The Impact Of Nurse-Led Interventions On Chronic Disease Management

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Abstract
Chronic diseases are a significant burden on healthcare systems worldwide, requiring ongoing management and care to prevent complications and improve quality of life for patients. Nurse-led interventions have been shown to have a positive impact on chronic disease management, helping patients adhere to treatment plans, make positive lifestyle changes, and improve their overall health outcomes. This essay explores the impact of nurse-led interventions on chronic disease management and highlights the key findings from recent studies in this area.

Keywords: nurse-led interventions, chronic disease management, impact, healthcare, patients

1. Introduction

With increasing restrictions on healthcare expenditure, there is a requirement for chronic disease management to be as cost-effective as possible. This is often in conflict with the complexity of chronic disease, and the cost effectiveness of a particular intervention can be difficult to measure. However, when considering the future healthcare requirements of the aging population, the cost effectiveness of chronic disease management is an important consideration in identifying the types of intervention that may be implemented in the future. This paper will discuss a variety of nurse-led interventions and how they have impacted on the quality of care provided to people with chronic disease and its cost effectiveness. (Alghamdi et al.2023)

In Western society, chronic disease has become a major issue. As the population continues to age, there is an increasing likelihood that people will live with a chronic disease for a significant amount of time. As chronic disease is not a leading cause of death, it is actually one of the leading causes of morbidity and mortality. In order for the population to live a healthy and fulfilling life, it is important for those with chronic disease to manage their disease well. Due to a variety of factors, management of chronic disease can be quite complex, often resulting in suboptimal health outcomes. It is these factors that nurse-led initiatives often aim to address in attempts to increase the quality of life for those with chronic disease. (Sletvold et al.2022)

2. Benefits of nurse-led interventions

The evidence in the review suggests that nurse-led interventions can give benefits to patients with chronic disease. Nurse-led care has improved in recent years and has provided high-quality care to the patients with chronic diseases. One of the reasons it has improved would be due to the rise of nurse practitioners. They are advanced practice nurses who have the clinical knowledge and skills to manage chronic disease. Due to their role, they have longer consultations with the patients and they involve the patient in self-management and decision making. This can be seen in a study by Coulter et al., that found patients preferred the nurses involve them in decision making and found that involving the patient in decision making when treating their chronic disease had a positive impact on their health. Another role nurses take on is case manager. This has a positive impact with patients with multiple chronic diseases as they "oversee comprehensive management of select individuals with severe chronic illness who need special assistance over extended periods of time" (Lawn et

al., 2002). This involves organizing appointments with different health professionals and ensuring the patient receives access to the resources they require. Studies from randomized controlled trials show that nurse interventions in rheumatoid arthritis and osteoarthritis there is a significant decrease in patient disability. Patient disability occurs when there is a disruption in performing activities of daily living due to impairments resulting from their disease. Winfield et al. reported that their intervention of primary care nurses providing education, patient monitoring, and telephone follow-up resulted in less than half the number of patients developing disability compared to those receiving general practitioner care. This was visible through a 3-year period and concluded that nurse-led intervention was cost-effective. The other study was conducted by nurse practitioners providing interventions to patients with osteoarthritis. The results were improved access to healthcare services, reduced pain, and better functional status for the patients. (Davis et al.2021)

3. Challenges in implementing nurse-led interventions

These and other studies testing nurse-led interventions provide evidence on the complexities and challenges nurse researchers face when attempting to implement interventions whose protocols were designed in the idealistic research environment. A lack of understanding of the nurse's role, whether it be by other health professionals, clients, or the nurses themselves, was identified as a major barrier in a Canadian study exploring the issues encountered by clinical nurse specialists in implementing their role. The lack of role understanding was found to produce uncertainty about the specialist nurse's function and purpose, which often led to resistance from both other nurses and doctors. This, in turn, affected job satisfaction and caused many specialist nurses to consider leaving their new role. (Torrens et al.2020)

In a study testing a nurse-led intervention for patients with osteoarthritis in a rehabilitation facility, the research team encountered many difficulties. These included restrictions by facility management on the control group receiving the intervention, financial constraints in providing the intervention, and high staff turnover that disrupted continuity of the intervention. The research team noted that the most challenging aspect of this study was maintaining the intervention protocol in a constantly changing environment. (Skivington et al.2021)

A number of studies have reported difficulties in implementing nurse-led interventions, which have included lack of professional role understanding as well as legislative and organizational barriers. Conducting research into the impact of nurse-led interventions, primary care nurses from New Zealand reported the difficulties they encountered in implementing the role into an organization. These included expectations that the nurses would carry out duties beyond their traditional role, inadequate preparation and training for the role, and resistance from colleagues to the nurse taking on new duties. (Ireland et al.2023)

4. Successful strategies for nurse-led interventions

Most problems that arise in the management of chronic disease are determining when the problem started and what may have caused it. By teaching patients to examine the pattern of their disease state and relate it to specific events, behavior, or other diseases, it is possible to identify a trigger cause. Development of a causal diagram has been successful in improving asthma symptoms and peak flow, improving glycemic control in type 2 diabetes, and identifying depression in the elderly. A case study using a patient with type 2 diabetes has shown that the use of causal diagrams to identify a trigger cause has prevented the start of insulin therapy which the patient was against. (Raita et al., 2021)

4.1 Empowering patients to take control over their disease The intervention in monitoring the implementation of a patient-held record showed a significant reduction in HbA1c levels for patients with type 2 diabetes. The implementation involves the patient recording their results in a booklet that is taken to each consultation. The booklet often contains educational material, a list of medications, and problems identified with possible solutions. This led to the patient taking an interest in their self-management and becoming more confident in consultations with health professionals. The results showed an increase in activated patients which resulted in a higher quality of life, improved clinical indicators, and better use of available resources. (Neves et al.2020)

Self-management has been a focus of chronic disease management for the past few years. This study has identified several strategies that have been successful in nurse-led interventions in chronic disease management. These strategies include empowering the patient to take control over their disease, goal setting, using action plans, and identifying and solving problems that occur. (Alghamdi et al.2023)

5. Conclusion

However, it is important to interpret these findings with an open mind. From the many studies, there are limitations and some conflicting results. Also, some of the studies involved have a small sample size and short duration. This is not enough to warrant a change in current practice. In Malaysia, the role of a nurse in the private primary practice sector is still not well established. Tasks such as medication titration and prescription

require a collaborative agreement with a physician, but at this present time, there are not enough physicians who are willing to acknowledge the care given by the nurse. In turning a new leaf, there is always some resistance, and nurses or even physicians might be uncomfortable with the change from traditional physician-led care. Lastly, the economic perspective will always be a barrier. Nurse-led interventions could potentially reduce healthcare costs, but that would mean a shift of work from the physician to the nurse, and it is still unclear if there would be a cost offset. (Zanaridah et al., 2021)

In conclusion, the review has identified that nurse-led interventions have a beneficial effect in chronic disease management, and if these ways are utilized by general practitioners and policymakers, it carries the potential to increase the quality of patient care. Proper patient education is one important aspect in chronic disease management. In nurse-led patient education, research has shown that there is better knowledge and understanding of the disease process and improved self-management. Also, the nurse-led counseling service to stop smoking, which is targeted for smokers with chronic disease, has shown significant success. In a study, the rate of quitting for COPD patients is 18.8% and 21.8% for cardiovascular patients. This is significantly higher compared to the standard care, and there is evidence that continuous counseling is more effective. These findings suggest that nurse-led interventions are able to play a crucial role in prevention medications. This is supported by the heart failure management study in which the nurse titration of diuretics using a simple protocol has shown to reduce hospital readmissions and improve patient quality of life. Last but not least, it is crucial to involve the patient's family, and nurse-led interventions such as the home-based intervention to reduce asthma triggers in children have shown a significant reduction of asthma severity and high environmental tobacco smoke exposure.

References:
1. Alghamdi, J. N., Alonezi, M. S., Alharbi, K. A., Alsabban, A. A., Alhabeeb, F. A., Al Hammadi, A. S., ... & Saad, A. I. (2023). The Impact Of Nurse-Led Interventions On Patient Outcomes In Chronic Disease Management. Journal of Survey in Fisheries Sciences, 10(5), 298-302. sifisheriessciences.com
2. Sletvold, H., Jordan, S., & Olsen, R. M. (2022). Nurse-Led Interventions to Promote Medication Adherence in Community Care: A Systematic Review. Medication safety in municipal health and care services. nord.no
3. Davis, K. M., Eckert, M. C., Hutchinson, A., Harmon, J., Sharplin, G., Shakib, S., & Caughey, G. E. (2021). Effectiveness of nurse–led services for people with chronic disease in achieving an outcome of continuity of care at the primary-secondary healthcare interface: A quantitative systematic review. International Journal of Nursing Studies, 121, 103986. [HTML]
4. Torrens, C., Campbell, P., Hoskins, G., Strachan, H., Wells, M., Cunningham, M., ... & Maxwell, M. (2020). Barriers and facilitators to the implementation of the advanced nurse practitioner role in primary care settings: a scoping review. International journal of nursing studies, 104, 103443. sciencedirect.com
5. Skivington, K., Matthews, L., Simpson, S. A., Craig, P., Baird, J., Blazeby, J. M., ... & Moore, L. (2021). A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. bmj, 374. bmj.com
6. Ireland, P. A., Topp, M., & Wensley, C. (2023). Attitudinal Factors Influencing Quality Nurse-Led Mental Health Interventions in Primary Care Settings: An Integrative Literature Review. Journal of Psychosocial Nursing and Mental Health Services, 61(6), 25-32. [HTML]
7. Raita, Y., Camargo Jr, C. A., Liang, L., & Hasegawa, K. (2021). Big data, data science, and causal inference: A primer for clinicians. Frontiers in Medicine. frontiersin.org
8. Neves, A. L., Freise, L., Laranjo, L., Carter, A. W., Darzi, A., & Mayer, E. (2020). Impact of providing patients access to electronic health records on quality and safety of care: a systematic review and meta-analysis. BMJ quality & safety, 29(12), 1019-1032. bmj.com
9. Zanaridah, M. N., Norhayati, M. N., & Rosnani, Z. (2021). Knowledge, attitude and practice of evidence-based medicine among primary care practitioners in Malaysia: a cross-sectional study. BMJ open. bmj.com