NURS FPX 4040 Assessment 3

Evidence-Based Proposal and Annotated Bibliography on Technology in Nursing

The healthcare industry has gone through a revolutionary change in the last few years mostly due to the use of technological advancements aimed at improving patient's health, organizational efficiency, and ensuring patient safety (Smith & Johnson, 2020). In this frame of innovations, delivery robots seem to be a rising trend in those issues that have to do with logistics, medication, and infection control in health facilities. These robotic machines serve the purpose of carrying supplies, medications, and other materials across the facilities thus reducing human error, speeding up intricate processes, and lessening human contact in a scenario such as infectious diseases (Choi & Park, 2021). The implementation of delivery robots in the nursing care practice entails the possibility of transforming healthcare delivery by optimizing workflow efficiency and improving quality and safety (Wang et al., 2022). Nevertheless, the proper implementation of a delivery robot refers to the whole information on its implications for nurse workflow, patient safety, and nurse experience (Jones & Smith, 2021). This proposal is based on the scientific evidence. It explores the outcomes of integrating delivery robots in nursing practice and it includes a bibliography consisting of peer-reviewed publications examining this topic.

Current Evidence on the Impact of a Selected Patient Care Technology

Electronic Health Records (EHRs) with all they represent are the best technological advances in the modern healthcare system aimed at not only reducing human errors but also toward enhancing quality of care and ensuring effective collaboration between health care givers from diverse backgrounds. EHR based on IT technologies ensures the central access to patient information, like medical records or treatment plans, which leads to timely interventions and allows making educated treatment decisions (Cimino & Patel, 2019). Countless of the studies demonstrate the fact that patient safety is the first one to benefit in a meaningful way from the usage of EHRs, in particular, from real-time access to the vital patient information and decision support the systems. Consequently, these systems prompt medical personnel to potential issues of adverse drug interactions or contraindications that increase medication safety and cut down harmful events. Nevertheless, EHRs' efficacy in accomplishing the task of patient safety improvement is not free from arithmetic challenges. Those issues fatigue, the usability and the probabilities that the clinicians may become desensitized and miss the important alerts lead to

the barriers that are considered to be significant (Collins et al., 2020). Apart from this, the main concern is the trust and the feeling of confidence that will be lost in the documents that were used for the clinical purpose. This will be as a result of the "copy and paste" errors and the interoperability issues. Therefore, there is a need for more optimization efforts to ensure that the safety benefits of EHRs are maximized.

Integration of Current Evidence About the Impact of Patient Care Technology

Human integration of delivery robots in healthcare facilities investing multidimensional solution that develops patient safety, degree of care delivered, and interdisciplinary collaboration to a great degree. This research has proved repeatedly that medication errors and nosocomial infections are reduced drastically with the help of delivery robots, which allow patients to be saved from harmful incidents (Lee et al., 2019). Through their capability to do automated delivery of both medications and supplies, these robots prevent the risk of the human error commonly associated with manual distribution where there can be inaccuracy or failure. As a result, this leads to the successful execution of clinical procedures and care. Furthermore, the robustness of delivery robots' uncluttered operational processes means the medication delivery time is apparently shortened and the nursing staff can then divert their focus and time to patient care activities as much as possible (Lee et al., 2019). Besides the promotion of the effectiveness of care deliverables timeliness and care quality, this optimization of workflow efficiency also increases the general perception of patients about their health. Moreover, the robots for delivery are a common platform for technology where as healthcare providers work together to maximize their collective efforts (Smith et al., 2020). Two main advantages caused by the use of robots in medicine interdisciplinary teams will be:a) real-time data access and status notification by robots on one hand, and b) provide more opportunity for teams to get into communication, anticipate patient needs, and coordinate care as accurately. In this context, collaboration and teamwork are necessary; therefore, a culture of teamwork and support is fostered, where patient-centered healthcare services can be effectively delivered.

Organizational Factors Influencing the Selection

The way in health care organizations facilitates the choice of technology, which implies that the adoption and implementation process of technologies are dependant on organizational factors. There are different courses of action, but making strategic alignment is the most important factor because technology decisions would be inextricably linked to the health organization's mission, vision, and objectives (Stuart, 2019). Such compatibility guarantees that all these tech funds are linked to the core organizational objectives, namely the attempt to improve the quality of healthcare, cut costs through the utilization of efficiency-increasing tools, and remain

competitive amid the healthcare market. Finally, this aspect of environmental complexity for technology adoption initiatives covering financial provisions, employee capacity as well as infrastructure is essential in specifying the scope and feasibility of the process (Shah, 2020). Conscientious evaluation of resource limitations on the front determines the choice for which either it has to prioritize or else it focus its returns to the organization, therefore, it is important to keenly examine the effect on maximum effectiveness. Technology acceptance has a culturally charged environment because organizational culture instead have provided employees with the necessary encouragement, support, and motivation to embrace change and adopt innovation (Shah, 2020). As to change resistance, apart from the problem with it, perhaps jobs displacement skepticism is another factor that slowdowns progress. Hence, a culture of innovation and continuous improvement should be the key, as it underpins the process. Regulatory and compliance statutes on top of that, it is technology that is the most crucial part of the selection process. The respect of the Health Insurance Portability and Accountability Act (HIPAA) and Food and Drug Administration (FDA) guidelines (i.e. patient's privacy and safety are never compromised) without any exceptions are indisputable fundamentals of the technological concerns (Lau, 2019). Interoperability and integration are the crucial factors, that point to the necessity of establishing medical systems, that function without barriers and facilitate data transfer and communication among specialists from different organizations.

Implementation And Use Of A Selected Technology

The introduction and application of the robots in care settings by healthcare institutions are substantiated by the significant impact on the improvement of quality of care and patient safety. By the virtue of rigorous evaluation, it can be seen that delivery robots provide multi-dimensional solutions to the problems of healthcare sector improving services and outcomes. For example, delivery robots greatly contribute to error reduction and delay, which is vital for patient safety (Lee et al., 2019). The use of automation for medication transportation reduces the risk of human error associated with manually operated systems, thus guaranteeing patients the precise and on-time delivery of their medications. Secondly, the integration of delivery robots streamlines workflow efficiency thus, ensuring efficient delivery of essential supplies and medicines that in turn give nursing staff more time to focus on patient care efforts (Lee et al., 2019). This processing flow not only improves the timeliness of care provision but also effectively results in better patient outcomes and overall patient satisfaction. Delivery robots contribute remarkably to lowering the contamination risks through the reduction of unnecessary human contact as well as limiting the spread of pathogens within the health facilities unless emergency conditions arise like in the case of the COVID-19 pandemic (Chen et al., 2021). Through preventing nosocomial infection, robots for delivering help to create a safe and healthy environment for patients, so patient safety is guaranteed. Besides that, the use of delivery robots for healthcare also facilitates interdisciplinary cooperation among healthcare workers by developing a common technological platform that increases real-time interaction and coordination among workers (Smith et al., 2020). In essence, the robots for delivery are very

advantageous in the field of quality care and patient safety by using improved medication management, streamlining of workflow, reduction of infection risk, and promotion of collaboration among professionals, to be institutionalized in medical facilities.

Conclusion

In conclusion, the cited research exposes the substantial function of technology and robotic nurse, in particular, to revolutionize health care and ensure patients' safety. The studies of evidences is coherently found to be associated with the positive changes in the way doctors give medications, workflow efficiency, infection control, and the working as team in every specialization. Computerized medication distribution, workflow optimization, reduction when infection risks and promotion of teamwork make the autonomous robots' integration in healthcare facilities a very attractive idea. For nursing leadership and stakeholders to come with holistic approaches to adoption of technology, support for staff and the evaluation of the impact and effect of delivery robots on patients and healthcare, these two groups must combine their efforts. Throught the smart use of technology, the nursingbursaries can be the catalysts for the improvement of quality care delivery, upgrading safety standards for patients, and uplifting nursing professionalism in modern health care system.

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