



THE INFLUENCE OF NURSE-LED INTERVENTIONS ON PATIENT OUTCOMES: REVIEW

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Abstract

Nurse-led virtual clinics include a nurse reaching out to a patient for the purpose of clinical consultation, guidance, and treatment planning. This invention has great potential but has not been completely used in health care delivery methods. Although virtual clinics are becoming more popular, there is still a lack of comprehensive knowledge of the complete integration of this platform into everyday nursing practice in the future. This integrative review sought to investigate the use of nurse-led virtual clinic follow-up in chronic care services, with a specific focus on its clinical value and clinical outcomes. A comprehensive literature search was conducted using several online databases, including Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, PubMed, Science Direct, Ovid, Scopus, and Google Scholar. Included were publications produced in English that focused on nurse-led virtual clinics for chronic or long-term diseases. Initially, a total of 43 publications published between 2000 and 2015 were identified. A total of twelve papers met the specified criteria for inclusion and were chosen for evaluation. The analysis revealed three primary themes: the technological components of nurse-led virtual clinics, the results of nurse-led virtual clinics, and the potential future implementation of nurse-led virtual clinics in the healthcare sector. Studies have shown that nurse-led virtual clinics prioritize the needs of patients, are cost-effective, and offer treatment efficiently. Nurse-led virtual clinics have promise in efficiently addressing the growing demands and strains healthcare sector.

Keywords: nurse-led virtual clinics, integrated review, nurse-led follow-up.

1. Introduction

Telehealth is a technology-based method of sharing a client's healthcare information with healthcare practitioners, independent of their physical location. According to Wade and Stock (2017), telehealth is a platform that encompasses a range of technologies, including telephone



technology, computer-generated processors, mobile health applications, video communications, wearable devices, and sensor devices. Telehealth as the delivery of healthcare or associated services where there is a physical distance between participants, and information and communication technologies are used to bridge this gap. Nurses and other health professionals are increasingly participating in the progress of telehealth and telemedicine. Nevertheless, the growing prevalence of virtual clinics poses difficulties for nurses and the future of nursing practice.

Nurse-led virtual clinics function based on the virtual closeness established between nurses and customers. These technologies have great potential but have not yet been fully used in health care delivery methods. Although the literature shows a clear rise in the popularity of nurse-led virtual clinics, there is still a lack of comprehensive knowledge of the complete integration of this platform into daily nursing practice. A comprehensive analysis of nurse-led telephone follow-up for individuals diagnosed with colorectal cancer demonstrated favorable clinical outcomes and very satisfactory patient experiences (Cusack & Taylor, 2010). Nevertheless, the authors proposed that the bulk of existing research lacked clear articulation of the framework and standards for nurse-led telephone follow-up. Additionally, their analysis concentrated on patients with a particular kind of cancer and did not investigate additional benefits and results of nurse-led virtual clinics.

2. Methodology

A comprehensive and methodical search of the literature was conducted utilizing several online databases including Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, PubMed, Science Direct, Ovid, Scopus, and Google Scholar. Only scholarly publications that have undergone a rigorous evaluation process by experts in the field were chosen. The search approach included manually examining the reference lists of the retrieved articles to find relevant material and guarantee thorough coverage. Case reports and clinical descriptions were included as references to bolster the findings, but they were not incorporated into the review and data analysis due to their lack of verifiable clinical outcomes.

3. Nurse-led virtual model

Kimman et al. (2010) and Smits et al. (2015) observed that patient satisfaction outcomes exhibited comparable trends and preference patterns, indicating that the nurse-led virtual model is a viable approach for providing follow-up care. Furthermore, patients reported that nurse-led virtual clinics were both secure and efficient. In a study conducted by Nesari (2010), it was shown that nurse-led telephone follow-up had a notable favorable impact on the outcomes of patients with diabetes.

The observed results were associated with the improvement of their HbA1c levels and compliance with a diabetic diet, blood glucose monitoring, physical activity, foot care, and medication use. The research suggested that using this method of providing services might

decrease diabetes-related problems, leading to healthcare advantages. Moreover, this review found that nurse-led virtual follow-ups were primarily used for patients with various forms of cancer. However, there is potential for its application in other non-cancerous conditions like diabetes, irritable bowel syndrome, and autoimmune conditions (e.g., rheumatology).

In their 2014 research, Leach et al. examined the financial impact of nurse-led virtual clinics and found that there was a decrease of 987 clinic visits, resulting in a cost savings of around \$136,535 compared to the previous year in the study's specific context. The authors discovered a reduction of 27 hospital admissions, 163 outpatient consultations, and 32 emergency visits. In a three-year research, Robertson et al. (2013) discovered a decrease of 50 monthly visits in the outpatient clinic. The implementation of nurse-led virtual follow-up has been shown to improve organizational efficiency by reducing the number of patients on outpatient waiting lists (Overend et al., 2008) and boosting access to healthcare services, even for individuals living in remote areas (Hennell et al., 2005; Sardell et al., 2000).

4. Potential applications and obstacles in the future

Most research indicated that nurse-led virtual clinics were both viable and generally embraced. Furthermore, Beaver et al. (2010) and Koinberg et al. (2004) suggested that this kind of nurse-led telephone consultation for follow-up might be used for different medical disorders, as long as certain restrictions are observed. According to Overend et al. (2008), this kind of follow-up will become more relevant as outpatient clinics get more congested. All studies indicated that nurses who adopted the nurse-led virtual clinic roles advocated for the need for improved training in communication and technical abilities. Proficiency in these abilities, along with extensive expertise in clinical nursing, is essential for independent practice. Proficiency in communication and technology is crucial for ensuring the delivery of excellent, secure, and efficient nurse-led telephone consultations. Research also highlighted the need of possessing extensive understanding of the particular medical state (Beaver et al., 2010; Kimman et al., 2010; Leahy et al., 2013). These investigations suggested the need for continuous training and assistance in order to provide this specialized kind of treatment.

5. Discussion

The results of this analysis demonstrated that patients highly valued and were content with virtual clinics conducted by nurses. The adoption of this treatment paradigm was broadly embraced and resulted in favorable experiences for patients. Experienced nurses, being the primary catalysts of this innovation, have the ability to exert impact on client results. The results of this study align with a recent analysis of existing research, which found that decreased travel and waiting times had a positive impact on patients with colon cancer. These improvements allowed patients to feel more comfortable as they communicated their concerns with nurses (Cusack & Taylor, 2010). The nurse-led virtual clinic concept has a "open door" philosophy, which allows for flexible appointment hours and encourages self-care and autonomy.

In their study, Sooby and Kirkland (2015) emphasized the significance of patients being able to independently choose their desired timetable. The implementation of self-determination led to a reduction in the number of appointment cancellations for post nasal surgery follow-up. Wong and Chan (2005) demonstrated a decrease in the frequency of emergency visits for patients with chronic illnesses, such as chronic obstructive pulmonary disease, by using nurse-initiated telephone follow-ups. The findings were corroborated by Leach et al. (2014), who showed a significant reduction in clinic visits, hospital admissions, and emergency room visits via the implementation of nurse-led virtual clinics for patients with irritable bowel disease.

Based on this analysis, patients showed a clear preference for nurse-led virtual clinics. They valued the ability to get assessments and treatment remotely, rather than in a crowded and hurried clinic setting. According to Day and Kerr (2012), nurse-led virtual clinics may be effectively used for a range of illnesses. The services included the administration of long-term illnesses, imparting knowledge about health and preventative care, handling immediate medical issues, and coordinating healthcare (Court & Austin, 2015).

A study conducted by Ndosi et al. (2014) found that implementing a nurse-led care program, which followed a similar strategy to nurse-led virtual clinics, resulted in a substantial decrease in costs for managing chronic illnesses like rheumatoid arthritis. Virtual clinics run by nurses might potentially address the increasing expectations and financial challenges faced by healthcare organizations in delivering high-quality, safe, timely, and fair treatment to the expanding elderly population with chronic illnesses.

An important discovery in this analysis is the absence of standardized protocols for operating a nurse-led virtual clinic. One rationale for establishing a nurse-led virtual clinic is the specific requirement in the environment, such as the emphasis on a particular ailment (often malignancies) or the sort of nurse-led services offered, whether it be follow-up or real consultations. The evidence gathered and analyzed in this review indicates that each research has used a systematic method and relied on experienced nurses to oversee the nurse-led virtual approach.

Notably, there was a lack of extensive discussion of nurses' proficiency in information technology (IT) abilities, apart from the research recommendations. Technology is essential for nurse-led virtual clinics. Nevertheless, according to the results of the present evaluation, it was presumed that the nurses overseeing the virtual clinics had the necessary expertise and are staying abreast of contemporary developments. Historically, there has been data indicating that nurses have shown resistance towards using information technology (Timmons, 2003).

Nevertheless, this viewpoint is increasingly shifting as a result of current nursing endeavors led by nurses who actively participate in technology (Ferguson, Davidson, Scott, Jackson, & Hickman, 2015). The results of this research demonstrate the significance of engaging the nursing workforce to actively participate in the creation of a cutting-edge strategy using

technology. Gaining insight into nurse-led methodologies provides valuable guidance for the future trajectory of healthcare institutions and the communities they cater to.

6. Conclusion

An aging population characterized by increasing complexity and comorbidity imposes substantial demands on healthcare services. It is essential to consider innovative approaches to altering the delivery of health care services and leveraging the progress achieved in technology. Telehealth optimizes the use of skilled resources to alleviate the strain on healthcare services and restructure treatment routes. Suggesting the implementation of a nurse-led virtual clinic as an alternate option for follow-up would enhance the accessibility of healthcare services for health consumers.

The technique also enables the people to take control of their own healthcare and well-being. Research has shown that this kind of monitoring is optimal for elderly individuals or those who reside at a considerable distance from the hospital and rely on their family members or partners for transportation. Patients have expressed their approval and gratitude for this adjustment. Studies have shown that the nurse-led virtual clinic care model is focused on the needs of the patient and is both cost-effective and safe. It also provides efficient, fair, and high-quality treatment. This care model is expected to aid in establishing a sustainable healthcare system for residents residing in rural regions and demographic groups with a high incidence of chronic illnesses.

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