

Nurses' Experience of Self-Management Support for Hospitalised Cardiac Patients: A Descriptive Qualitative Study

Abstract

Aim: This study aims to explore nurses' experiences of supporting hospitalised cardiac patients self-management practices and associated factors that enhance the implementation of these practices.

Background: There has been less effort given toward activating the role of self-management in early stages for hospitalised patients post-cardiac events. Knowing that nurses' experience of supporting self-management practice and the factors that empower the application of self-management practice in hospitalised patients post-cardiac events are not well defined, exploring nurses' experiences in the application of a self-management approach for cardiac patients and the relevant factors will identify areas for potential improvement in supporting self-management practice as part of nursing care.

Methods: In-depth interviews with eight registered nurses in eastern region in Saudi Arabia who worked with hospitalised post-cardiac events were conducted. Registered nurses' participation in this study was voluntary and approached through obtaining their contact information from the nursing offices in the selected hospitals.

Results: The defined themes in this study were directed by the concepts of Orem's Theory, and four major sub-themes emerged from this study: initiation of self-management practices, self-management system, components of self-management for cardiac patients and nursing practice issues.

Conclusion/Implication for Future Practice: Initiating self-management practices at early stages for hospitalised cardiac patients post-cardiac events ensured achieving better control and sustained practice.

There are certain factors that need to be considered prior establishing any plan, these involve patient related factors, healthcare system and nursing related factors. Self-management practice for cardiac patients requires the support of multi-disciplinary teams and a well-integrated system. Nursing roles need to be defined and empowered in the healthcare system to be able to support self-management practices for hospitalised cardiac patients.

Patient or Public Contribution: Nursing participation in this study was voluntary. The participants were approached and the research purpose was discussed with them before the interview session.

Keyword

Self-management practice, hospitalised cardiac patients, post-cardiac events, nursing practice.

Introduction

Cardiovascular events, including myocardial infarction and stroke, are leading causes of death. The estimated prevalence of cardiovascular diseases accounts for one-third of deaths worldwide, which indicates that the prevalence of cardiovascular disease has remained high. The associated cost of treating cardiovascular-related events places a significant burden on the healthcare system and patients (Tinsel et al., 2018). Enabling patients to self-manage their illness helps to reduce not only the consequences of complications but also readmission costs.

Self-management empowers patients by ensuring they are knowledgeable about their condition; follow an agreed treatment plan; are actively involved in the decisions relating to their health; monitor signs and symptoms of illness; assume self-care for aspects of physical, emotional and social life; and adopt a healthy lifestyle that promotes their health (Rao et al., 2002). The self-management approach is a patient-centred process using knowledge that is tailored to the patient's needs and behaviours and that considers their strengths and barriers to self-management (Rao et al., 2002).

The risk of readmission declined among patients who adhered to self-management programs (Toukhsati et al., 2019). Since patients diagnosed with cardiac conditions and those who develop complications rely on pharmacological and non-pharmacological approaches to management, it is important to understand and implement both approaches to reach the target goal of managing the condition without complications.

Cardiac patients can understand and follow self-management plans if they are implemented in the healthcare system and tailored to their needs. The self-management plans required for cardiac patients evolve around concepts that support healthy living with the disease or the health condition. Healthcare providers design individual programs in line with every patient's needs and set goals and action plans for patients to adhere to. Besides the main goal of medication management, these plans provide instructions on diet, exercise programs and management strategies for symptoms, pain and fatigue.

For cardiac patients, self-management plans focus on managing the critical aspects of the disease and medication, monitoring signs and symptoms and their severity daily, checking their weight and oedema daily, adhering to sodium and fluid restrictions, exercising and ensuring smoking cessation.

A critical issue that needs to be addressed is whether nurses are enabling cardiac patients to self-manage their conditions. Nurses' care priorities in acute-care settings for patients' post-cardiac events focus on hemodynamic monitoring and observing vital signs and symptoms, communicating with the health care team and alleviating patients' anxiety. There is less effort given toward activating the role of self-management in early stages for hospitalised patients post-cardiac events. Studies identified the significant impact of the first phase of rehabilitation for cardiac patients post admission in improving cardiac patient self-management abilities and therefore quality of life (Nasrawi et al., 2022; Shepherd & While, 2012).

Moreover, compared to nurses who work in cardiac care areas, nurses with general clinical experience have demonstrated a distinct lack of knowledge of self-management principles for cardiac patients (Sterne et al., 2014). During their care of cardiac patients, these nurses tend to translate hospital-applied care into education materials for cardiac patients as part

of self-management support instead of tailoring the information to each patients' specific needs, which indicates that the nurses lack an understanding of the self-management approach and the need to enhance their skills in patient education (Jankowska-Polańska et al., 2017; McConnell & Office, 2017). Jankowska-Polańska et al. (2017) also revealed a knowledge deficit among nurses in self-care principles for patients with cardiovascular conditions, mainly heart failure. As part of self-management, the concept of self-care strengthens the patients' skills through participation in training programs to develop and maintain healthy behaviours. However, knowing that the nurses' experience of supporting self-management practice and the factors that empower the application of self-management practice in hospitalised patients post-cardiac events are not well defined, exploring nurses' experiences in the application of a self-management approach for cardiac patients and the relevant factors will identify areas for potential improvement in supporting self-management practice as part of nursing care.

Aim

This study aims to explore nurses' experiences of supporting hospitalised cardiac patient's self-management practices and associated factors that enhance the implementation of these practices.

Materials and Methods

Study Design

This study uses a descriptive qualitative research design to explore nurses' experiences in supporting hospitalised cardiac patient's self-management practices. The descriptive qualitative approach can be used to obtain in-depth information from participants' lived experiences, and the

flexibility of the data collection enables us to form a comprehensive summary of the participants' perspectives (Tong et al., 2007).

We used a self-developed, semi-structured interview guide to collect data for this study (Table 1). The structure of the interview items was based on Orem's self-care deficit theory (Reynolds & Cormack, 1990), which is useful for guiding self-care activities undertaken by patients and nursing practices. According to Orem's self-care deficit theory, the main goal of nursing care is to empower and strengthen patients' abilities to perform self-care activities.

Orem acknowledges self-care as a holistic concept encompassing all aspects of life and not only the management of disease, and Orem's theory is determined by a conceptual framework based on four concepts: self-care, self-care agency, therapeutic self-care demand and nursing agency (Fig.1). Self-care relates to the personal initiation and performance of healthy activities for health and well-being. Self-care agency explains the personal power and ability to engage in self-care activities. Therapeutic self-care demands are the necessary and deliberate actions to be performed for a specific duration, following valid methods and a set of operations. A self-care deficit occurs when patients are unable to continue providing self-care, thus requiring nurses' knowledge and skills to meet their therapeutic self-care demands (Weiler et al., 2002). Accordingly, nursing agency delineates trained and educated nurses who can support the provision of self-care demands.

Participant Selection and Research Preparation

This study was conducted with a convenience sample of registered nurses working in the Intensive Care Unit (ICU), Cardiac Care Unit (CCU) and Cardiac Medical Unit where adult cardiac patients post-cardiac events are hospitalised in general tertiary hospitals. Upon receiving

ethical approval, information about the study was sent to the nursing administration offices of two selected tertiary hospitals in the western region of Saudi Arabia targeting registered nurses.

A convenience sampling technique was used to recruit participants in the study, where head nurses were approached to invite eligible registered nurses to participate in this study. This sampling method was used to ensure that only registered cardiac nurses were selected for this study due to the various nursing experiences available in ICU, CCU and Cardiac Medical Unit.

Selected registered nurses were provided with an overview of the study. Registered nurses who were willing to participate in the study informed the nursing administration office and submitted their signed participant consent to participate voluntarily.

Data Collection

The data were collected via face-to-face, in-depth semi-structured interviews from July-2022 to September-2022. The first step in this process was to obtain the names and contact details of the registered nurses who agreed to participate from the nursing offices of the selected hospitals. Arrangements for the interviews were made according to the participants' working schedules. An experienced researcher in qualitative research conducted the interview session with participants.

The participants were approached and the research purpose was discussed with them. The interview sessions were held in meeting rooms in the hospitals upon participants' agreement, and each interview lasted 45–60 minutes. All interviews were conducted using an interview guide (Table 1). The interviews were recorded on audiotape, and the researcher took notes to back up the recordings. The interviews continued until data saturation was reached, which occurred after the eighth participant, when themes and subthemes were repeated. To ensure data saturation, the

researcher conducted two more interviews. Therefore, the data in this study were collected from eight registered nurses.

Data Analysis

The recorded interviews were transcribed and analysed using Graneheim and Lundman's (2004) content analysis approach (Graneheim & Lundman, 2004). Since Orem's concepts been used to guide the interview questions, the analysis was deductive and guided by the theory concepts. The first step in the data analysis process was the creation of verbatim transcription of the audiotaped interviews. The accuracy of the transcripts was then ensured by comparing them with the recorded interviews. In the second step, we familiarised ourselves with the data by reading and re-reading the transcripts to understand the meanings of participants' experiences before creating the initial codes (Castleberry & Nolen, 2018). Then, initial codes were extracted from the dataset based on the meaning units and then were underpinned to the concepts of Orem's Theory that directed the themes of the study. These codes were then assessed based on similarities and differences and merged into subcategories. These subcategories were sorted and abstracted into identified themes based on similar content. The researcher and an experienced assistant in qualitative data analysis and nursing practice (NT and SA), read through and generated the sub-themes. Therefore the sub-themes were assigned to the general themes as first draft of the final results and then these were discussed in an iterative process with a research consultation team to ensure that the process was precise and exhaustive. The research consultation team determined whether themes and sub-themes are in line with the meaning and represent the finding of the study, this is by revising, adding, and removing sub-themes when required. The final step included refining the names of the themes and sub-themes for clear

representation of findings and then the analytical conclusion was reached by comparing the selected abstracts and their association with the research purpose and questions.

Rigour

Guba and Lincoln's (1982) four-dimension criteria (FDC) were used to test the rigour of the study. Credibility was obtained during the interview process by conducting two pilot interviews to test the semi-structured interview guide prior to commencing the data collection. This criterion was obtained through establishing the researcher's authority, as all investigators in this study had previous experience in conducting qualitative research and were trained in the required process of qualitative study designs.

To ensure dependability, the study maintained a detailed description of its method and applied a stepwise replication of data analysis that was maintained between the investigators (NA and SA), who carefully and independently performed the analysis and then met to discuss the findings. To evaluate the confirmability of the study, the main researcher performed an audit trail for the data by developing a track record of the data collection process, maintaining an open consultation and systematic review of the interview transcripts against the audiotaped recordings, and ensuring coding accuracy against the transcripts. To minimise the risk of bias and ensure the objectivity of the data, which reflects the real experience of registered nurses, the triangulation approach was followed.

Data triangulation was obtained by recruiting nurses from different clinical settings and hospitals. Investigator triangulation was achieved through several discussions conducted with a research consultation team. Methodological triangulation was achieved prior to establishing the data collection process by conducting a pilot interview with two registered nurses. Theoretical

triangulation was obtained by exploring similar studies in the field with similar concepts (Weiler et al., 2002). Member checking was achieved by sending the findings of the study to participants to confirm the results and resolve any disagreements. The transferability of the research findings was assured by selecting a purposeful sample in this study to ensure maximum variation of experiences and data saturation, which was ensured when no new themes emerged in the analysis.

Ethical Considerations

The proposal for this study was submitted to the IRB committee at Umm Al-Qura University. Upon receiving approval for this project (IRB No: HAPO-02-K-012-2021-09-749), we sent an information flyer to the nursing administration offices of two general hospitals in Makkah and Jeddah to inform them about the study. The information flyer listed the study objectives, aims, participation eligibility and predicted input. The nursing administration offices then communicated with their internal departments at the hospitals to facilitate the recruitment of participants. Participation in this study was voluntary and held minimal risk, as all identifying information was kept confidential. Additionally, the scope of the study focused solely on the clinical practices of registered nurses in terms of supporting self-management care. The interviews were held in the hospitals where the participants worked, and the meetings were exclusive to those involved in the study, such as the research team and the participants. Prior to the recording, the participants were reminded that the interviews would be recorded and assured that the recordings were confidential with the research team. Recorded conversations and transcripts are stored confidentially at Umm Al-Qura University at the Faculty of Nursing and the electronic recorded copies are stored on the researcher's cloud. Participants were advised that they could withdraw from the study at any time and any information they

provided would be removed from the study. Participants were also informed that they would receive the published results of this study.

Results

The in-depth interview with ten registered nurses who worked in CCU, ICU and Cardiac Medical Unit (Table 2) where cardiac patients are hospitalised post-cardiac events identified four subthemes that were underpinned to Orem's Theory concepts. These were initiation of self-care practices, self-management system, components of self-management for cardiac patients and nursing practice issues (Table 3).

UNDER PEER REVIEW

Participant ID	Education	Years of Experience	Area of Practice	Position
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Table 1. Semi-Structured Interview Guide

Theme	Question
Opening Question	<ul style="list-style-type: none"> • What is the required self-management for hospitalised adult patients after cardiac events?
Self-Care	<ul style="list-style-type: none"> • Can you explain how your patient initiates self-management activities? • When can you say that your patients are mastering their self-management?
Self-Care Agency	<ul style="list-style-type: none"> • When do you consider your patient is ready to perform self-care activities?/How do you assess your patient’s readiness to engage in self-care activities? • What do cardiac patients need to self-manage their condition well?
Therapeutic Self-Care Demand	<ul style="list-style-type: none"> • Can you give me example of the self-care activates that cardiac patients need to master?
Nursing Agency	<ul style="list-style-type: none"> • Do you think you have the sufficient knowledge and skills to support self-management? Or do you have gaps in your knowledge and skills? In your opinion, what do you need to do to improve your knowledge and skills in the self-management of cardiac patients? • Do you experience any obstacles to performing this practice?/What has supported you in performing self-management?

Registered Nurse 1	Postgraduate Diploma of Cardiac Care	8 years	CCU	Registered Nurse
Registered Nurse 2	Bachelor of Nursing	12 years	ICU	Registered Nurse
Registered Nurse 3	Bachelor of Nursing	7 years	CCU	Registered Nurse
Registered Nurse 4	Bachelor of Nursing	4 years	Cardiac Medical Unit	Registered Nurse
Registered Nurse 5	Postgraduate Diploma of Cardiac Care	3 years	Cardiac Medical Unit	Registered Nurse
Registered Nurse 6	Bachelor of Nursing	7 years	ICU	Registered Nurse
Registered Nurse 7	Bachelor of Nursing	8 years	Cardiac Medical Unit	Registered Nurse (Patient Education)
Registered Nurse 8	Bachelor of Nursing	10 years	CCU	Registered Nurse

Table 2. Participants Information

Table 3. Themes, subthemes and quotations form the interviews.

Orem's Theory Concepts (Themes)	Sub-Themes	Codes	Interview Quotation
Self-Care	Initiation of self-management practices	<ul style="list-style-type: none"> • Older patients with previous diagnosis • Time of diagnosis • Health literacy 	<ul style="list-style-type: none"> • Registered Nurse (RN) 1: 'I can't guarantee that most of my patients are confident to master the skills of self-management as they are old, they do not have the knowledge needed to support them, they were previously not adherent to their medications and they always come back to us with complications'. • RN 4: 'We receive cardiac patients, usually after complications. During the assessment, we can tell that these patients were not adherent to their medications or to the previous instructions they've been given'. • RN 8: 'Initiating new knowledge and habits for chronic cardiac patients is hard because they try different approaches for themselves, and correcting their habits is hard. The process should be established upon their first diagnosis to be effective'. • RN 3: 'For some patients and especially for newly admitted cardiac patients, they are provided with information and taught the required skills for their condition. There is no focus on self-management as a model of care, which I believe is important to prevent readmission, as we saw some new cases return for readmission'. • RN 5: 'Our nursing background about the self-management approach is not comprehensive enough to support newly diagnosed cardiac patients; it can be short as providing them with education but does not extend to specified knowledge of self-management practices'. • RN 8: 'However, if the patient is new, there is a high chance that they will follow our instructions we give them, as this is their first time receiving the information compared to previously diagnosed patients'. • RN 7: 'Being uneducated is not an obstacle that stops patients from learning. I have seen a few old cardiac patients who are not educated and keen to learn how to manage their conditions; they ask questions and involve their family to

			<p>understand the required care’.</p> <ul style="list-style-type: none"> • RN 3: ‘There are a lot of medical information that patients need to master. Cardiac patients have access to all this information, and they are ready to follow it up, but the model lacks what they need to prioritise first for their conditions and what they need to monitor and correct’.
Self-Care Agency	Self-management system	<ul style="list-style-type: none"> • Patient preparedness • Systematic process • Continuity of care 	<ul style="list-style-type: none"> • RN 1: ‘We estimate every patient case depending on their health condition and information we take. Not all patients are ready, especially those who come with complications; they lack a lot of support to revive again’. • RN 2: ‘I consider cardiac patients are ready to engage in self-care activities when they have all supporting factors outside the hospital like family, a healthy culture, and financial support; otherwise, they will struggle to adhere’. • RN 1: ‘As a nurse, I am obliged to provide education for my patients, but not a lot of nurses do educate their patients. Some leave it for the physician to do because they see that their role is only to provide clinical care because this is what the hospital supported’. • RN 3: ‘The nursing education department formats some education materials for cardiac patients, but this is only an initiative by nurses, not supported by physicians or healthcare team, and it usually focuses on the general required information for cardiac patients depending on their condition. It is not specified for every patient case’. • RN 5: ‘To master self-management by cardiac patients, I believe that this should start from the time of patient admission and continue in the follow ups. The hospital applies some sort of education for the patient for the required management of their medication and diet, but it lacks a lot of details or specific details that need to be addressed for their case’. • RN 4: ‘After a cardiac patient gets discharged from the hospital, he/she follows up with the physician in the outpatient clinics. Sometimes patients do not see the physician but the resident or the intern in the clinic who might not emphasise the same issues that were under focus when he/she was discharged’. • RN 3: ‘The hospital has a good system for booking the availability for the next appointment and other diagnostics like lab test and ECG, but if the patient did not attend there is no follow-up system for missed appointments’.

<p>Therapeutic Self-Care Demand</p>	<p>Components of self-management for cardiac patients</p>	<ul style="list-style-type: none"> • Medication knowledge • Complication monitoring • Diagnostics • Sustainable behaviours 	<ul style="list-style-type: none"> • RN 6: ‘The cardiac physician should educate the patient with cardiac medications, for example antiplatelet medications; if the patient stops them, their stent will block. The patient also needs to be educated about blood pressure medication; there are cardiac medications for contractility that the patient needs to know about, and they are required to assess their own pulse when taking them’. • RN 8: ‘Part of the provided patient education for cardiac patients is to teach them how to assess for complications. For example, assessing body weight and eating habits, pulse rate and any unusual symptoms’. • RN 6: ‘We tell the patient to keep a diary for themselves to record their BP, pulse measurements and any unusual feelings, changes in diet or missed medication intake’. • RN 3: ‘Patients should be notified that they should follow up with the Eco clinic for monitoring ECG’. • RN 6: ‘Blood tests are important in the plan of care, and they are requested frequently when the patient sees the physician’. • RN 1: ‘From my personal readings on the topic of self-care, I know that the focus is on patients’ behaviours. We do some patient education in the hospital for cardiac patients, but I do not think we provide education on patients’ skills assessment and whether they can sustain the behaviours for self-care’. • RN 6: ‘The difficulty arises in older aged patients; some of them need support to maintain the self-management behaviour, there are other older patients who have the care activities as habit of their daily routine’.
<p>Nursing Agency</p>	<p>Nursing Practice Issues</p>	<ul style="list-style-type: none"> • Nursing preparation 	<ul style="list-style-type: none"> • RN 5: ‘I do have enough support myself to support my patient self-management practice. What I do in my practice today was part of the postgraduate certificate of cardiac care that I studied. I had three months of training in a rehabilitation centre in X hospital where I did my degree, so I learned by practicing with different cardiac patients’. • RN 2: ‘Nurses are well prepared and assessed for their clinical competencies.’

		<ul style="list-style-type: none"> • Healthcare system support • Role definition 	<p>They do well when patient is in admission but not a lot of them have the qualification or knowledge that helps them to support self-management education’.</p> <ul style="list-style-type: none"> • RN 3:‘I find the biggest obstacle for me is that this practice gets approved by the hospital policy for nurses to engage in them.The other obstacle is the functionality of teamwork support; it needs a collaborative team’. • RN 1:‘There are few nurses who are specialised in cardiac care, and they have the qualification to provide self-management, but they are mostly assigned to provide bedside nursing care, which is different from self-management and self-care education.’ • RN 8:‘In our hospital, patient education is part of the family physician role. They educate cardiac patients on what’s needed for their care. Nurses are only care providers at bedside because of the shortage we have’. <p>RN7: ‘The education provided for cardiac patients is shared among nurses, physicians and pharmacies and is not integrated. I see my patients usually overwhelmed with a lot of given information from different healthcare providers’.</p>
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UNDER PEEER REVIEW

Discussion

This study explored nurses' experiences in providing self-management support for hospitalised cardiac patients post cardiac events and the associated factors that enhance the implementation of their practice. The findings support that self-management practices for cardiac patients require special consideration of the factors that support better patient outcomes. Under the umbrella of Orem's theory, our study identified four themes from the perspective of nurses that support initiating self-management practice for cardiac patients: patients' health conditions, needs assessment, elements of effective self-management and the role of nurses in self-management.

The initiation of self-management practices from a nursing perspective is associated with patients' health status, which includes patient current health situation, time of illness diagnosis and health literacy. It is difficult to initiate self-management practice with patients who have developed complications, especially in the case of elderly patients, because elderly patients with cardiac issues have an increased prevalence of dementia and mild cognitive impairments compared to healthy people of the same age (Adelborg et al., 2017; Li et al., 2020). Self-care activities represent a challenge to elderly people, since they require making decisions about behaviours that maintain physical and mental stability, and the risk of cardiovascular complications increases with age. Nurses agree that the importance of self-management of health conditions emerges when patients have the ability to monitor their health issues. The special needs of elderly cardiac patients should be addressed and monitored by multidisciplinary health teams, particularly for patients with no social support (Jankowska-Polańska et al., 2017).

Although studies have found that there is no significant difference in the need for self-management support for previously and newly diagnosed patients because the manifestation

of the illness changes over time and alters the required self-management tasks in every stage of the illness (van Houtum et al., 2013), the results of our interviews showed that newly diagnosed patients reflect better initiation of self-management activities. Based on nurses' experiences, the effectiveness of mastering self-management activities tends to be better among newly diagnosed patients because they acquire and master the behaviours in the early stages of the disease before they can develop poor habitual behaviours. Nevertheless, as self-management programs are habit-forming interventions that sustain repeated actions, old habitual behaviours that disengage chronic patients from self-management activities fade if such habits are consistently supplanted with alternative responses that require conscious attention (Qiu et al., 2020).

This study identified that needs assessment is an integral part of the system of self-management for cardiac patients, but it cannot be established effectively if it does not assess patients' preparedness, have a systematic process and provide continuity of care. The challenge for optimal self-management in cardiac patients is the need to integrate multiple skills and behavioural changes. Studies have identified the role of patients' confidence and preparedness in creating new behaviours, and patients reflecting a high confidence level and readiness to perform self-management activities tend to have better self-management of their health conditions (Al-Hammouri et al., 2020; Qiu et al., 2020). In actual practice, patients are enrolled in self-management programs based on their diagnosis and health condition needs, and since the self-management interventions are complex and tackle multifactorial issues in cardiac patients, it is essential to assess patient health literacy level and whether patients are ready to engage in this new practice; otherwise, it could be demotivating or overwhelming for patients.

The essential elements for effective self-management by cardiac patients are medication knowledge, complication monitoring, diagnostics and sustainable behaviours. The

self-management guidelines for cardiac patients provide information for patients regarding managing their medications, monitoring complications, knowing about the diagnostic measures required and sustaining their care activities. The self-management guidelines recommend providing patient education, with a particular emphasis on adherence and self-care. However, the approaches used should carefully consider each patient's level of knowledge and psychological status that supports involvement in care, as some patients might not be able to make decisions regarding changes to medications and lifestyle and thus need support from their healthcare providers throughout the process (Jaarsma et al., 2021).

Moreover, patients undertaking self-management are required to maintain frequent diagnostic check-ups and self-monitor for complications. Clinical assessments of some symptoms might be complicated for cardiac patients, such as maintaining euvoledmia levels with the lowest dose of diuretic therapy, as some patients remain congested despite diuretic medication adherence (Jaarsma et al., 2021), therefore the role of effective monitoring system is essential to tackle the diagnostic issues for cardiac patients. It is clear that nurses in our study confirm the elements of self-management guideline for cardiac patients with high emphasis on the need of customised plans for every patient's needs.

To maintain self-care behaviours, cardiac patients are required to maintain physical and psychological stability and self-monitor signs and symptoms. Sustainable behaviour is crucial to achieving better control and preventing potential worsening. Nevertheless, sustaining cardiac patients' behaviour in self-management activities is an ongoing challenge for healthcare providers (Choi et al., 2022).

Self-management support and education is team-based care provided to patients. The process is comprehensive and targets all aspects of care. However, our findings highlight gaps in the system of self-management support. The participants indicated that nurses and

physicians currently provide only a fragmented system for self-management support and that self-management support is limited to providing patient education.

The nurses in our study also expressed the limitation of their role in engaging in self-management support for their patients. Coates (2017) stated that nurses are unable to perform their role in self-management support due to organisational and health system constraints.

Self-management support is successful when there is continuity of care (Coates, 2017). However, the nurses in this study expressed that while the health service supports engaging cardiac patients in self-management programs upon discharge, it lacks the continuity of care and monitoring required for these patients, which increases the risk of patients disengaging from self-management programs and experiencing complications.

Nurses play an important role in supporting self-management for cardiac patients; however, their ability to provide that support requires preparation, the availability of healthcare system support and a clear role definition. Beyond self-management knowledge, nurses are required to extend their competence to facilitate patient empowerment. Anderson and Funnell (2010) asserted that for nurses to embrace empowerment, they need to shift the paradigm of the traditional approach to care (Anderson & Funnell, 2010). However, the healthcare system does not provide sufficient support for nurses to embrace the role of self-management.

When cardiac patients follow self-management practices, they are governed by an appointment schedule with physicians in outpatient clinics and have minimum interaction with nurses. In addition, the nursing role in self-management practice remains undefined despite the certification and specialisation that nurses develop to practice in this field.

Conclusion

Empowering self-management practices for cardiac patients deemed a better quality of life and reduces the chance of recurrent admissions with unexpected complications. Initiating this step at an early stage ensures achieving better control and sustained practice, however the real practice shows that this step comes in the follow up stage after discharge. Although the guidelines for self-management practice agree on certain elements to be followed in the plan of care, self-management practice can be multifactorial since every patients special needs must be considered in the plan for successful results.

Certain factors need to be considered prior establishing any plan, these involve the patients age, diagnosis, literacy level and psychological status in the assessment stage to ensure that patients are able to carry on self-care activities. However, this practice require the support of multi-disciplinary team and a well-integrated system. Nursing plays a major role in the process of initiating the system of self-management practice for cardiac patients and their role need to be defined and empowered in the healthcare system.

References:

- Adelborg, K., Horváth- Puhó, E., Ording, A., Pedersen, L., Sørensen, H. T., & Henderson, V. W. (2017). Heart failure and risk of dementia: a Danish nationwide population- based cohort study. *European Journal of Heart Failure*, 19(2), 253–260. <https://doi.org/10.1002/ejhf.631>
- Al-Hammouri, M. M., Rababah, J. A., Hall, L. A., Moser, D. K., Dawood, Z., Jawhar, W., & Alawawdeh, A. (2020). Self-care behavior: a new insight of the role of impulsivity into decision making process in persons with heart failure. *BMC Cardiovascular Disorders*, 20(1), 349. <https://doi.org/10.1186/s12872-020-01617-8>
- Anderson, R. M., & Funnell, M. M. (2010). Patient empowerment: Myths and misconceptions. *Patient Education and Counseling*, 79(3), 277–282. <https://doi.org/10.1016/j.pec.2009.07.025>
- Choi, E.-Y., Park, J.-S., Min, D., Lee, H. S., & Ahn, J.-A. (2022). Association between self-management behaviour and quality of life in people with heart failure: a retrospective study. *BMC Cardiovascular Disorders*, 22(1), 90. <https://doi.org/10.1186/s12872-022-02535-7>
- Coates, V. (2017). Role of nurses in supporting patients to self-manage chronic conditions. *Nursing Standard*, 31(38), 42–46. <https://doi.org/10.7748/ns.2017.e10742>
- Jaarsma, T., Hill, L., Bayes- Genis, A., la Rocca, H. B., Castiello, T., Čelutkienė, J., Marques- Sule, E., Plymen, C. M., Piper, S. E., Riegel, B., Rutten, F. H., ben Gal, T., Bauersachs, J., Coats, A. J. S., Chioncel, O., Lopatin, Y., Lund, L. H., Lainscak, M., Moura, B., ... Strömberg, A. (2021). Self- care of heart failure patients: practical management recommendations from the Heart Failure Association of the European Society of Cardiology. *European Journal of Heart Failure*, 23(1), 157–174. <https://doi.org/10.1002/ejhf.2008>

- Jankowska-Polańska, B., Brzykowska, M., Uchmanowicz, I., Lisiak, M., & Rosinczuk, J. (2017). Polish nurses' knowledge of heart failure self-care education principles. *Clinical Nurse Specialist, 31*(3), E7–E13. <https://doi.org/10.1097/NUR.0000000000000295>
- Li, J., Wu, Y., Zhang, D., & Nie, J. (2020). Associations between heart failure and risk of dementia. *Medicine, 99*(5), e18492. <https://doi.org/10.1097/MD.00000000000018492>
- McConnell, L., & Office, V. A. C. (2017). Role of Nurses in Managing Chronic Disease. *Veterans Health Administration*.
- Nasrawi, D., Latimer, S., Massey, D., & Gillespie, B. M. (2022). Delivery, barriers, and enablers to patient participation in inpatient cardiac rehabilitation following cardiac surgery: An integrative review. *Australian Critical Care*. <https://doi.org/10.1016/j.aucc.2022.01.007>
- Qiu, R., Schick-Makaroff, K., Tang, L., Wang, X., Zhang, Q., & Ye, Z. (2020). Chinese Hospitalized Cardiovascular Patients' Attitudes Towards Self-Management: A Qualitative Study. *Patient Preference and Adherence, Volume 14*, 287–300. <https://doi.org/10.2147/PPA.S236348>
- Rao, U., Birmaher, B., Kaufman, J., Ryan, N. D., & Brent, D. A. (2002). *Developing Clinician Competencies in Self-Management Support for People with Chronic Conditions: The Flinders Model. February 1921*, 1–4.
- Reynolds, W., & Cormack, D. F. S. (1990). *Psychiatric and Mental Health Nursing*. (First). Springer-Sciences + Business Media Dordrecht.
- Shepherd, C. W., & While, A. E. (2012). Cardiac rehabilitation and quality of life: A systematic review. *International Journal of Nursing Studies, 49*(6), 755–771. <https://doi.org/10.1016/j.ijnurstu.2011.11.019>

- Sterne, P., Grossman, S., Migliardi, S., & Swallow, A. (2014). Nurses' Knowledge of Heart Failure: Implications for Decreasing 30-Day Re-Admission Rates. *Research for Practice*, 23(5).
- Tinsel, I., Siegel, A., Schmoor, C., Poguntke, I., Maun, A., & Niebling, W. (2018). Encouraging Self-Management in Cardiovascular Disease Prevention. *DeutschesArzteblatt International*, 115(27–28), 469–476. <https://doi.org/10.3238/arztebl.2018.0469>
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349–357. <https://doi.org/10.1093/intqhc/mzm042>
- Toukhsati, S., Jaarsma, T., Babu, A., Driscoll, A., & Hare, D. (2019). Self-Care Interventions That Reduce Hospital Readmissions in Patients With Heart Failure; Towards the Identification of Change Agents. *Clinical Medicine Insights: Cardiology*, 13, 117954681985685. <https://doi.org/10.1177/1179546819856855>
- van Houtum, L., Rijken, M., Heijmans, M., & Groenewegen, P. (2013). Self-management support needs of patients with chronic illness: Do needs for support differ according to the course of illness? *Patient Education and Counseling*, 93(3), 626–632. <https://doi.org/10.1016/j.pec.2013.08.021>
- Weiler, J., Suchan, B., Koch, B., Schwarz, M., & Daum, I. (2002). Effect of the Orem Self-care Model on Quality of Life in Adolescents with Asthma. *Journal of Cognitive Neuroscience*, 8, 1–15. <https://doi.org/10.5812/compreped.59343.Research>

Figure 1. Orem's Self-Care Theory



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