

## Critical Analysis of Nursing Practices in Chronic Disease Management and Patient Advocacy

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### Abstract

*The major non-communicable diseases include diabetes, hypertension, and cardiovascular diseases, which are some of the biggest health concerns worldwide. Chronic illness management is an important aspect of care in nursing professionals, as they develop relationships with their clients and provide critical medical care, counseling, and education. This paper is a critical discussion of the current nursing practice in managing chronic diseases, pointing out the significance of the nurse in enhancing patient success. It examines how nurses communicate with or interact with patients, interprofessional relationships, and nursing advocacy. The review also covers the elements of evidence-based practice and discusses the issues and prospects for chronic illness management about patient-centeredness.*

**Keywords:** *Chronic disease management; nursing practices; patient advocacy; patient-centered care; healthcare collaboration; nursing interventions; chronic illness.*

### Introduction

It should be noted that among the factors contributing to the emergence of chronic diseases in the first place, these diseases are pretty complex and require constant attention in healthcare programs. This paper adopts WHO data, which reveals that over 70% of global deaths are attributable to chronic diseases, with heart diseases, stroke, diabetes, and chronic respiratory illnesses being the most common. It's important to point out that the optimal management of chronic diseases largely contributes not only to patients' quality of life but also to the decrease in various losses of health care systems (Mohammad et al., 2024a; Mohammad et al., 2023a; Mohammad et al, 2024b).

Chronic illness is primarily managed by nurses who are considered heroes of the healthcare team. They have a very complex role in performing clinical care, education, counseling, and advocating for patients. Since most diseases are chronic, nurses are in close contact with patients, which helps them develop a loyal client database. Evidence-based interventions in chronic care and patient advocacy: A review identifies critical issues, the practices involved in chronic disease care, and the nurse's advocacy role.

### Literature Review

#### *The Role of Nurses in Chronic Disease Management*

Chronic diseases are primarily delegated to nurses to handle as healthcare team members. They offer both the medical aspect of an illness and the emotional and social aspects to make patients feel better. Chronic

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disease treatment is not confined to giving medicines and studying the patient's clinical changes; nurses have more to do with the management. They also teach patients, support self-management and management, and assert patients' rights and needs within health systems (Poureslami et al., 2017; Mohammad et al., 2023b; Al-Hawary et al., 2020; Al-Husban et al., 2023). Their contributions are essential in the healthcare sector in an attempt to augment the quality of the lives of patients suffering from chronic diseases and overall healthcare results.



(Poureslami et al., 2017).

#### *Clinical Competence and Patient-Centered Care*

Exercising clinical competence among nurses happens to be central to the management of chronic illnesses. They monitor the patient's status, evaluate alterations, and act to avoid complications where necessary. For instance, nurses record important things such as blood pressure, glucose level, and pulse rate, which are important tools for treatment planning. Through keen monitoring of these outcomes, the nurses are in a position to identify any worrying trends early, hence leading to a call for other healthcare team members to take appropriate actions towards the worrying trends, which may lead to complications.

In addition to activities oriented toward solving clinical problems, nurses use patient-centered care directed at the patient's desires, life patterns, and requirements. In their study published in 2020, Smith and his colleagues established that nurses who ensure patients receive constant education regarding proper lifestyle changes, including regular physical activity, proper diet, and medication compliance, can help prevent recurrent hospitalizations for chronic disease patients, including diabetes and hypertension. Patients can better monitor their conditions and make the right choices in this approach.

## Patient-Centered Care Management



(Hockenberry & Wilson 2018).

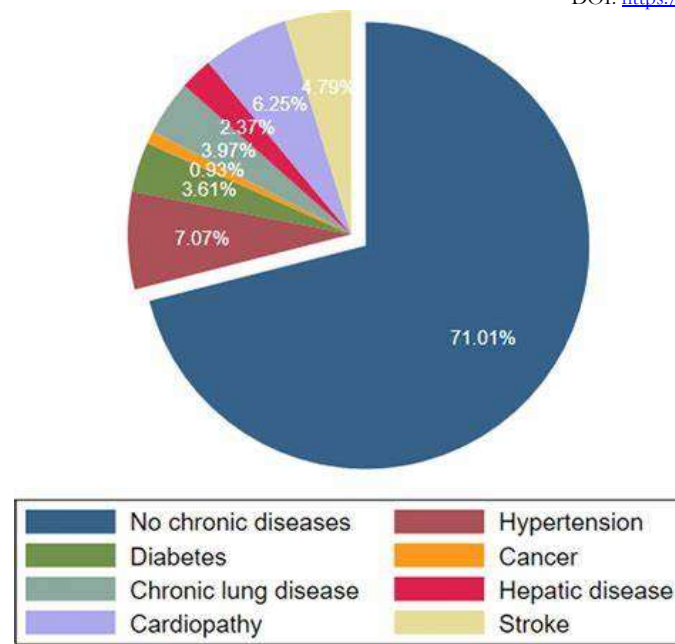
Nurses also follow up with patients and help them deal with or cope with illnesses that are usually chronic. In particular, motivational interviewing and goal setting assist the nurses in empowering the patients, identifying achievable health objectives, considering obstacles to adherence, and embracing healthier practices. By applying these strategies, we, the nurses, ensure that the patients develop ownership and personal responsibility to support long-term desirable behavior change.

### *Chronic Disease Management AND Patient Advocacy*

Patient advocacy is fundamental to nursing care, particularly chronic illness management. Nurses are also in a position to speak for and on behalf of their patients, promote their concerns, and ensure their rights during the health care process. In chronic disease management, advocacy is not just providing for basic needs but rather having the nurses fight for patients to get their required treatments, explain various diseases, and obtain proper healthcare services (Hockenberry & Wilson 2018; Al-Nawafah et al., 2022; Alolayyan et al., 2018; Eldahamsheh, 2021).

Besides direct patient care, nurses must also assist their patients in dealing with the many challenges that a health care system poses. This involves helping them get the medications, specialists, or other community-based support services that many may need due to their chronic conditions. Nurses also inform patients of the various available treatment plans and the consequences and advantages of each plan to equip the patient with sufficient knowledge to make a rational decision concerning achievable treatments.

Garcia and Lee (2019) look at how nurses bring patient advocacy into chronic illness care and the critical role of advocacy for a patient. The first-way nurses in this interaction advocate for patients is by arranging access to the care their patients require, arranging inter-disciplinary communication between several healthcare personnel they are in charge of, and supporting patients in arriving at decisions consistent with what they want and need. Another part of advocacy is the psychological support of patients, including preserving their rights and ensuring they are not discriminated against and can make medical decisions independently.



(Hockenberry & Wilson 2018).

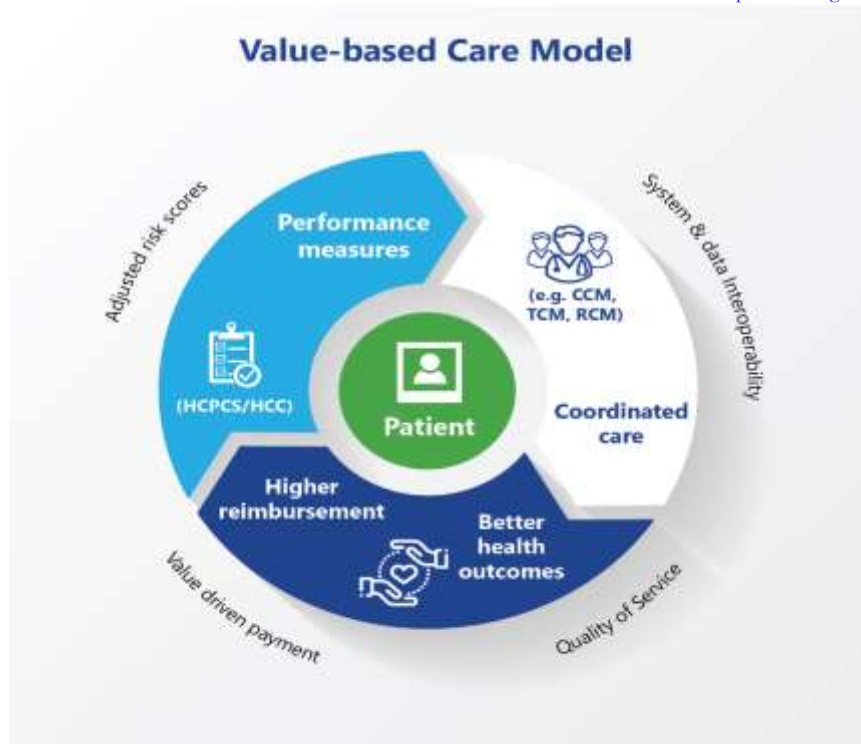
On some specific occasions, nursing may influence change in norms within the healthcare structure or ND access healthcare services in the interest of specific chronic illnesses. For instance, nurses may use the concept to petition for the availability and utilization of many health facilities, cheap access to drugs, and adequate care and support for those with chronic illnesses.

#### *Collaboration in Chronic Disease Management*

Interprofessional relationships are another important component of chronic disease management. Nurses are frequently the focus of this process, organizing and monitoring aspects of care delivery to guarantee patients receive a holistic approach to care. These include the physical, emotional, and social aspects that are critical when caring for chronic conditions, which clients are usually treated in the long run.

Many nurses work in teams with physicians, dietitians, pharmacists, social workers, and other healthcare professionals when designing and planning client care. These care plans address all aspects of an individual patient to capture all that can be done to address the condition in question. Understanding the patient as a whole provides nurses with sufficient information concerning exactly what kind of interventions the patient needs to be prescribed and the individual support they require from the caring profession throughout the cycle of their health-delivering process.

The role of interprofessional collaboration, especially in stick diseases, has been highlighted in a study made by Harris et al. (2021) on how patients who are managed by a team of health workers, including nurses who coordinate or facilitate the management of the patient, have improved their overall health. It sustains and improves patient care in that it goes a long way in eliminating gaps in treatment and guarantees that all areas of the patient's condition receive attention as needed. Nurses are especially handy when relaying information between caregivers within a team regarding the patient's progress, difficulties, and needs.



(Woo et al., 2017).

The concept of care delivery is essential for patients who have a single, multiple, or complicated chronic ailment. Such patients frequently need interaction with a number of physicians, and this is important to avoid contradictory or disconnected treatment regimens. Nurses act as middlemen and women between numerous other specialists so that the patients get the best care that leaves no stone unturned.

### *Chronic Diseases and the Effects of Nursing*

This paper aims to establish the extent of nurses' role in managing chronic diseases followed by patients. Research shows that knowledge, promotion, and liaison activities in nursing foster comprehensible disease management, increase patients' compliance with treatment regimens, and increase patient satisfaction. Brown et al. (2019) have shown that implementing the described approaches for chronically ill patients improves symptom control and increases the quality of life despite the inconsistency of regular nursing care. Nurses are also responsible for preventing the proletariat, which results from chronic diseases. Advocacy involves following up with the patients, teaching them how to manage their symptoms, and then stepping in when the need arises to prevent hospitalization or worsening of the condition. For instance, in diabetic patients, the professionals can follow their blood glucose level, the appropriate diet, exercise regime, and the correct use of drugs, therefore reducing the effects of diabetes in their body.

### **Challenges in Chronic Disease Management**

Although knowledge regarding CNM was revealed to be critical, multiple challenges remain. The exclusive focus is on patients, complex and unpredictable coordination, and cumbersome technology integration. One of the big challenges is the nurse-patient ratio, including both employed and self-employed nurses; this makes nurses burn out, and the quality of services decreases tremendously. Also, the continuing shortage of resources and educational facilities for reaching continuing education for nurses working in rural or other staffed regions means many can provide ineffectual and out-of-date care for chronic disease patients.

Furthermore, patients may present difficulties realizing treatment goals and advertised healthy changes due to their possible unwillingness to change their behaviors following medical advice. In such situations, motivational interviewing and patient education play a major role because nurses should be able to explain the benefits of chronic diseases and why changes need to be made among the patients.

Their newsletter appropriately titled their article, 'Web 2.0 Democratizes Media, or Why Working for Yahoo! Rocks,' emphasizing that Web 2.0 has opened up the media. As a result, working for one of these multinational internet corporations has become the dream job for many.

## Methods

This review integrates qualitative findings from various sources, including original research articles in peer-reviewed nursing journals, clinical reports, and policy documents describing current nursing practices in managing chronic diseases. To obtain a modern point of view in most articles, the search was done to identify articles published over the last ten years focusing on nursing interventions, advocacy roles, and outcomes related to chronic diseases. Electronic sources like databases PubMed, CINAHL, and Google Scholar were utilized with keywords including "nursing practices in chronic disease," "patient advocacy in healthcare," and "nursing care for chronic illness."

The inclusion criteria focused on papers that analyzed nursing interventions, patient advocacy, and collaborative approaches to chronic disease management. Exclusion criteria were articles related to any other subject, excluding nursing roles and articles derived from contexts unrelated to chronic illness.

## Results and Findings

### *Nursing Practices and Patients' Consequences*

Various research has shown the great influence of nursing interventions on patients' statuses, especially among chronic illness patients. The literature reveals that self-management, medication compliance, and permanent supervision and support are all areas nurses appear essential in successfully supporting patient outcomes. For example, Thompson et al. (2019), in a systematic review of the effectiveness of nursing interventions in chronic disease management, revealed that patients with follow-up care from nurses had better compliance with medications, better self-management strategies, and fewer hospitalization rates and emergency hospital visits.

### *The effectiveness of structured nursing programs*

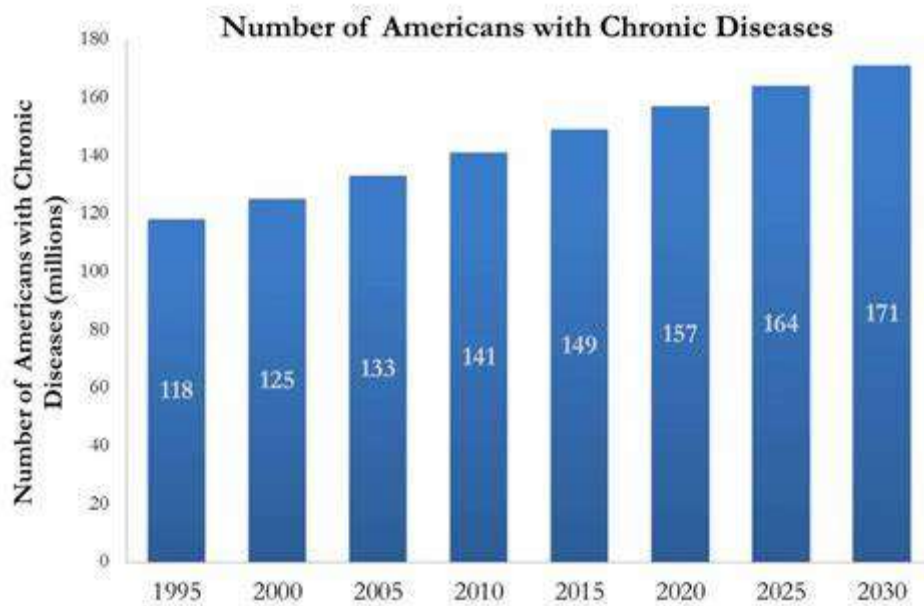
Several studies have highlighted ways that structured nursing programs can improve disease control dramatically. Nurses use their knowledge to teach patients about signs and symptoms, progression, and lifestyle changes that would help to achieve improved chronic disease management. For instance, in diabetes, nurses who teach patients how to monitor their blood sugars and offer dietary and exercise advice eliminate complications such as neuropathy, retinopathy, and cardiovascular disease, according to Smith et al. (2020). Similarly, in cases of hypertension, the qualified nurses who do the blood pressure checks and teach patients to adhere to treatment and prescribed medicines and diets would also avert conditions such as stroke and heart attack.

Besides clinical supervision, nurses are mostly involved with emotional and psychological assessment. One characteristic of patients with chronic disease is that they are stressed, anxious, and depressed. Nurses who engage in counseling, encourage the client to express himself or herself, and treat psychologically related issues were discovered to reduce the overall patient's morbidity and increase compliance. The prime benefit of receiving clinical and emotional care simultaneously is an increased quality of patients' condition and a good prognosis for further health.

### *Patient Advocacy and Healthcare Access*

Another involves advocacy by the nurses for their patients with chronic diseases. According to research findings, the results tend to be better when nurses speak on behalf of their clients, particularly the vulnerable ones. For instance, Jackson et al. (2020) noted that to champion their patients' rights, embrace patient-centered nursing care, and promote patient advocacy, nurses often ensure that frail and vulnerable patient populations gain safe, fast, and effective medical interventions, medications, and necessities products and assets in their communities. This leads to improved healthcare utilization, increased patient-centeredness, and decreased care differential.

The roles of patient self-education in chronic disease management include advising patients on their disease, disease management, and the health system. Nurses operate as messengers between patients and doctors, who keep the patients informed of their treatment plans and the patient's concerns (Woo et al., 2017; Alzyoud et al., 2024; Mohammad et al., 2022; Rahamneh et al., 2023). According to the literature, the patients who receive support from the nurses are more likely to undertake personal responsibilities and follow physicians' recommended therapies. However, nurses also help their patients deal with large healthcare organizations, for instance, by obtaining financial help, helping pay for or get medication, or receiving a referral to a specialist. Thus, advocacy plays a critical role in clients' lives because it can minimize impediments to care and guarantee that these individuals will receive the complex, coordinated care usual for chronic diseases.



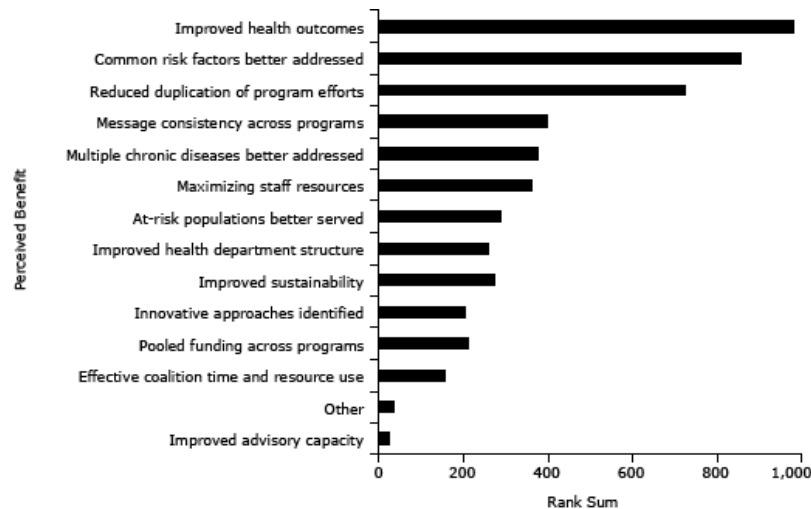
(Schulman-Green et al., 2016).

### *Collaborative Practices and Integrated Care Models*

Interprofessional relationships are required for proper health management, especially chronic diseases. Nurses are key stakeholders in integrated care models, in which they work closely with physicians, pharmacists, dietitians, social workers, and other healthcare professionals to design, coordinate, and deliver an individualized care plan. Collaborative care has been proven to increase patient satisfaction and improve patient outcomes since it holistically considers a patient's care needs.

In one of the most recent articles by Harris et al. (2021), it was concluded that patients whose care involves collaborative decision-making with the participation of nurses have better chronic disease outcomes. Nurses who cooperate with other caregivers ensure that all the measures are set according to each patient and his/her physical, social, and psychological condition. This strategy increases the general quality of care and the chances of better results.

Also, the nurses realize the communication barrier in an impressive way since they act as a link between different doctors to ensure the patient receives proper care at the right time. This minimizes incidences where patients receive shattered care with poorly coordinated counterproductive services. As patients receive care that is more holistic and coordinated, their health improves, and there are fewer hospitalizations and emergency visits; hence, healthcare costs are also cut down.



(Smolowitz et al., 2015).

### *Challenges Faced by Nurses in Chronic Disease Management*

As much as there is evidence of the benefit of nursing interventions in chronic disease management, there are several challenges. This paper aims to discuss some of the challenges facing the nursing profession; the primary one is the increased nurse-patient ratio across many healthcare organizations. In many hospitals and clinics, the number of patients is managed by the number of nurses, which puts the nurse under a lot of pressure and stress and significantly decreases the quality of care. In such settings, it can be challenging for nurses to give the kind of care that chronic disease patients need; therefore, there are likely to be care gaps and, by extension, adverse health outcomes (Jones et al., 2020; Al-Azzam et al., 2023; Al-Shormana et al., 2022; Al-E'wesat et al., 2024).

The other difficulty is the scarcity of supply for some developers in the areas that do not have adequate attention from everybody. In this study, there will be an acknowledgment of the fact that nurses practicing in rural or economically disadvantaged areas can rarely take continuing education and training, as seen below. Moreover, in regions with few medical facilities, the nurses have little or no equipment to use for assessing and/or monitoring the progress of patients with diseases; this will also lead to wrong disease diagnoses and wrong methods used in handling the patients (Smolowitz et al., 2015).

This is because the structure of healthcare systems will also pose challenges to patient advocacy initiatives. Nurses often find it difficult or are frustrated when trying to maneuver these systems to obtain necessary insurance approvals and payments or to receive the right care for their patients. Further, they are always tied up with different systems and caregivers, creating a situation where they cannot easily speak for the patient when the need for a correct treatment plan and timely treatment arises.

In addition, concerns about patient confidentiality, autonomy, and discrimination, among other things, need to be addressed. To this end, nurses must be taught to handle sensitive patient information while ensuring responsible patient advocacy that respects the patient's right to privacy.

## **Discussion**



*Improving Nursing Practices in Chronic Disease Management*

To elaborate more on chronic disease, there is a need to focus more on training more nurses with added information and knowledge in chronic disease management, patient advocacy roles, and how to work together with the patients. Burnout impacts the nursing workforce, and the strategies include Increasing recruitment and retention of nurses, improving workplace practices that support new and senior nurses, and promoting organizational support for the nursing workforce. In addition, spending on patient education and self-management resources contributes to increasing the capacity of patients to cope with chronic diseases.

*The Use of Technology and Telehealth*

Telehealth services allow nurses to work outside clinical settings. They can monitor, counsel, and educate patients using technology. Technology may also allow patients to be checked more often for long-term conditions. Through telehealth technologies, nurses can provide appropriate information when and where it is required, especially to patients in demographically inaccessible regions (Smolowitz et al., 2015).

**Conclusions**

Nurses are crucial to caring for and supporting patients with chronic conditions and relevant guardians. Despite the lack of direct practice in health advances, nurses play a vital role in bettering a patient's health condition and quality of living, with the element of nursing involving clinical care, patient teaching, and collegial working. However, challenges like staffing shortages, burnout, and barriers to advocacy still exist. Subsequently, there is a need to further develop the nursing practice through receiving knowledge, technological advancement, and interprofessional relations to advance care for chronic diseases for patients.

**References**

- Al-Azzam, M. A. R., Alrfai, M. M., Al-Hawary, S. I. S., Mohammad, A. A. S., Al-Adamat, A. M., Mohammad, L. S., Al-hourani, L. (2023). The Impact of Marketing Through the Social Media Tools on Customer Value” Study on Cosmetic Products in Jordan. In *Emerging Trends and Innovation in Business and Finance* (pp. 183-196). Singapore: Springer Nature Singapore.
- Al-E'wesat, M.S., Hunitie, M.F., Al sarayreh, A., Alserhan, A.F., Al-Ayed, S.I., Al-Tit, A.A., Mohammad. A.A., Al-hawajreh, K.M., Al-Hawary, S.I.S., Alqahtani, M.M. (2024). Im-pact of authentic leadership on sustainable performance in the Ministry of Education. In: Hannon, A., and Mahmood, A. (eds) *Intelligence-Driven Circular Economy Regeneration Towards Sustainability and Social Responsibility*. Studies in Computational Intelligence. Springer, Cham. Forthcoming.
- Al-Hawary, S. I. S., Mohammad, A. S., Al-Syasneh, M. S., Qandah, M. S. F., Alhajri, T. M. S. (2020). Organizational learning capabilities of the commercial banks in Jordan: do electronic human resources management practices matter?. *International Journal of Learning and Intellectual Capital*, 17(3), 242-266. <https://doi.org/10.1504/IJLIC.2020.109927>
- Al-Husban, D. A. A. O., Al-Adamat, A. M., Haija, A. A. A., Al Sheyab, H. M., Aldai-hani, F. M. F., Al-Hawary, S. I. S., Mohammad, A. A. S. (2023). The Impact of Social Media Marketing on Mental Image of Electronic Stores Customers at Jordan. In *Emerging Trends and Innovation in Business And Finance* (pp. 89-103). Singa-pore: Springer Nature Singapore. [https://doi.org/10.1007/978-981-99-6101-6\\_7](https://doi.org/10.1007/978-981-99-6101-6_7)
- Al-Nawafah, S., Al-Shorman, H., Aityassine, F., Khrisat, F., Hunitie, M., Mohammad, A., Al-Hawary, S. (2022). The effect of supply chain management through social media on competitiveness of the private hospitals in Jordan. *Uncertain Supply Chain Management*, 10(3), 737-746. <http://dx.doi.org/10.5267/j.uscm.2022.5.001>
- Alolayyan, M., Al-Hawary, S. I., Mohammad, A. A., Al-Nady, B. A. (2018). Banking Service Quality Provided by Commercial Banks and Customer Satisfaction. A structural Equation Modelling Approaches. *International Journal of Productivity and Quality Management*, 24(4), 543-565. <https://doi.org/10.1504/IJPQM.2018.093454>
- Al-Shormana, H., AL-Zyadat, A., Khalayleh , M., Al- Quran, A. Z., Alhalalmeh, M. I., Mohammad, A., Al-Hawary, S. (2022). Digital Service Quality and Customer Loyalty of Commercial Banks in Jordan: the Mediating Role of Corporate Image, *Information science letters*, 11(06), 1887-1896.
- Altman, M., Huang, T. T., & Breland, J. Y. (2018). Peer reviewed: Design thinking in health care. Preventing chronic disease, 15. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6178900/>
- Alzyouid, M., Hunitie, M.F., Alka'awneh, S.M., Samara, E.I., Bani Salameh, W.M., Abu Haija, A.A., Al-shanableh, N., Mohammad, A.A., Al-Momani, A., Al-Hawary, S.I.S. (2024). Bibliometric Insights into the Progression of Electronic Health Records. In: Hannon, A., and Mahmood, A. (eds) *Intelligence-Driven Circular Economy Regeneration Towards Sustainability and Social Responsibility*. Studies in Computational Intelligence. Springer, Cham. Forthcoming.

- Ambrosio, L., Senosiain García, J. M., Riverol Fernández, M., Anaut Bravo, S., Díaz De Cerio Ayesa, S., Ursúa Sesma, M. E., ... & Portillo, M. C. (2015). Living with chronic illness in adults: a concept analysis. *Journal of clinical nursing*, 24(17-18), 2357-2367. <https://onlinelibrary.wiley.com/doi/abs/10.1111/jocn.12827>
- Angwenyi, V., Aantjes, C., Kajumi, M., De Man, J., Criel, B., & Bunders-Aelen, J. (2018). Patients experiences of self-management and strategies for dealing with chronic conditions in rural Malawi. *PLoS one*, 13(7), e0199977. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0199977>
- Arnold, E. C., & Boggs, K. U. (2019). *Interpersonal relationships e-book: professional communication skills for nurses*. Elsevier Health Sciences. <https://books.google.com/books?hl=en&lr=&id=XC2GDwAAQBAJ&oi=fnd&pg=PP1&dq=Nursing:+Critical+Analysis+of+Nursing+Practices+in+Chronic+Disease+Management+and+Patient+Advocacy&ots=NrU131TPRQ&sig=LyLukano5mHLCHu5fLDg6rU9Cgc>
- Baah, F. O., Teitelman, A. M., & Riegel, B. (2019). Marginalization: Conceptualizing patient vulnerabilities in the framework of social determinants of health—An integrative review. *Nursing inquiry*, 26(1), e12268. <https://onlinelibrary.wiley.com/doi/abs/10.1111/nin.12268>
- Corry, M., While, A., Neenan, K., & Smith, V. (2015). A systematic review of systematic reviews on interventions for caregivers of people with chronic conditions. *Journal of advanced nursing*, 71(4), 718-734. <https://onlinelibrary.wiley.com/doi/abs/10.1111/jan.12523>
- Davy, C., Bleasel, J., Liu, H., Tchan, M., Ponniah, S., & Brown, A. (2015). Effectiveness of chronic care models: opportunities for improving healthcare practice and health outcomes: a systematic review. *BMC health services research*, 15, 1-11. <https://link.springer.com/article/10.1186/s12913-015-0854-8>
- Eldahamsheh, M.M., Almomani, H.M., Bani-Khaled, A.K., Al-Quran, A.Z., Al-Hawary, S.I.S & Mohammad, A.A (2021). Factors Affecting Digital Marketing Success in Jordan . *International Journal of Entrepreneurship* , 25(S5), 1-12.
- Gee, P. M., Greenwood, D. A., Paterniti, D. A., Ward, D., & Miller, L. M. S. (2015). The eHealth enhanced chronic care model: a theory derivation approach. *Journal of medical Internet research*, 17(4), e4067. <https://www.jmir.org/2015/4/e86/%20+%20match%20+%20>
- Grover, A., & Joshi, A. (2015). An overview of chronic disease models: a systematic literature review. *Global journal of health science*, 7(2), 210. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4796376/>
- Halcomb, E., McInnes, S., Williams, A., Ashley, C., James, S., Fernandez, R., ... & Calma, K. (2020). The experiences of primary healthcare nurses during the COVID-19 pandemic in Australia. *Journal of Nursing Scholarship*, 52(5), 553-563. <https://sigmapubs.onlinelibrary.wiley.com/doi/abs/10.1111/jnu.12589>
- Hamine, S., Gerth-Guyette, E., Faulx, D., Green, B. B., & Ginsburg, A. S. (2015). Impact of mHealth chronic disease management on treatment adherence and patient outcomes: a systematic review. *Journal of medical Internet research*, 17(2), e52. <https://www.jmir.org/2015/2/e52/>
- Hockenberry, M. J., & Wilson, D. (2018). *Wong's Nursing Care of Infants and Children-E-Book: Wong's Nursing Care of Infants and Children-E-Book*. Elsevier Health Sciences. <https://books.google.com/books?hl=en&lr=&id=w7RqDwAAQBAJ&oi=fnd&pg=PP1&dq=Nursing:+Critical+Analysis+of+Nursing+Practices+in+Chronic+Disease+Management+and+Patient+Advocacy&ots=uKaKaAmISU&sig=-SAXxIN8GPxf97kcAOPISyLh84>
- Karimi, Z., Fereidouni, Z., Behnammoghadam, M., Alimohammadi, N., Mousavizadeh, A., Salehi, T., ... & Mirzaee, S. (2020). The lived experience of nurses caring for patients with COVID-19 in Iran: a phenomenological study. *Risk management and healthcare policy*, 1271-1278. <https://www.tandfonline.com/doi/abs/10.2147/RMHP.S258785>
- Kim, K., Choi, J. S., Choi, E., Nieman, C. L., Joo, J. H., Lin, F. R., ... & Han, H. R. (2016). Effects of community-based health worker interventions to improve chronic disease management and care among vulnerable populations: a systematic review. *American journal of public health*, 106(4), e3-e28. <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2015.302987>
- Mohammad, A. A. S., Alolayyan, M. N., Al-Daoud, K. I., Al Nammass, Y. M., Vasudevan, A., & Mohammad, S. I. (2024a). Association between Social Demographic Factors and Health Literacy in Jordan. *Journal of Ecohumanism*, 3(7), 2351-2365.
- Mohammad, A. A. S., Al-Qasem, M. M., Khodeer, S. M. D. T., Aldaihani, F. M. F., Alserhan, A. F., Haija, A. A. A., ... & Al-Hawary, S. I. S. (2023b). Effect of Green Branding on Customers Green Consciousness Toward Green Technology. In *Emerging Trends and Innovation in Business and Finance* (pp. 35-48). Singapore: Springer Nature Singapore. [https://doi.org/10.1007/978-981-99-6101-6\\_3](https://doi.org/10.1007/978-981-99-6101-6_3)
- Mohammad, A. A. S., Barghouth, M. Y., Al-Husban, N. A., Aldaihani, F. M. F., Al-Husban, D. A. A. O., Lemoun, A. A. A., ... & Al-Hawary, S. I. S. (2023a). Does Social Media Marketing Affect Marketing Performance. In *Emerging Trends and Innovation in Business and Finance* (pp. 21-34). Singapore: Springer Nature Singapore. [https://doi.org/10.1007/978-981-99-6101-6\\_2](https://doi.org/10.1007/978-981-99-6101-6_2)
- Mohammad, A. A. S., Khanfar, I. A., Al Oraini, B., Vasudevan, A., Mohammad, S. I., & Fei, Z. (2024b). Predictive analytics on artificial intelligence in supply chain optimization. *Data and Metadata*, 3, 395-395.
- Mohammad, A., Aldmour, R., Al-Hawary, S. (2022). Drivers of online food delivery orientation. *International Journal of Data and Network Science*, 6(4), 1619-1624. <http://dx.doi.org/10.5267/j.ijdns.2022.4.016>
- Mossialos, E., Courtin, E., Naci, H., Benrimoj, S., Bouvy, M., Farris, K., ... & Sketris, I. (2015). From “retailers” to health care providers: transforming the role of community pharmacists in chronic disease management. *Health policy*, 119(5), 628-639. <https://www.sciencedirect.com/science/article/pii/S016885101500041X>
- Poureslami, I., Nimmon, L., Rootman, I., & Fitzgerald, M. J. (2017). Health literacy and chronic disease management: drawing from expert knowledge to set an agenda. *Health promotion international*, 32(4), 743-754. <https://academic.oup.com/heapro/article-abstract/32/4/743/2951003>

- Rahamneh, A., Alrawashdeh, S., Bawaneh, A., Alatyat, Z., Mohammad, A., Al-Hawary, S. (2023). The effect of digital supply chain on lean manufacturing: A structural equation modelling approach. *Uncertain Supply Chain Management*, 11(1), 391-402. <http://dx.doi.org/10.5267/j.uscm.2022.9.003>
- Riegel, B., Jaarsma, T., Lee, C. S., & Strömberg, A. (2019). Integrating symptoms into the middle-range theory of self-care of chronic illness. *Advances in nursing science*, 42(3), 206-215. [https://journals.lww.com/advancesinnursingscience/fulltext/2019/07000/integrating\\_symptoms\\_into\\_the\\_middle\\_range\\_theory.6.aspx](https://journals.lww.com/advancesinnursingscience/fulltext/2019/07000/integrating_symptoms_into_the_middle_range_theory.6.aspx)
- Salmond, S. W., & Echevarria, M. (2017). Healthcare transformation and changing roles for nursing. *Orthopaedic Nursing*, 36(1), 12-25. [https://journals.lww.com/orthopaedicnursing/fulltext/2017/01000/healthcare\\_transformation\\_and\\_changing\\_roles\\_for.5.aspx](https://journals.lww.com/orthopaedicnursing/fulltext/2017/01000/healthcare_transformation_and_changing_roles_for.5.aspx)
- Schulman-Green, D., Jaser, S. S., Park, C., & Whittemore, R. (2016). A metasynthesis of factors affecting self-management of chronic illness. *Journal of advanced nursing*, 72(7), 1469-1489. <https://onlinelibrary.wiley.com/doi/abs/10.1111/jan.12902>
- Smolowitz, J., Speakman, E., Wojnar, D., Whelan, E. M., Ulrich, S., Hayes, C., & Wood, L. (2015). Role of the registered nurse in primary health care: Meeting health care needs in the 21st century. *Nursing Outlook*, 63(2), 130-136. <https://www.sciencedirect.com/science/article/pii/S0029655414001572>
- Woo, B. F. Y., Lee, J. X. Y., & Tam, W. W. S. (2017). The impact of the advanced practice nursing role on quality of care, clinical outcomes, patient satisfaction, and cost in the emergency and critical care settings: a systematic review. *Human resources for health*, 15, 1-22. <https://link.springer.com/article/10.1186/s12960-017-0237-9>