Chelonian Conservation And Biology

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

DOI:doi.org/10.18011/2022.04(1) 2196.2205

THE IMPACT OF NURSE-LED CARE COORDINATION FOR PATIENTS WITH COMPLEX CONDITIONS

Halyma Abdullah Alymi, Albandry Abdulaziz Alnasser, Reham Senhat Alotaibi, Amany Modhaya Omair, Fatem Bhees Aswiny, Alaa Ali Safhi, Fatimah Ali Jari, Amal Ahmed Kumayt, Wafa Ali Hmoud Mashykhei, Sami Hussain Almalki, Reem Azwi Khudhayr Alharbi, Abdullah Mabar Y Alribhi, Ameera Mabrook Allugmaine, Fatimah Mohammed Ahmad Alhazmi, Naïf Ghazi Alotaibi

Abstract

Patients with multimorbidity in hospital, owing to their intricate medical conditions, get advantages from a care management strategy headed by nurses. This care management strategy facilitates more accurate assessment of patients' needs and employs a person-centred approach. The objective of this scoping study is to delineate the nurse-led care management approaches for patients with multiple chronic conditions in hospital settings. This review adhered to the JBI approach for conducting scoping reviews. The search included the worldwide databases Web of Science, CINAHL, MEDLINE, Nursing & Allied Health Collection, as well as grey literature. The data revealed three distinct groups of nurse-led care management models: nurse-led programs, case management, and nurse facilitator models. The interventions were centered on training, providing assistance upon release, doing follow-up, promoting health, and delivering patient-centered care. A key feature of nurse-led care models is the emphasis on placing the patient at the center. This includes helping patients develop skills to manage their own diseases, preparing them for leaving the hospital, and ensuring a smooth transition of care in the community.

Keywords: Review, patients, complex condition, nurse, nurse intervention, hospitals.

1. Introduction

Between 1990 and 2017, there was a 7.4-year rise in life expectancy, with some industrialized nations attaining a life expectancy of 80 years (Kyu et al., 2018). According to a study by Clerencia-Sierra et al. (2015), the average number of chronic illnesses in the general population over 80 years of age is about 5. However, this number jumps to 8 among hospitalized patients in the same age group. Within the European Union, four non-communicable illnesses, including cardiovascular disease, cancer, chronic obstructive pulmonary disease, and diabetes,

are responsible for around 86% of deaths and 77% of all ailments (World Health Organization, 2018).

Chronic illnesses, as defined by the Centers for Disease Control and Prevention, are problems that persist for at least one year and need ongoing medical attention. These conditions may impede the performance of everyday tasks or have an impact on both physical and mental well-being (Centers for Disease Control and Prevention, 2019). Multimorbidity is often defined as the presence of two or more chronic illnesses (Mercer & Chris Salisbury, 2014). This state may heighten susceptibility, as shown by the fact that older individuals who succumbed to COVID-19 had an average of 2.7 pre-existing chronic ailments (Marengoni et al., 2021).

Health systems in Europe sometimes prioritize medical specializations or focus on certain diseases, which may lead to a lack of patient-centered treatment (Baker & Fatoye, 2019; Crowe et al., 2019; Silva et al., 2020). Therefore, it is necessary to develop a model that takes into account the intricacies of multimorbidity (Struckmann et al., 2018). Patients with multimorbidity are vulnerable owing to fragmented treatment involving several health experts. To provide clarity, it is important to establish a precise description and synthesis of the responsibilities of every healthcare practitioner (Doessing & Burau, 2015).

An analysis examining patterns and factors contributing to hospital readmission revealed that individuals aged 65 years and older with multiple chronic illnesses had the highest occurrence of unplanned readmission within 30 days. Furthermore, 70% of patients in this group were affected by two or more chronic diseases (Berry et al., 2018). An analysis of the literature on hospital readmission in older adults found that their first experience of being hospitalized was marked by a sense of being unprepared for discharge and unsure about what would happen after leaving the hospital. Specifically, they perceived that community services were either unavailable or insufficient (Blakey et al., 2017). It is preferable to use a patient-centric strategy that involves patients more in the discharge process. This will help in accurately identifying the requirements of patients with multiple health conditions and ensuring a smooth transition of care between secondary and primary healthcare sectors for these patients (Davis et al., 2020).

2. Nurses Interventions

Nurses, although being part of multidisciplinary teams, are particularly well-suited to provide health education via their ability to facilitate learning and advocate for patients and families (Bodenheimer et al., 2005). A scoping review recently published revealed that nurse-led care models for patients with complex chronic diseases are predominantly led by nurse practitioners (NPs) in Canada and the United States, while in the United Kingdom and Australia, these models are led by an advanced clinical nurse (Gordon et al., 2019). The research did not find any evidence of a clinical nurse specialist (CNS) model of care. The authors stated that there is a need to clarify and improve nurse-led care models (Gordon et al., 2019).

There are several definitions of nurse-led care management that may be found in the literature. The Care Coordination Task Force, headed by the American Nurses Association and the American Academy of Nursing, establishes the fundamental principles of the concept for this examination. These principles emphasize the significance of placing the patient and their family at the center, involving the patient in their care, integrating care, and ensuring a comprehensive continuum of care in all care coordination models (Lamb et al., 2015). The terms nurse navigator, case manager, and care coordinator are used to describe nurse-led care models discussed in the literature. The nurse navigator care model is commonly, though not exclusively, linked to cancer, while the other models are associated with chronic disease and multimorbidity (McMurray & Cooper, 2017; Struckmann et al., 2018).

3. Nurse-led care models

The many definitions of nurse-led care models might hinder the identification of similarities and differences between the models, as well as the circumstances in which they are used and their influence on patients with multimorbidity (Conway et al., 2019; Gordon et al., 2019). Current care models primarily address individual diseases and do not include the presence of several chronic conditions. Additionally, care models led by nurses have not been well studied or described in the available literature (Kelly et al., 2019; Struckmann et al., 2018). Further investigation is necessary to examine the specific settings, such as hospitals or communities, where nurse-led models have been effectively implemented to address the population's requirements (Gordon et al., 2019). An initial search of MEDLINE, CINAHL, and JBI Evidence Synthesis was conducted, but no recent or ongoing scoping studies or systematic reviews of nurse-led care management models for patients with multiple chronic conditions in the hospital context were found.

There is a significant body of research in the literature that focuses on nurse-led care models for patients with a single chronic illness, such as diabetes or chronic obstructive pulmonary disease. However, it has been shown that this sort of care model may have particularly beneficial outcomes for patients with multimorbidity (Ehrlich et al., 2013). Nurses play a crucial role in managing chronic conditions by providing advanced care coordination. This is necessary because patients with chronic conditions have complex needs and are often in complex funding environments. Advanced care coordination offers a valuable opportunity to effectively coordinate the care of patients with multiple chronic conditions, such as those with multimorbidity (Gordon et al., 2019). The primary concern of multimorbidity is the presence of many chronic illnesses that have an influence on the treatment, functioning, quality of life, morbidity, and mortality of patients. Therefore, a comprehensive and patient-centered strategy, such as nurse-led clinics or nurse-led interventions, is more appropriate for the care of these patients (Radner et al., 2014).

The results categorize nurse-led care models into three categories: (1) based on nurses' interventions in managing patients' health conditions; (2) considering nurses' various

competencies; and (3) focusing on nurses' role as facilitators in guiding multimorbidity patients through healthcare systems. The first category includes "nurse-led programs" such as "nurse-led clinics," "nurse-led interventions," and a "nurse-led discharge program." The second category is "case management," which encompasses designations like CNS, NP, and "nurse case management." The third category is "models of nurse facilitator," which consists of "nurse navigators," "care coordinators," and the "transitional care model."

The primary models found in this analysis emphasized comprehensive illness treatment, including the monitoring of medication use, patient education and training, promotion of self-management, and improvement of health outcomes. Nurses has the capacity to actively contribute to and exert impact on the management of chronic diseases by integrating care, hence assuring patient safety, especially in the realm of medication management during transitions of care (Kollerup et al., 2018; Lee et al., 2017; Yamane et al., 2020).

The evaluation of patients is crucial in nurse-led care models, since it enhances understanding of the patient and offers precise direction for planning. This evaluation takes place in the hospital's acute care environment prior to the patient's release (Zhao & Wong, 2009). Improving the patient's condition seems to promote their involvement in nursing care (Tobiano et al., 2016), which may explain why this form of intervention is often seen in many programs.

Regarding the competences of nurses, the analyzed studies include several kinds of nurses who are engaged in nursing care models for patients with multiple chronic conditions. These include Clinical Nurse Specialists (CNS), Nurse Practitioners (NP), Advanced Practice Nurses (APN), and Registered Nurses (RN). Legislative measures and regulatory criteria will be required to clearly and precisely establish the exact skills and abilities that nurses must possess in order to provide care for these patients. This will help to define and improve the nursing care models for these individuals (Gordon et al., 2019).

Nurse-led transitional care programs provide a complete biopsychosocial approach to treatment and support within the same environment (Coyne et al., 2019). The implementation of a nurse-led transitional care approach has been shown to effectively improve health-related knowledge and adherence behavior in patients with chronic diseases, while also reducing service use and costs in this vulnerable group (Markle et al., 2020; Zhao & Wong, 2009). Acquiring this information will enhance self-management, a crucial factor in maximizing health outcomes for individuals with chronic conditions and reducing healthcare costs (Ko et al., 2018).

The nurse navigator care approach prioritizes facilitating access to diagnosis and treatment, offering social and instrumental support, coordinating care, eliminating obstacles, and guiding patients through the healthcare system to provide prompt, effective, and suitable care. Nurse navigators form a collaborative alliance aimed at fostering patient autonomy and facilitating their ability to independently manage their treatment, including understanding when and how to use the resources that are accessible to them (Byrne et al., 2020; Coyne et al., 2020).

4. Elements seen across the different models were the nurses' involvement and the focus on patient-centred care

The found commonalities include the fact that all models are led by nurses and prioritize the improvement of patients' health condition and the smooth transfer of care from the hospital to the community. Enabling patients to take charge of their own treatment may be a more streamlined approach to managing the care of patients with many chronic conditions (Coster et al., 2018; Scholz Mellum et al., 2019). According to a recent systematic study by Lee et al. (2020), nurse-led care was shown to have notable beneficial benefits on patients with multimorbidity, namely in terms of self-rated health, anxiety, sadness, and self-efficacy.

The variations in the nurses' responsibilities within various models mostly stem from their level of expertise and professional specialization. The variations in these factors impact the kind of interventions that nurses provide for patients, as well as their level of independence in managing care. The level of autonomy and differentiation in therapies is directly proportional to the nurses' proficiency in making intricate judgments within a certain clinical specialty (Gordon et al., 2019; Hudson et al., 2014).

Several treatments have been discovered in these types of models, including home visits, telephone follow-up, patient education, increasing self-management, and engaging patients, among others. Nurse-led activities of this kind have the potential to decrease patient visits to the emergency department and readmissions by promptly identifying symptoms, facilitating quick referrals and consultations, and implementing swift treatments (LeBar, 2020). Patients with multimorbidity need a multi-professional approach and strong cooperation in order to meet their complicated requirements and achieve optimal results (Looman et al., 2021).

A research conducted in the United States revealed that 90% of patients who were admitted to the hospital with chronic disorders had two or more chronic diseases. Additionally, among those who were hospitalized for acute diseases that might have been prevented, almost 80% had multiple chronic diseases (Skinner et al., 2016). Enhancing the coordination of treatment, closely monitoring patients' situations, and guiding them towards more suitable healthcare facilities might lead to improved health outcomes and a more effective use of healthcare resources (Davis et al., 2020; Skinner et al., 2016). There has been a growing focus on patients with multimorbidity in recent years, leading to the development of innovative approaches to address their needs. However, in order for the models to function optimally and be suitably tailored to the genuine requirements of the patients, more study is necessary (Hoffman et al., 2019).

It is important to design services for patients with multimorbidity in a culturally appropriate manner, with the goal of enhancing or preserving their self-management skills, knowledge, and confidence at different levels of engagement. For instance, nurses can develop coaching interventions to achieve this objective (Budge et al., 2020). In order to establish a patient-centric care plan, it is essential for individuals with many chronic conditions to adopt a comprehensive perspective and cultivate self-management abilities. This will enable them to feel empowered

and actively involved in their healthcare journey (Looman et al., 2021). One way to do this is by creating comprehensive hospital discharge planning and community coordination programs, which may include home visits or follow-up phone calls following release.

The idea of nurse-led models is described using various terminology, and even the index terms are inconsistent, which poses a challenge in ensuring the search's sensitivity. The inclusion criteria were restricted to research conducted in English, potentially resulting in the exclusion of relevant studies published in other languages.

5. Conclusions

The analysis identifies numerous care models that are mostly driven by nurses, either individually or as part of multidisciplinary teams. These models use a holistic approach to patients with multimorbidity. The patient's centrality is a universal trait of all models, and nurses are well-positioned to take the lead in implementing various care models.

Developing proficiency in managing one's own health conditions, preparing for release from the hospital, and ensuring seamless healthcare in the community are key elements in the different models. Most models emphasized the importance of health education in empowering individuals with multiple chronic conditions. Additionally, certain models were identified as providing support and guidance to patients as they navigate the healthcare system and seek timely, effective, and appropriate treatment for their illnesses.

Nurses in various models possess the necessary professional growth and skill levels to exercise autonomy in leading these models. The frequency of parallels across the models outweighed that of differences, with the variations mostly pertaining to the varying roles of nurses across different settings and nations.

The interventions that define the models promote vigilant monitoring of patients with multimorbidity after their release from the hospital. These interventions include nurse home visits, telephone follow-up, emotional support, provision of information, tailored care, and health education programs. These actions and concepts of nurse-led models may be modified to suit various hospital contexts, potentially resulting in positive health outcomes.

References

1. Baker, E., & Fatoye, F. (2019). Patient perceived impact of nurse-led self-management interventions for COPD: A systematic review of qualitative research. *International Journal of Nursing Studies*, **91**, 22–34.

2. Berry, J. G., Gay, J. C., Joynt Maddox, K., Coleman, E. A., Bucholz, E. M., O'Neill, M. R., Blaine, K., & Hall, M. (2018). Age trends in 30 day hospital readmissions: US national retrospective analysis. *BMJ*, k497.

3. Blakey, E. P., Jackson, D., Walthall, H., & Aveyard, H. (2017). What is the experience of being readmitted to hospital for people 65 years and over? A review of the literature. *Contemporary Nurse*, **53**, 698–712.

4. Bodenheimer, T., MacGregor, K., & Stothart, N. (2005). Nurses as leaders in chronic care. *British Medical Journal*, **330**(7492), 612–613.

5. Budge, C., Taylor, M., Hansen, C., Fai, F., & Mar, M. (2020). The role and measurement of patient activation in the management of long-term conditions in New Zealand. *The New Zealand Medical Journal*, **133**(1511), 41–51.

6. Byrne, A. L., Hegney, D., Harvey, C., Baldwin, A., Willis, E., Heard, D., Judd, J., Palmer, J., Brown, J., Heritage, B., Thompson, S., & Ferguson, B. (2020). Exploring the nurse navigator role: A thematic analysis. *Journal of Nursing Management*, **28**(4), 814–821.

7. Centers for Disease Control and Prevention. (2019). National Center for Chronic Disease Prevention and Health Promotion|About Chronic Diseases.

8. Clerencia-Sierra, M., Calderón-Larrañaga, A., Martínez-Velilla, N., Vergara-Mitxeltorena, I., Aldaz-Herce, P., Poblador-Plou, B., Machón-Sobrado, M., Egüés-Olazabal, N., Abellán-van Kan, G., & Prados-Torres, A. (2015). Multimorbidity patterns in hospitalized older patients: Associations among chronic diseases and geriatric syndromes. *PLOS ONE*, **10**(7), e0132909.

9. Conway, A., O'Donnell, C., & Yates, P. (2019). The Effectiveness of the Nurse Care Coordinator Role on Patient-Reported and Health Service Outcomes: A Systematic Review. *Evaluation & the Health Professions*, **42**(3), 263–296.

10. Coster, S., Watkins, M., & Norman, I. J. (2018). What is the impact of professional nursing on patients' outcomes globally? An overview of research evidence. *International Journal of Nursing Studies*, **78**(October 2017), 76–83.

11. Coyne, E., Carlini, J., Doherty, T., Harlow, W., Mitchell, M. L., & Grealish, L. (2020). Partnership between Nurse Navigators and adult persons living with complex chronic disease—An exploratory study. *Journal of Clinical Nursing*, **29**(15–16), 2918–2926.

12. Coyne, I., Sheehan, A., Heery, E., & While, A. E. (2019). Healthcare transition for adolescents and young adults with long-term conditions: Qualitative study of patients, parents and healthcare professionals' experiences. *Journal of Clinical Nursing*, **28**(21–22), 4062–4076.

13. Crowe, M., Jones, V., Stone, M. A., & Coe, G. (2019). The clinical effectiveness of nursing models of diabetes care: A synthesis of the evidence. *International Journal of Nursing Studies*, **93**, 119–128.

14. Davis, K. M., Eckert, M. C., Hutchinson, A., Harmon, J., Sharplin, G., Shakib, S., & Caughey, G. E. (2020). Continuity of care for people with multimorbidity: The development of a model for a nurse-led care coordination service. *Australian Journal of Advanced Nursing*, **37**(4), 7–19.

15. Doessing, A., & Burau, V. (2015). Care Coordination of Multimorbidity: A Scoping Study. *Journal of Comorbidity*, **5**(1), 15–28.

16. Ehrlich, C., Kendall, E., & John, W. S. (2013). How does care coordination provided by registered nurses "fit" within the organisational processes and professional relationships in the general practice context? *Collegian*, **20**(3), 127–135

17. Gordon, K., Gray, C., Dainty, K., DeLacy, J., & Seto, E. (2019). Nurse-Led Models of Care for Patients with Complex Chronic Conditions: A Scoping Review. *Canadian Journal of Nursing Leadership*, **32**(3), 57–56.

18. Hoffman, G. J., Burgard, S., Mendez-Luck, C. A., & Gaugler, J. E. (2019). Interdependence in health and functioning among older spousal caregivers and care recipients. *Western Journal of Nursing Research*, **41**(5), 685–703.

19. Hudson, R., Comer, L., & Whichello, R. (2014). Transitions in a wicked environment. *Journal of Nursing Management*, **22**(2), 201–210.

20. Kelly, K. J., Doucet, S., & Luke, A. (2019). Exploring the roles, functions, and background of patient navigators and case managers: A scoping review. *International Journal of Nursing Studies*, **98**, 27–47.

21. Kollerup, M. G., Curtis, T., & Schantz Laursen, B. (2018). Visiting nurses' posthospital medication management in home health care: an ethnographic study. *Scandinavian Journal of Caring Sciences*, **32**(1), 222–232.

22. Kyu, H. H., Abate, D., Abate, K. H., Abay, S. M., Abbafati, C., Abbasi, N., Abbastabar, H., Abd-Allah, F., Abdela, J., Abdelalim, A., Abdollahpour, I., Abdulkader, R. S., Abebe, M., Abebe, Z., Abil, O. Z., Aboyans, V., Abrham, A. R., Abu-Raddad, L. J., Abu-Rmeileh, N. M. E., … Murray, C. J. L. (2018). Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990-2017: A systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, **392**(10159), 1859–1922.

23. Lamb, G., Newhouse, R., Beverly, C., Toney, D. A., Cropley, S., Weaver, C. A., Kurtzman, E., Zazworsky, D., Rantz, M., Zierler, B., Naylor, M., Reinhard, S., Sullivan, C., Czubaruk, K., Weston, M., Dailey, M., & Peterson, C. (2015). Policy agenda for nurse-led care coordination. *Nursing Outlook*, **63**(4), 521–530.

24. LeBar, K. (2020). Care Models Preventing Readmission. *Seminars in Oncology Nursing*, **36**(3), 151021.

25. Lee, H. J., Lee, M., Ha, J. H., Lee, Y., & Yun, J. (2020). Effects of healthcare interventions on psychosocial factors of patients with multimorbidity: A systematic review and meta-analysis. *Archives of Gerontology and Geriatrics*, **91**, 104241.

26. Lee, Y. M., Yu, H. Y., You, M. A., & Son, Y. J. (2017). Impact of health literacy on medication adherence in older people with chronic diseases. *Collegian*, **24**(1), 11–18.

27. Looman, W., Struckmann, V., Köppen, J., Baltaxe, E., Czypionka, T., Huic, M., Pitter, J., Ruths, S., Stokes, J., Bal, R., & Rutten-van Mölken, M. (2021). Drivers of successful implementation of integrated care for multi-morbidity: Mechanisms identified in 17 case studies from 8 European countries. *Social Science & Medicine*, **277**, 113728.

28. Marengoni, A., Zucchelli, A., Vetrano, D. L., Armellini, A., Botteri, E., Nicosia, F., Romanelli, G., Beindorf, E. A., Giansiracusa, P., Garrafa, E., Ferrucci, L., Fratiglioni, L., Bernabei, R., & Onder, G. (2021). Beyond chronological age: Frailty and multimorbidity predict in-hospital mortality in patients with coronavirus disease 2019. *The Journals of Gerontology: Series A*, **76**(3), e38–e45.

29. McMurray, A., & Cooper, H. (2017). The nurse navigator: An evolving model of care. *Collegian*, **24**(2), 205–212.

30. Mercer, S., & Chris Salisbury, M. F. (2014). *ABC of Multimorbidity* (J. W. & S. Books ed.). John Wiley & Sons_Wiley_BMJ Books.

31. Radner, H., Yoshida, K., Smolen, J. S., & Solomon, D. H. (2014). Multimorbidity and rheumatic conditions - Enhancing the concept of comorbidity. *Nature Reviews Rheumatology*, **10**(4), 252–256.

32. Scholz Mellum, J., Martsolf, D. S., Glazer, G., Tobias, B., & Martsolf, G. (2019). How older adults with multimorbidity manage their own care within a formal care coordination program? *Geriatric Nursing*, **40**(1), 56–62.

33. Silva, A. T. M. d., Mantovani, M. d. F., Moreira, R. C., Arthur, J. P., & Souza, R. M. d. (2020). Nursing case management for people with hypertension in primary health care: A randomized controlled trial. *Research in Nursing and Health*, **43**(1), 68–78.

34. Skinner, H. G., Coffey, R., Jones, J., Heslin, K. C., & Moy, E. (2016). The effects of multiple chronic conditions on hospitalization costs and utilization for ambulatory care sensitive conditions in the United States: A nationally representative cross-sectional study. *BMC Health Services Research*, **16**(1), 1–9.

35. Struckmann, V., Leijten, F. R. M., van Ginneken, E., Kraus, M., Reiss, M., Spranger, A., Boland, M. R. S., Czypionka, T., Busse, R., & Rutten-van Mölken, M. (2018). Relevant models and elements of integrated care for multi-morbidity: Results of a scoping review. *Health Policy*, **122**(1), 23–35

36. Tobiano, G., Bucknall, T., Marshall, A., Guinane, J., & Chaboyer, W. (2016). Patients' perceptions of participation in nursing care on medical wards. *Scandinavian Journal of Caring Sciences*, **30**(2), 260–270.

37. Tu, Q., Xiao, L. D., Ullah, S., Fuller, J., & Du, H. (2020). A transitional care intervention for hypertension control for older people with diabetes: A cluster randomized controlled trial. *Journal of Advanced Nursing*, **76**(10), 2696–2708

38. World Health Organization. (2018). World Health Organization/Europe|Health systems response to NCDs. Retrieved January 12, 2020, from http://www.euro.who.int/en/health-topics/Health-systems/health-systems-response-to-ncds

39. Yamane, S. S., de Gagne, J. C., Riggs, A., Kimberly, G. D., & Holye, M. (2020). Assessment of a patient-centered initiative to improve hypertension management for adults with comorbid type 2 diabetes at a free clinic in the rural south. *Nursing Forum*, **55**(3), 348–355.

40. Zhao, Y., & Wong, F. K. Y. (2009). Effects of a postdischarge transitional care programme for patients with coronary heart disease in China: A randomised controlled trial. *Journal of Clinical Nursing*, **18**(17), 2444–2455.