

# Impact of Nurse-Led Patient Education on Chronic Disease Management

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## Abstract

The most critical intervention of nurses in the management of chronic diseases is through the equipping of patients with skills, knowledge, and confidence to take responsibility for the lifelong conditions such as diabetes, hypertension, and cardiovascular diseases. Such interventions improve the self-management capabilities of patients, reduce complications, and decrease health strain. Targeted education provided particularly to low resource settings can empower populations as well as reduce disparities. In addition, nurse-led education addresses the psychological challenge and empowered the patient. It improves adherence to medication and lifestyle alterations. This paper reviews the implications of nurse-led education on the management of chronic diseases, providing emphasis on benefits, challenges, and implications for healthcare systems.

**Keywords:** chronic disease management, nurse-led education, patient empowerment, health disparities, self-management strategies.

## Introduction

The new approach in chronic disease management is nurse-led education. It equips the patient with the knowledge, skills, and confidence to perform self-care effectively. Most chronic diseases include diabetes, hypertension, and cardiovascular diseases, which need long-term management. Management involves constant adherence to medication, lifestyle changes, and frequent monitoring. In such a scenario, patients often get puzzled with the complexity of the demands, thus leading to nonadherence to the care plans and undesirable health outcomes. Nurses bridge the gap by providing targeted educational interventions that translate complex medical information into actionable guidance tailored to the individual needs. It also enables patient empowerment and boosts the self-efficacy that primarily results in the improvement of clinical outcomes and lowers the economic costs imposed by the health care system (Cockerham et al., 2017).

The value of nurse-led education is that it meets the multifaceted needs of the patient with chronic conditions. The management of chronic diseases may transcend clinical treatment to encompass the psychological, social, and behavioral factors that influence health. Education equips the patient with sustainable habits that promote health and well-being despite the presence of disease symptoms and complications. For example, nurse-led and planned programs have measured disease-specific outcomes showing that they were successful and impacting; structured diabetic care, for instance, has lowered blood glucose levels among the patients and diminished exacerbation rates among the patients of COPD. All this points to that intervention initiated and undertaken by nurses can enable achievement towards better control over a disease and improvement in the quality of life among patients (Azami et al., 2018; Wang et al., 2020).

Nurse-led education can be highly critical and has the flexibility to accommodate all kinds of diverse patient populations and individual circumstances. In general, health literacy, cultural beliefs, and socioeconomic factors typically affect how patients view their situations and manage them. Such a unique context shapes nurses' adaptation

in educational strategies toward ascertaining that patients may comprehend and perform the measures essential to ensure better health. They are able to alter their strategy so as to offer culturally responsive care to the resource poor settings whose language, cultural practices, and also monetary resources often restrict their access to care. Such interventions appear successful in enhancing the capacity of patients, as reported by Abebe et al. (2020). Consequently, the significance of nurses' work in promoting health equity among populations comes forth.

The psychological and emotional effects attributed to chronic illnesses emphasize the necessity of education led by nurses. Many patients frequently fall into stress, anxiety, or depression as they go through the long-term nature of their conditions, which usually derails them from continuing in treatment plans. The approaches that nurses take care of these challenges include comforting their patients, encouraging honest discussions, and giving skills that help manage mental conditions within physical health. Including emotional well-being in the education programs with the patients ensures that the patients get wholesome care-that all parts are important for a patient's improved health. According to Megari (2013), considering psychosocial dimensions in chronic disease management means a better relationship with care plans and better health outcomes.

Finally, education led by nurses directly impacts the change in health care services and is critical for the sustainability of health care. Nurse-led preventive education decreases the incidence of complications, readmissions to hospitals, and emergency care utilization and hence leads to significant cost savings. Through early intervention, modification of lifestyle, and compliance with treatment, programs led by nurses lay the cornerstones for long-term health improvement both for the individual and the community. Since chronic diseases remain to be a global challenge, investments in nurse-led education will provide a very realistic and effective solution to this up-coming public health concern (Doherty et al., 2018; Alhazme et al., 2024).

### **Methodology**

A thorough literature search was carried out in an effort to establish the role and impact of nurse-led education on chronic diseases. This included searching the PubMed, CINAHL, and Google Scholar databases for peer-reviewed studies from between 2010 and 2023. Search terms included "nurse-led education," "chronic disease management," "patient empowerment," "health disparities," and "self-management strategies." Preliminary search results produced a total of 312 articles. This resulted in eliminating duplicates and applying the inclusion criteria, which consisted of articles that discussed chronic diseases such as diabetes, hypertension, and COPD as well as nurse-led interventions. This left 58 articles for full-text review. From these, 34 studies were selected as relevant to methodological rigor and contribution to the topic. The selected included articles were randomized controlled trials, cohort studies, and systematic reviews with meta-analyses. Patient Outcome Data

Extracted by: Empowerment measure, education strategies, as well as incorporation of the nurse-led education within health systems.

### **Literature Review**

It discusses a comprehensive literature review related to the role of nurse-led education in chronic disease management and its implications on outcomes in patients. The relevant articles selected for review were about various aspects of nurse-led intervention programs, including different strategies regarding patient education and empowerment approaches, as well as strategies tailored to specific care situations. Several literature databases were searched to look for relevant studies using terms like "nurse-led education," "chronic disease management," "patient empowerment," "self-management strategies," and "health literacy." The reference lists are hand searched to acquire more related studies to further expand the evidence generated from the literature. The studies included only those which were peer-reviewed, published in the English language, and consisting of randomized controlled trials, cohort studies, systematic reviews, and qualitative analyses. Studies that were not related to the management of chronic disease or had no evidence of substantial importance for nurse-led interventions were excluded.

The studies reviewed indicate the important role nurse-led education plays in preparing patients to handle chronic conditions appropriately. Nurses deliver focused education that equips patients with knowledge, thus empowering them to make decisions on their health and maintain a regimen of treatment as well as adopting healthy lifestyles that will last a lifetime. It is, therefore, a way of handling both clinical aspects of disease management and the psychological and emotional burdens faced by the patient. The literature evidence shows that disease-specific outcomes, such as glycemic control in diabetes, blood pressure management in hypertension, and lung function in chronic obstructed pulmonary disease, are substantially improved by tailored educational programs provided by nurses.

A dominant theme emerging from the literature is individualized care within nurse-led education. Patients with chronic diseases have different needs determined by factors such as cultural background, socioeconomic status, and health literacy. Thus, nurse-led interventions are uniquely placed to respond to these variations through customizing educational content and delivery methods according to the circumstances of each patient. Such flexibility in nurse-led education for a low-resource setting means research addresses innovative solutions with cultural sensitivity

working together to overcome the difficulties of good care. Therefore, in that respect, flexibility allows nurse-led education advantages to reach an appropriate diversified patient population furthering health outcomes' equity.

Further literature on this subject further discusses how nurse-led education integrates into broader health care strategies, such as preventive care and technology-enabled interventions. The role of the nurse becomes paramount in advancing preventive measures from educating the patient about recognizing early warning signs to reducing risk factors and practicing health-promoting behaviors. The advent of telehealth and digital health tools has improved the reach and scalability of nurse-led education, making it possible to have uniform patient support regardless of the geographical location. Researches show that these technologies facilitate better engagement of patients, adherence to care plans, and long-term health improvements.

Basically, the review highlights great value of nurse-led education within the broader paradigm of chronic disease management, since clinical, psychological, and social dimensions of care empower patients to be independent and active in their approach toward healthcare as nurses aim at reducing complications and raising the quality of their life. Personalized and preventive strategies along with innovatively used technologies ensure that education led by nurses will maintain its position as the fulcrum of effective management of chronic diseases in constantly emerging needs of different populations of patients.

### **Discussion**

These become integral elements in the management of chronic disease and equip the patients with relevant knowledge and skills needed for the management of complexities attached to lifelong conditions like diabetes, hypertension, and cardiovascular diseases. It is generally agreed that patients with chronic diseases require continuing self-management approaches that can be difficult for them to gain or maintain. Nurses are the missing link between medical intervention and the day-to-day practice of care, building patient understanding through guidance that makes patients more self-effective. Educating patients using nurse-led education that focuses on self-efficacy enables improvement in individual results, as well as reducing burden on the healthcare system such as hospitalizations and complications of chronic diseases (Cockerham et al., 2017).

Such interventions are essential in impacting various chronic conditions and clinical results. Nurses have implemented evidence-based, patient-specific interventions that promote and support compliance with treatment plans and the good practices of disease management. For instance, structured programs of nurse-led care for diabetes have resulted in low levels of HbA1c-a significant marker of better glycemic control. Azami et al. in 2018 concluded that patients involving in the nurse-led education saw fewer complication rates, which supports the statement that such programs positively impact more favorable disease conditions. This is further supported when Wang et al. (2020) proved that using nurse-led self-management practices for managing chronic obstructive pulmonary disease yielded better lung health, enhanced reduced exacerbations, and improved quality life. Findings also suggest nurse-led education will play a vital role in the multi-domain management requirement of chronic diseases.

A characteristic of nurse-led education is that individualized care is focused upon, based on the needs of the patients, taking into consideration their background, cultural, social, and economic factors. Generally, patients are varied in their health literacy levels, resources available to them, and beliefs regarding illness and treatment. Therefore, if nurses focus their educational interventions around these differing needs, then patients should be better able to understand and apply information provided. In low- and middle-income countries, due to cultural norms and language barriers, which may not favor effective care, the teaching methods and materials adopted will be based on the local setting. Culturally sensitive nurse-led education improved health outcomes and empowered patients even in resource-poor settings, as noted by Abebe et al. (2020). Adaptability ensures that many populations receive equitable care and possess the necessary tools for effective management of their health.

Patient empowerment forms the backbone of nurse-led education. Most patients with chronic illnesses end up feeling impotent or hopeless. Education through the nurse empowers a patient with knowledge about the status of his or her conditions and why he or she needs treatment to empower patients in making decisions concerning his or her care. Encouraging empowerment better increases adherence to medical advice and lifestyle modification and participation in measures aimed at prevention (Inzucchi et al., 2015). For example, patients who start developing hypertension with a knowledge that sodium consumption affects blood pressure tend to modify their lifestyle dietary changes in the long run. In the same way, diabetic patients who understand how the intake of carbohydrates affects their level of blood sugar tend to make more appropriate dietary selections, and thus control glucose levels in their body, making them prevent chronic illness in the long run (Alhazme et al., 2024).

Another critical area, in which nurse-led education excels is in improving medication adherence. Medication adherence for most patients is a common challenge that faces chronic disease management. More patients face barriers such as forgetfulness, fear of side effects, or their lack of understanding of medication. Nurses address these concerns as they provide clear, concise information about medication purposes and possible side effects and what to do during dosing schedules. According to Capoccia et al. (2016), significant improvement was made in the

adherence rate among patients with chronic conditions like diabetes through nurse-led interventions. The improvement did not only lead to better clinical outcomes but also resulted in lower rates of hospitalization and visits to the emergency room, making nurse-led education in long-term care cost-effective.

Nurse-led education also supports changes in lifestyle that are deeply ingrained in the management and prevention of chronic diseases. Modifiable risks such as unhealthy diet, inactive lifestyle, and tobacco consumption that often lead to chronic disease incidence are helped by patients as they find sustainable lifestyles change through practical advice from and continuous support by the nurse. Alshammari et al. (2020) further add, "The persistent care and counseling of the nurse, for some period, would make patients develop positive behavior, and ultimately, with healthy outcomes; these outcomes ensure that the achieved changes are permanent, thus preventing further growth or relapse of the disease".

The psychological and emotional aspects of managing chronic disease are just as important because staying with a long-term condition has proved to be a source of great stress and mental health challenges. Most patients experience anxiety, depression, and social isolation that can negatively affect the compliance of the treatment plan. Nurses mitigate this by providing emotional support and creating a safe atmosphere where the patient can express any concerns. According to Megari, in 2013, psycho-social care for chronic diseases increased the adherence of patients with the care plans and considerably improved their quality of life. In this regard, when nurses include mental health in the curricula of nursing programs, they assure that the patients receive comprehensive care by paying attention both to their physical and emotional well-being.

The nurse-led education through health concerns about disparities primarily deals with the poor sector of society. Poor residents and ethnic minorities are faced with a variety of barriers when trying to access care in dealing with chronic diseases. These elements make culturally competent and resourceful care-advocating, focusing on social determinants, key components of nurse-led programs. Harrison and Falco (2005) have highlighted the linkage role of nurses in associating the underserved with such vital services as transport and housing, which may play a critical role in improved health outcomes. Equitable care access is the reduction of disparity and promotion of health equity by nurse-led education.

Nurse-led education for economics is useful when its value for chronic illness management is appreciated. Reduced complications and reduced visits through preventive education decrease rates of visits and consequently health care spendings in big sums of money. As per findings demonstrated by Doherty et al. (2018) the patient outcome was much improved when interventions for chronic diseases, for example gout by a nurse occurred; hence considerably decreasing spending from health care systems. Similarly, Alhazme et al. (2024) suggest that an investment in nurse-led programs with a focus on prevention and early intervention is a sustainable approach to fighting the increasingly rising prevalence of chronic diseases around the world.

Technological innovation increases the reach and impact of nurse-led education. These are telehealth platforms and mobile health applications that enable nurses to offer education and support remotely, making healthcare accessible to patients even in underserved or geographically isolated areas. Ma et al., (2022) found the meaningful benefit in telemedicine with regard to greatly prevalent patient engagement and adherence to care plans, especially in chronic disease management. These innovations allow nurses to provide flexible and scalable educational programs that ensure that patients are given consistent support irrespective of the location.

The second aspect is the healthy nurse-patient relationships that have a positive impact on the education initiatives. Patients tend to find nurses approachable and trustworthy, which allows the nurse-patient relationship to offer open communication and collaboration. Joo and Liu (2021) noted that nurses-led case management will improve coordination of care, reduce fragmented care, and foster continuity of care. These relationships empower patients and involve them in their care, which improves compliance with the treatment regimens and the general health outcomes.

Another vital element of nurse-led programs is preventive education, where patients are informed on early warning signs and how to minimize risk factors before conditions deteriorate. As Cockerham et al. (2017) points out, preventive education plays a critical role in the reduction of prevalence and severity of chronic diseases, particularly in high-risk populations. Such a proactive approach does not only enhance individual health outcomes but also reduces the burden of healthcare systems at large because it minimizes the use of costly interventions.

Nurse-led education transforms and is necessary in chronic disease management. Factors through which nurse-led initiatives improve clinical outcomes, quality of life, and reduced health care cost are patients' empowerment, reduction in disparities, lifestyle change support, and exploitation of technological potential. Because chronic diseases are emerging at every turn of the world, ensuring healthier populations and equitable care will require a very vital role played by nurse-led education (Alhazme et al., 2024).

## Conclusion

Nurse-led education forms a new and radical approach in the management of chronic diseases, thereby significantly empowering the patient and enhancing his or her quality of life. Nurses empower the patients with the necessary skills and knowledge about the clinical and psychosocial dimensions of care as they experience the complexity of conditions and acquire sustainable self-management practices. It promotes individual health outcomes, averts complications, hospitalization, and disease progression and decreases the burden on health systems. With an individualized culturally sensitive approach to care, nurse-led interventions remain effective in a diverse population and setting and also advance health equity and patient empowerment.

Preventive measures and advancements in technology add to nurse-led education. Technologies like telehealth and digital tools broaden the scope of educational programs so that continued engagement and support can be maintained across geography and socioeconomic status. The number of chronic diseases across the world will only continue to grow, so the contributions of nurse-led education in this direction will never become outdated. Prioritizing patient-centered care, giving power to individuals, and exploiting modern health care tools all make nurse-led education the sustainable impact in changing and improving the health outcome to create a healthier community.

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