it is acknowledged by Al Harbi et al. (2024) that technology has a good influence; nevertheless, they also stress the obstacles that it presents, such as the steep learning curve for nurses who are not accustomed with new systems and the discrepancies in access to advanced technologies that exist between regions. Finding the Right Balance, despite the fact that the authors' viewpoints on the implications of technology are different, the majority of them are in agreement that a balanced approach is necessary. Both Huston (2018) and NursingEducation.org emphasize that in order to achieve successful integration, nurses need to be trained to utilize technology in a way that does not compromise the core values of compassionate care. In his 2019 publication, Friganović calls for the use of solutions that integrate technological expertise with strong interpersonal skills in order to preserve the humanistic essence of nursing.

The use of technology into nursing has indisputable advantages, including the enhancement of nurse performance, the improvement of patient outcomes, and the enhancement of administrative efficiency. The nursing profession, on the other hand, must continue to be vigilant against potential drawbacks, such as depersonalization and an excessive reliance on machines, as Rubeis (2021) and Purkis (2018) have pointed out. With regard to nursing care, the literature as a whole emphasizes the significance of utilizing technology as a tool to supplement, rather than to replace, the human components of nursing care.

Conclusion

It is important to note that the use of technology into nursing practice brings up both considerable opportunities and notable obstacles! On the one hand, technological innovations such as digital nursing tools, electronic health records, and telehealth systems have transformed the delivery of healthcare by increasing efficiency, decreasing the number of errors that occur, and boosting access to care. Al Harbi et al. (2024), Huston (2013), and NursingEducation.org all stress the fact that these tools give nurses the ability to concentrate on critical thinking and providing care that is centered on the patient." On the other hand, opponents such as Rubeis (2021) and Purkis (2018) warn against placing an excessive amount of reliance on technology, which can lead to the erosion of the human connection that is at the core of nursing and create difficulties connected to ethics and specialized skills.

To sum up, the body of research emphasizes the significance of adopting a well-rounded strategy, in which technology is utilized as a supplementary instrument rather than as a replacement for the compassionate and interpersonal functions that are inherent to nursing. It is possible for healthcare systems to empower nurses to embrace technology while still maintaining the fundamental principles that define the profession if they place an emphasis on education and training. Through the implementation of this well-balanced integration, nursing will continue to develop without compromising its basic position as the protector of humanity within the healthcare delivery system.

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