

OVERCOMING BARRIERS TO TECHNOLOGY INTEGRATION IN NURSING: CHALLENGES OF ADAPTABILITY AND TIME MANAGEMENT IN HEALTHCARE DELIVERY

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Abstract

Background

The absorption of technology into health care has resulted in several innovations that will benefit patient care, efficiency, and professional growth among nurses. Two major challenges limit these innovations: adaptability and time allocation. Several nurses find it difficult to cope with the pace of technological changes; studies show that a high percentage of nurses' face difficulties adapting to new tools and report receiving inadequate training. This resistance might be a threat in the potential benefits of new technologies and can put a risk in patient care. Moreover, the demanding nature of nursing practice leaves little time for training and skill development. Without sufficient time to learn and adapt, nurses may not fully realize the benefits of technological innovations that can lighten the work and patient care also, hindering workforce competency and job satisfaction. Addressing these challenges is essential to boost the use of technology in nursing practice and improving patient outcomes.

Methods

The research applied the descriptive methodology in the study, where in the subject variables were intentionally measured and analyzed quantitatively, utilizing a self-formulated questionnaire.

Result

The finding shows that nurses show strong adaptability to new healthcare technologies, with high agreement on ease of adaptation, user-friendliness, and training. However, there are concerns about time constraints, as respondents feel that time limitations may hinder the effective use of these technologies in their daily routines.

Conclusion

Healthcare professionals are generally confident in their ability to adapt to new technologies, finding them user-friendly and supported by adequate training. In contrast, time constraints remain a challenge, potentially affecting the effective use of the technologies in their practice.

Keywords: Barriers, Technology Integration, Adaptability, Time Management, Nursing care, Healthcare Delivery.

Introduction

Technology in healthcare has dramatically transformed nursing practice. It offers tools that can improve patient care, efficiency, and professional growth. However, with all these advances, the greatest barriers nurses face in the adoption of innovations in their daily routine are adaptability and time allotment. Adaptability is another important matter since most nurses are unable to keep up with the strides of technological change.

A study by Booth et al. (2021) found that 45% of nurses felt that it was difficult to adapt to new tools while 32% cited training as poor. This negative resistance not only denies the expected advantage of these new technologies but also jeopardizes patient care, as well as a gap between advancements and applications.

Time allocation exacerbates the problem, since the practice of nursing is very demanding and leaves no room for training and skill building. Alshammari and Alenezi (2023) note that the incorporation of technology in nursing practice highly improves workforce competencies and job satisfaction. However, without adequate time for nurses to learn and adapt, these benefits are not exploited.

Methods

Research Design

This study will employ a descriptive research design to explore the progressive innovations in nursing and how they shape nursing face barriers in fast facing technological era today.

Respondents of the Study

The study focused on nurses who are working in clinics and actively engaged with the technological

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advancements in the nursing profession. The data was collected from a number of hospitals and other health care organizations where attention will be given mainly to public and private sectors of nurses, which comprised of 200 respondents.

Instruments of the Study

An expert has validated the self-structured questionnaires in the survey after undergoing content validation. The outcome demonstrated that the modified-structured questionnaire is appropriate and was approved for use as a research instrument. Additionally, a reliability test employing the internal consistency technique is performed on the research instrument. A test's internal consistency evaluates the relationship between several items meant to measure the same concept (Middleton, 2022).

Result

Demographics

Most respondents were female, and there is a disproportionate share of female respondents in this study. The majority of respondents, fell into the younger age ranges, particularly the 23-31 years old group, indicating a younger demographic. The data suggests that most respondents were relatively new to their professions, with a notable proportion having fewer than 5 years of experience.

Adaptability

The data show that nurses do not encounter any challenges in adapting to new healthcare technology in their daily practice. The findings reflect a strong confidence among nurses in their ability to embrace and integrate new healthcare technologies into their work.

A study supporting the result presented that the findings are linked with the article of Editorial Team HR Fraternity (2024), which states that due to the industry's struggles with rapid technological improvements, changing patient expectations, and regulatory changes, healthcare leaders must put plans in place that increase adaptability without sacrificing their institutions' basic principles.

Creating an environment where learning never stops is one successful strategy. Through promoting lifelong learning and professional development among employees at all levels, organizations may guarantee that their teams are not just knowledgeable about the newest procedures and technology but also prepared to handle new difficulties.

Time Allotment

The data shows that nurses encounter time challenges in using new medical technology. The result reflects that nurses struggle with time allotment while implementing in their practice this technological advancement.

This result is linked with the study of De Leeuw et al. (2020), which states that most participants in their study reported that the use of electronic devices and digital systems, particularly electronic health records, was time-consuming and user-unfriendly. Many found digital work to be unengaging, stressful, and frustrating, often due to a lack of basic digital knowledge and insufficient training.

Table 1: Measure Between Time Management and New Technology

Statement	Mean	SD	Verbal Interpretation
a.) Adaptability			
1. I find it easy to adapt to new healthcare technologies	5.00	0.00	Strongly Agree
2. I believe new technologies are user-friendly and easy to learn.	4.80	0.42	Strongly Agree
3. I receive adequate training to help me adapt to new technologies.	4.86	0.34	Strongly Agree
Category Mean	4.89	0.25	Strongly Agree
b.) Time Allotment			
1. The time required to learn new technologies does not interfere with my regular duties.	4.04	0.62	Neutral
2. Using new medical technologies consumes most of my time.	2.21	0.97	Neutral

3. I feel that time constraints impact my ability to effectively use new technologies.	2.16	0.93	Agree
Category Mean	3.47	0.84	Neutral

Legend: 1.00-1.80 – Strongly Disagree; 1.81-2.60 – Disagree; 2.61-3.40 – Neutral; 3.41-4.20 – Agree; 4.21-5.00 – Strongly Agree

The rapid adoption of healthcare technologies may overshadow the need for personalized patient care, as nurses may focus more on operating systems and devices than on patient interaction. This shift could potentially impact the nurse-patient relationship and the quality of emotional support provided.

Overall, there should be strong emphasis in hospitals on balancing maintaining patient-centered care along with developing good technological competencies. Balancing modules may include training sessions conducted on using technologies with human aspects of compassionate practices. A Systematic evaluation of nurses' and their patients' relationship will always reflect whether the deployment of technology is essential in the nursing profession or overshadows its humanity. Nursing encouragement to practice interpersonal and emotional responses to aligning in patients is imperative to sustaining a rich healthcare practice.

Conclusion

Based on the data, nurses are able to adapt well to new healthcare technologies. They are confident that they can learn and apply new technologies in a short period of time, and also nurses' believe that the technologies are user-friendly and supported by proper training.

However, the duration to learn and use these technologies is more or less neutral response. Although nurses do not really feel that this process of acquiring new technologies disorients their regular work performance, It suggest that limited time might occupied them from putting the technologies in practice effectively. It concludes by stating that, in general, this adaptation process works out well but time management turns out to be a challenge for them.

In general, health professionals are capable of adapting to new technologies, but solutions for time-related challenges can help ensure that these technologies do not interfere with their regular work.

Conflicts of Interest

The authors declare that there is no conflict of interest in this manuscript. Results have been deduced objectively; nothing influenced this result by any individual, monetary, or institutional interests. In effect, utmost endeavors were in order to conduct a bias-free operation of gathering and analyzing the data into interpretation and producing a study based on merit, away from research inconsistencies.

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