Chelonian Conservation And Biology

Vol. 17No.2 (2022) | https://www.acgpublishing.com/ | ISSN - 1071-8443

DOI:doi.org/10.18011/2022.04(1) .3262.3267

THE EFFECTIVENESS OF NURSE-LED MOBILE HEALTH UNITS IN DELIVERING PRIMARY CARE SERVICES TO GEOGRAPHICALLY ISOLATED POPULATIONS

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Abstract

Internationally, there is a growing emphasis on managing patients who need long-term and intricate care due to the rising prevalence of chronic illnesses. These patients need more extensive treatment for extended periods of time. The rise in chronic ailments has exerted financial and physical strain on healthcare systems, resulting in modifications to care delivery methods, with an emphasis on avoiding hospitalization and promoting home-based treatment. Nurses have a crucial role in coordinating care across many providers within this context. This evaluation was conducted as part of a financed research that examined the function of nurse navigators in a planned 24-hour telephone-call service. The study focused on a specific regional area with a varied population in terms of cultural identity and physical location in relation to accessing healthcare services. The study examines the existing research on the nurse's involvement in providing afterhours telephone assistance for patients with chronic and complicated diseases. The primary objective was to investigate the efficacy of treatments provided to patients residing in remote geographical areas. The implementation of an after-hours telephone service, regardless of the specific model used, should be consistent with a Chronic Care Model. After-hours telephone services staffed by competent nurses, who receive continuing professional development and follow appropriate procedures, contribute to the continued enhancement of chronic and complicated care management as a health priority.

Keywords: Chronic disease, nurse intervention, telephone assistance, telephone service.

1. Introduction

Chronic disease is often described as a prolonged ailment that causes substantial impairments in an individual's functioning, progressively worsening over time and having a detrimental impact on their quality of life [1]. Experts advise using the term 'chronic condition' instead of 'chronic disease' because it encompasses not only the disease itself, but also any related injuries

and disabilities. This requires a carefully planned and organized approach from all healthcare providers at every level. An approach that has been used to help individuals with chronic illnesses reduce unnecessary hospital stays is the introduction of the Nurse Navigator position. Nurse Navigators are highly skilled registered nurses who are recruited to assist patients in navigating complicated health systems by guiding them across various health services and departments. This position aligns with the evolving emphasis of the Chronic Care Model and the Innovative Care for Chronic Conditions Framework [3].

This evaluation is supported by a joint grant from a regional primary healthcare network worldwide. It is part of a wider research that assesses the impact of Nurse Navigators in the area. In the location where this project is located, Nurse Navigators have a diverse range of responsibilities and duties within the healthcare system. One of these responsibilities is providing an after-hours telephone guidance service until 10pm, seven days a week. Therefore, this study serves as the first phase of the project, which aims to construct a mobile healthcare service for afterhours in a rural/remote part. The review has been recorded in PROSPERO [4]. The review followed the Preferred Reporting System for Meta-Analyses (PRISMA) guidelines in its methodological approach. All papers chosen for final analysis were evaluated for their rigor, credibility, and validity using the Critical Appraisal Skills Programme (CASP) tools that are appropriate for the research design described in the publication [5, 6, 7].

Simultaneously, health expenditures are under increasing strain, although already constituting a significant portion of the Gross Domestic Product (GDP) for all nations [1, 8]. Emphasizing primary and preventive health practices is crucial for alleviating the burden on limited government resources and relieving financial pressure on individual families, especially in low-income countries [9]. Quantifying the financial implications of chronic illnesses is a complex process, and the variables included in the assessment are not comprehensive. However, they often encompass avoidable hospital admissions [10]. Approximately 39% of hospital admissions that might have been avoided are attributed to individuals who have at least one chronic disease. Therefore, it is well acknowledged that if the occurrence of diseases may be enhanced by modifying health behaviors, and if chronic disorders can be effectively treated outside of healthcare facilities, the financial advantage is significant [11].

Health services are establishing goals to reduce hospital admissions and transition to providing treatment at home. These efforts are crucial due to the rising expenses of care, the growing number of chronic conditions, and the aging population. The factors contributing to re-admissions mostly include inadequate health literacy, low socioeconomic position (including homelessness), geographical isolation, and cultural disparities. The disparities related to chronic illnesses are evident across different socioeconomic groups and geographical places [1], as those from poorer socioeconomic backgrounds and those living in rural or distant regions are more prone to experiencing greater rates of chronic and complicated conditions. According to a recent analysis, the prevalence of illness would decrease if those residing in rural or remote locations

had same access and opportunity to healthcare services as those living in metropolitan or regional areas [7].

A considerable proportion of patients residing in rural or remote areas. These patients have additional health challenges and are disproportionately represented in the statistics on chronic conditions [14, 15]. One approach inside the intricate and multi-tiered national aims to address the social and health needs of Aboriginal people by implementing outreach systems that use telephone technology outside of regular working hours. This approach is designed to provide greater assistance to those who are unable to physically attend healthcare facilities due to various reasons.

However, several study reports indicate that even while primary health care services have expanded, they are not being used to the same extent by low-socioeconomic people. This suggests that access to health care is significantly influenced by social determinants of health [16]. This scoping study was conducted to get a deeper understanding of the existing models and current evidence of such services, in light of the challenges mentioned earlier. A scoping study was chosen to investigate the ambiguous literature on nurse navigators offering after-hours telephone services, due to vague language and the relatively new nature of this sector [17].

2. Findings

A significant challenge in analyzing the data was the diverse range of terminology used to describe the specific service being studied, which hindered the ability to make comparisons and conduct thorough analysis. The terms included in this list are mobile phone healthcare service, telephone consultations, mobile phone technology, nurse-led telephone triage, telephone assistance, telehomecare, telemonitoring, out of hours care, mhealth, and call center care. These phrases are not mutually exclusive since they often describe identical services, while they may also refer to separate provisions in certain cases. Mobile services are utilized by programs in developing countries to stay in touch with pregnant women in between visits. This is done to decrease the occurrence of home births and to provide additional expert support to local health workers. Furthermore, regular reports that are best suited for mobile services rather than mail are required from these health workers. In developed countries, these services are implemented to minimize needless trips to an emergency department or the patient's main physician [18]. They may also serve as a post-operative follow-up service for discharged patients [19], and their operating hours may vary. The skills necessary for nurses and other healthcare professionals in these different schools differ and were challenging to analyze due to the diverse terminology and methodologies used.

3. Decision making guided by nurses

The studied literature highlights two crucial criteria that are essential for the success of nurse-led telephone services. These variables are closely related to the issue of decision making. Firstly, it is imperative for registered nurses to possess a significant amount of experience.

Secondly, there is a unanimous agreement that they require specialized training in order to effectively provide advice.

4. Staff expertise

According to many academics, nurses must use a high degree of clinical judgment and avoid blindly relying on algorithms, regardless of support procedures. These protocols are frequently necessary to guarantee compliance with registration. These data indicate that telephone triage is a specialized field for nurses that need knowledge and the ability to consult with experts. Although the need of having skilled individuals to handle phone calls was recognized, Bolli et al. [20] found that only 50% of telephone triage services provided training to their personnel. Additionally, Huibers et al. [21] reported that as many as 50% of customers got inaccurate advice. Huibers et al. [21] emphasize that nurses who provide telephone triage services need specific training methods to acquire the necessary abilities for making prompt and precise clinical judgments. Karari et al. [51] emphasize the need of promptly assessing patients over the phone. In addition, the nurses in the research conducted by Karari et al. saw varying levels of adherence to rules and acknowledged selectively following procedures.

5. Conclusion

The objective of this study was to find solutions for effectively treating chronic and complicated illnesses in a varied population and various geographical regions via the use of nurse-led mobile telephone services. Although the search was thorough, no conclusive answers to the questions were found. However, it was suggested that models of care for after-hours telephone services should be specifically tailored to the population group it serves, taking into account the geographical location and the level of media/telecommunication available and understood. Nevertheless, it is clear that the implementation of an after-hours telephone service, regardless of the specific model used, should be evaluated within the context of an evidence-based Chronic Care Model. Each component of the model should be carefully tailored to align with the chosen method. After-hours telephone services staffed by competent nurses, who receive continuing professional development and follow appropriate standards, contribute to the continuous enhancement of chronic care management as a health priority.

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