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Care Needs of Patients with Chronic Cardiovascular Diseases from the Perspective of Nurses: A Qualitative Study

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Abstract

Background: Chronic cardiovascular diseases (CVDs) are a leading cause of death globally, making it essential to understand the comprehensive care needs of individuals living with these conditions. Nurses who also suffer from chronic CVDs offer a unique dual perspective, combining professional expertise with personal experience.

Objectives: This study aims to explore the care needs of patients with chronic CVDs from the perspective of nurses who themselves live with the condition.

Methods: A qualitative content analysis was conducted, with interviews carried out between November 2023 and March 2024, involving 23 nurses affected by chronic cardiovascular diseases in Tehran, Iran. Data were analyzed using Graneheim and Lundman's approach to identify subcategories and categories related to patient care needs, with the support of MAXQDA v20 software.

Results: The participants included 16 women and 7 men, with an average age of 45.6 ± 10.9 years. Sixteen participants held a bachelor's degree, two had a master's degree, and five held a doctorate. Analysis of the interviews led to the extraction of 782 primary codes, which were classified into five main categories: Receiving Care from a responsive system, capacity building for the patient, receiving multidimensional care, having a comprehensive support system, and utilizing new caregiving technologies.

Conclusions: The findings emphasize the importance of a holistic, patient-centered approach that prioritizes effective communication, seamless access to care, and continuity post-discharge.

Keywords: Chronic Disease, Needs Assessment, Nurses, Qualitative Research

1. Background

Chronic cardiovascular diseases (CVDs) represent a significant global health burden, accounting for a large portion of worldwide mortality, including in Iran (1). Nurses, who play a pivotal role in caring for CVD patients, are not immune to these conditions. Research indicates a high prevalence of CVD risk factors among healthcare professionals, including specific conditions such as masked hypertension (2) and varicose veins (3). Further studies have also reported a widespread occurrence of cardiovascular disease risk factors among healthcare providers (4, 5).

Despite the growing body of research on CVD risk factors and prevalence among healthcare providers (6, 7), there remains a critical gap in understanding the specific care needs of patients with chronic CVDs from the perspective of nurses who themselves live with the condition. Nurses' frontline involvement in patient care offers a unique vantage point. This dual role as both caregivers and patients gives them deeper insight into patient challenges, unmet needs, and the emotional aspects of living with chronic CVD (8).

Current research primarily focuses on the clinical and epidemiological aspects of CVDs in healthcare providers (9, 10) but does not adequately explore how nurses with chronic CVD perceive and address patient

needs based on their own lived experiences (11). This qualitative study aims to bridge this gap by examining the subjective and nuanced experiences of nurses living with chronic CVDs.

Qualitative methods are particularly well-suited to this inquiry, as they allow for an exploration of the meanings, emotions, and challenges faced by individuals (12). Unlike quantitative approaches, which focus on measurable outcomes, this study examines the holistic care needs of CVD patients—needs that are often multifaceted and shaped by individual experiences.

2. Objectives

By addressing not only the physical but also the emotional, psychological, and social dimensions of care, this research aimed to provide a more comprehensive understanding of patient needs from the perspective of nurses living with CVD. In doing so, it addresses a critical gap in the literature.

3. Methods

This study is part of the qualitative phase of a larger mixed-methods research project. A qualitative content analysis approach was employed to explore and understand phenomena, processes, and the perspectives, viewpoints, and worldviews of the participants.

3.1. Participants and Sampling

The study was conducted in Tehran, Iran, from November 2023 to March 2024, with a total of twenty-three participants. Participants were selected through purposive sampling based on the study's objectives and inclusion criteria. Selection was carried out by trained research team members, who invited nurses to participate either face-to-face or by telephone. The researchers explained the study's purpose, safety precautions, and confidentiality principles to potential participants. Inclusion criteria required participants to be 22 years or older, possess a nursing certification, and have a diagnosis of chronic cardiovascular disease. Individuals unwilling to complete the interview were excluded. Sampling continued until data saturation was reached, which occurred when no new information or categories emerged from the interviews.

3.2. Developing the Interview Guide

Following Kallio et al.'s guidelines (13), a five-stage process was used to develop the interview guide: Identifying the conditions for using semi-structured interviews; gathering and incorporating pre-existing knowledge; drafting an initial semi-structured interview guide; conducting a pilot test of the guide; and finalizing the semi-structured interview guide.

3.3. Data Collection

Data were collected through semi-structured, face-to-face interviews, guided by a topic outline (Table 1). After completing interviews with the first 20 participants, 3 additional participants were recruited to ensure data saturation and enhance the depth and quality of findings. No repeat interviews were conducted.

Interviews were scheduled according to participants' preferences, with most conducted in the staff room after their shifts. The interviews lasted between 30 and 60 minutes. To validate responses, the interviewer used techniques such as targeted questioning, rhetorical queries, and repetition. The primary researcher carefully observed, listened, and recorded participants' expressions and voices during the interviews. Any uncertain information was clarified to ensure data accuracy.

3.4. Data Analysis

Data were analyzed using conventional content analysis, which categorizes words and phrases within the text. Content analysis is a qualitative approach used to systematically and objectively describe content derived from communication. The data analysis process followed Graneheim and Lundman's approach (14), comprising five steps: Immediate transcription of each interview post-conduct, repeated readings of the entire text to grasp its essence, identification of semantic units and primary codes, organization of primary codes into broader categories, and determination of overarching themes within these categories. Interviews were promptly recorded and transcribed. Each transcript underwent multiple readings to achieve a comprehensive understanding of the content. Semantic units were identified in line with the study's objectives, from which primary codes were extracted. These codes were grouped based on similarities and differences, forming subcategories and main categories. Three researchers individually conducted these steps, followed by a consensus meeting to organize the data. MAXQDA v20 software was used to facilitate the analysis.

3.5. Rigor

Trustworthiness was ensured by following Guba and Lincoln's criteria, including credibility, dependability, confirmability, and transferability (15). Credibility was achieved by conducting member checking; interview

Table 1. Interview Guide for Semi-structured Interviews

Type of Question	Questions
Greeting and introduction	Introduce the interviewer and explain the study's purpose.
	Ensure confidentiality and obtain consent for recording.
	How old are you, and how many years have you been working as a nurse? how many years of experience do you have working as a nurse? What is your cardiovascular disease? How long are you affected by this disease?
Background information	How long have you been managing your condition, and how has it influenced your nursing career?
Personal challenges	Can you describe how, if at all, your personal experience with the disease has influenced your empathy and understanding of patient needs?
	Can you recall a specific instance where your condition significantly influenced your approach to patient care?
Patient care insights	From your experience, what are the most critical needs of patients with chronic cardiovascular disease that are often overlooked in clinical settings?
	How do you manage the balance between your own health needs and the demands of providing high-quality care to patients?
	What strategies have you found effective in encouraging patient compliance with treatment plans, considering your dual role as a caregiver and patient?
Reflection and advice	Looking back, what advice would you give to other nurses who are providing care to patients with chronic cardiovascular disease?
Closing remarks	Is there anything else you would like to share about your experience as a nurse who is affected by CVDs?
	Thank you very much for your time and insights. Your contributions are invaluable to this research.

transcripts were reviewed with some participants, and their feedback was incorporated to ensure the findings accurately reflected their experiences. Dependability was established through prolonged engagement with the data, enabling continuous and comparative analysis, which reinforced consistency over time. For confirmability, an audit trail was maintained, documenting the research process and key decisions. The research team held discussions to address discrepancies that arose during analysis, with sufficient time allocated to resolve them, ensuring that findings were grounded in the data and free from researcher bias. Lastly, transferability was supported by providing detailed descriptions of the study context, participants, and findings, allowing others to evaluate the applicability of the results in similar settings.

3.6. Ethical Considerations

This study received approval from the Research Ethics Committee (approval no. IR.TUMS.FNM.REC.1402.064). All participants were fully informed about the study's details, and informed consent was obtained before participation. Privacy measures to protect participants were thoroughly explained before the interviews commenced.

4. Results

The participants included 16 women and 7 men, with an average age of 45.6 ± 10.9 years. Sixteen participants held a bachelor's degree, two held a master's degree, and five held a doctorate (Table 2). From the analysis of the interviews, which aimed to explore the care needs of patients with chronic cardiovascular diseases from the perspective of nurses with the same condition, 782 primary codes were identified. These codes were categorized into five main themes: (1) receiving Care from a Responsive System, (2) capacity building for the patient, (3) receiving multidimensional care, (4) having a comprehensive support system, and (5) utilizing new caregiving technologies (Table 3).

4.1. Receiving Care from a Responsive System

"Receiving care from a responsive system" refers to a healthcare approach that prioritizes timely and adaptable responses to patients' evolving medical needs, emphasizing the integration of both care and cure interventions. This category includes five subcategories: (1) easy access to the treatment team, (2) care from professionally competent caregivers, (3) continuity of care after hospital discharge, (4) support from a patient advocate nurse, and (5) access to interdisciplinary care.

4.1.1. Easy Access to the Treatment Team

Easy Access to the Treatment Team emerged as a critical theme among participants, reflecting the importance of seamless communication with healthcare providers. Many participants highlighted the difference between the accessibility healthcare professionals have to their colleagues and the challenges that patients often face. For example, nurses managing chronic cardiovascular diseases noted their advantage in accessing both physicians and other

Table 2. Demographic Characteristics of Participants

Participant	Sex	Age, (y)	Marital Status	Degree	Type of CVD
1	F	49	Ma	B.Sc	Cardiomyopathy
2	F	57	Ma	Ph.D	Arrhythmia
3	F	54	Ma	B.Sc	Hypertension
4	M	62	Ma	Ph.D	Myocardial infarction
5	M	43	Ma	Ph.D	Hypertension
6	F	47	Ma	B.Sc	Coronary artery disease
7	M	32	S	B.Sc	Heart valve replacement
8	F	53	Ma	M.Sc	Arrhythmia
9	F	42	Ma	M.Sc	Heart failure
10	M	55	Ma	Ph.D	Hypertension
11	F	26	Ma	B.Sc	Varicose
12	M	28	S	B.Sc	Mitral regurgitation
13	F	41	Ma	Ph.D	Coronary artery disease
14	F	57	Ma	B.Sc	Rheumatic heart disease
15	M	52	Ma	B.Sc	Heart failure
16	M	28	S	B.Sc	Congenital heart disease
17	F	58	Ma	B.Sc	Heart attack
18	F	55	Ma	B.Sc	Cardiomyopathy
19	F	36	Ma	B.Sc	Hypertension
20	F	50	Ma	B.Sc	Cardiomegaly
21	F	47	Ma	B.Sc	Pulmonary heart disease
22	F	30	Ma	B.Sc	Dysrhythmia
23	F	49	Ma	B.Sc	Aortic aneurysm

Abbreviations: F, female; M, male; Ma, married; S, single.

Table 3. Care Needs of Patients with Chronic Cardiovascular Diseases from the Perspective of Nurses with the Same Condition

Categories	Sub-categories
Receiving care from responsive system	Easy access to the treatment team; care from professionally competent caregivers; continuity of care after hospital discharge; support from a patient advocate nurse; access to interdisciplinary care
Capacity building for the patient	Autonomy in health care decisions; encouragement and positive reinforcement; skill-building opportunities; enhancing health literacy providing realistic health education
Receiving multidimensional care	Psychological care; physical care; spiritual healing; addressing unmet needs; patient directed care
Having a comprehensive support system	Peer support; social support; family support; financial support
Utilizing new caregiving technologies	Alert systems for critical events; wearable smart devices for health monitoring; telenursing services; smartphone applications for health management

healthcare specialists, contrasting this with the patient experience. One participant stated:

"As a nurse, I can easily consult my physician colleagues when needed, but an ordinary patient may wait months for a scheduled appointment with a physician..." (Participant-1).

4.1.2. Care from Professionally Competent Caregivers

Care from Professionally Competent Caregivers emerged as a fundamental need, with participants underscoring the importance of skilled healthcare providers for delivering effective medical services. One participant shared:

" I asked my nurse about the side effects of the medication she was injecting, and she listed some side effects that were actually incorrect... The healthcare system needs competent and capable personnel" (Participant-4).

4.1.3. Continuity of Care After Hospital Discharge

Participants emphasized the importance of ongoing care post-discharge due to the chronic and lifelong nature of their conditions. The nurse-patient relationship should extend beyond the hospital stay to provide sustained support and guidance. One participant, a nurse, shared:

"When I was hospitalized as a patient, I received excellent care and information from the hospital nurses, but after discharge, there was no follow-up or education provided..." (Participant-16).

4.1.4. Support from a Patient Advocate Nurse

Support from a Patient Advocate Nurse emerged as a crucial element, with many nurses underscoring the need for a nurse who actively protects and upholds patient rights. Nurses, aware of their own rights as patients, expressed a commitment to advocacy for their patients. One nurse remarked:

"Most patients are unaware of their rights in the hospital, and their rights often get overlooked. They need a nurse who will fight for them..." (Participant-11).

4.1.5. Access to Interdisciplinary Care

Many participants noted that effective management of their conditions requires a comprehensive care approach involving experts from various healthcare disciplines, such as nutrition, nursing, sports medicine, and other medical fields. Participants highlighted the need for collaborative care plans, such as cardiac rehabilitation, that require the expertise of professionals across specialties. One participant noted:

"I was part of a cardiac rehabilitation program at a clinic, but I never once saw a nutritionist. I believe it's essential for patients to receive care and treatment from specialists in these areas..." (Participant-6).

4.2. Capacity Building for the Patient

Capacity building for patients involves equipping them with the skills and knowledge necessary to actively manage their own health and care. This category includes the subcategories of autonomy in health care decisions, encouragement and positive reinforcement, skill-building opportunities, enhancing health literacy, and providing realistic health education.

4.2.1. Autonomy in Health Care Decisions

Autonomy in health care decisions emerged as a significant theme, with most participants emphasizing the need for patients to be actively involved in making decisions regarding their health care. One participant highlighted this issue, stating:

"According to the patient rights charter, patients have the right to obtain information about the medical procedures being performed and to make decisions about them, but in Iranian hospitals, doctors often adopt a paternalistic approach..." (Participant-2).

4.2.2. Encouragement and Positive Reinforcement

Encouragement and Positive Reinforcement emerged as crucial components of patient care, with participants noting that patients benefit from periodic encouragement to boost motivation and reinforce positive behaviors. This reinforcement can be both verbal and visual, such as demonstrating tangible improvements in patients' conditions. One participant shared:

"Sometimes, to keep patients progressing towards empowerment, we need to encourage them. For instance, when a patient is using an incentive spirometer and manages to move the balls inside it, I enthusiastically encourage them. This simple act motivates them to try harder..." (Participant-3).

4.2.3. Skill-Building Opportunities

Participants emphasized the need for patients to be placed in situations where they can develop essential self-care and self-management skills due to the chronic, long-term nature of their illnesses. One nurse shared their experience, stating:

"When I was hospitalized, no one discussed the skills I needed to live with an internal cardiac defibrillator or what specific actions I should take. Only some basic instructions were provided, which many people already know..." (Participant-4).

4.2.4. Enhancing Health Literacy

Enhancing health literacy emerged as a vital component of patient care. Participants noted that, as nurses, they possess a substantial amount of health information and have high health literacy. However, they recognized that many patients do not have the same level of understanding and often lack the necessary health literacy to manage their conditions effectively. This gap underscores the need for targeted health education to empower patients. One participant remarked:

"We, as nurses, might consider certain instructions and care routines to be obvious and simple, thinking they don't need to be taught, but the general population, even those with high academic education,

often have low health literacy. It's essential to elevate their health literacy…" (Participant-5).

4.2.5. Providing Realistic Health Education

Providing Realistic Health Education emerged as a critical consideration, with participants emphasizing that patient education should be grounded in the realities of patients' daily lives. It is important not to provide instructions that patients cannot feasibly implement. If education is overly stringent, patients may be less likely to follow it. One nurse shared their experience, stating:

"I instructed my patient to completely eliminate salt from their diet. The patient returned and said, 'Have you ever tried eating a tasteless meal without salt for a whole day?' It was clear to me that this was not feasible…" (Participant-7).

4.3. Receiving Multidimensional Care

Receiving Multidimensional Care involves a comprehensive healthcare approach that considers all aspects of a patient's well-being. Rather than solely addressing a specific medical condition, this approach includes the physical, emotional, mental, and social dimensions of a patient's health. This category includes the sub-categories of psychological care, physical care, spiritual healing, and addressing unmet needs.

4.3.1. Psychological Care

Many nurses reported experiencing significant anxiety, loss, and mourning during their own illnesses and surgical procedures. This personal experience heightened their awareness of the importance of addressing patients' psychological needs, which they recognized as one of the most critical aspects of nursing care. One participant shared:

"Despite being a nurse and knowing the procedure I was about to undergo, I was extremely anxious and fearful before the operation. Now, imagine how much distress a regular patient, entering a world of unknowns, would experience…" (Participant-22).

4.3.2. Physical Care

According to participants, addressing patients' physical well-being is essential and should be a primary focus in hospitals. Nurses are responsible for managing patients' physical needs, including pain relief, activity levels, nutrition, elimination, and other physiological requirements. One participant highlighted:

"The first and foremost need of a patient is to survive; we must first attend to their body and address their physiological needs before considering other dimensions of their health…" (Participant-11).

4.3.3. Spiritual Healing

In Iran's predominantly Islamic cultural context, spirituality holds profound significance. Patients often need attention to their spiritual needs regardless of specific religious beliefs or practices, and it falls to nurses to help fulfill these needs. One participant shared:

"We have many patients, some deeply religious and others not, but what I have observed is that almost everyone, during times of high stress and difficulty, believes in something beyond themselves and seeks solace from it… This is a universal need among patients…" (Participant-5).

4.3.4. Addressing Unmet Needs

Participants expressed that, during their own experiences as patients, nurses often repeated routine education even when those needs had been met, overlooking newly arising needs. They felt that identifying and addressing unmet needs is a critical aspect of patient care. One participant shared:

"When I was hospitalized, the nurse discussed dietary guidelines with me daily without providing any new information, even though I no longer needed dietary education. I needed someone to talk to me about…"

4.3.5. Patient-Directed Care

Patient-Directed Care emphasizes the active involvement of patients in decision-making processes regarding their treatment and care. This approach respects and incorporates the patient's preferences, values, beliefs, and cultural background, ensuring that care plans are personalized and aligned with the patient's goals and needs.

Participants in the study highlighted the importance of respecting patient preferences in caregiving, noting that patients often have specific reasons for declining certain types of care, and these preferences should be honored. One nurse shared, "I have a child at home whom I need to prepare for school every morning, and I'm not keen on having to rush out daily for cardiac rehabilitation sessions" (Participant-5).

Many participants emphasized that patient values and beliefs are crucial to their satisfaction with nursing care. It is essential for patients' values and beliefs to be respected and incorporated into care plans. One

participant stated, "Some things hold great value for patients and should not be overlooked, such as a patient who needs to pray but also requires cardiac rehabilitation. The nurse should provide facilities for them to perform their prayers while ensuring they adhere to prescribed care, such as complete bed rest" (Participant-11).

4.4. Having a Comprehensive Support System

Having a Comprehensive Support System refers to the network of resources, services, and relationships that provide emotional, practical, and social support to patients. Based on the analysis of the current study data, one category that emerges is Supportive Systems. This category includes four sub-categories: Peer support, social support, family support, and financial support.

4.4.1. Peer Support

Participants emphasized that patients often establish more comfortable and effective relationships with their peers. For example, one nurse shared insights from university studies:

"I have observed in some of your academic research that peer support is utilized for patients... Those who receive this support express satisfaction, and as nurses, we are pleased with the positive outcomes it yields…" (Participant-8).

4.4.2. Social Support

Participants highlighted the significant impact of community and societal resources in assisting patients with chronic cardiovascular diseases. One participant shared:

"I am a working woman, a mother, and a wife with numerous responsibilities. The illness has drained my energy to manage my duties effectively. Access to facilities like childcare would greatly alleviate my challenges…" (Participant-11).

4.4.3. Financial Support (Health Insurance Coverage)

Many participants highlighted the substantial costs associated with the treatment and care of chronic cardiovascular diseases as significant barriers to achieving favorable health outcomes. One participant expressed:

" I take a lot of medications. If my supplementary insurance didn't cover the cost of these medications, I would struggle to afford them…" (Participant-16).

4.4.4. Family Support

Family support was emphasized by most participants as essential for coping with the challenges arising from their illness. One participant described the invaluable role of their spouse and children, stating:

" The support of my spouse and children is a great blessing. They have helped me manage the conditions of my illness through their selflessness…" (Participant-9).

4.5. Utilizing New Caregiving Technologies

Utilizing New Caregiving Technologies involves integrating advanced tools and devices, such as wearable health monitors, telemedicine platforms, and mobile health applications, into patient care. This category encompasses four sub-categories: (1) alert systems for critical events, (2) wearable smart devices for health monitoring, (3) telenursing services, and (4) smartphone applications for health management. These technologies represent innovative approaches to enhancing patient care through advanced monitoring, remote nursing services, and accessible health management tools.

4.5.1. Alert Systems for Critical Events

Some participants emphasized the necessity of alert systems for certain patients, particularly elderly individuals living alone. These devices, which have been used globally for years, have recently become available in Iran as well. One nurse shared her experience, saying:

"One of my patients had acquired a device resembling a wristband that alerted caregivers in case of a fall. I believe there's a need for these devices with diverse functionalities to be accessible to patients who require them…" (Participant-23).

4.5.2. Wearable Smart Devices for Health Monitoring

Some participants highlighted wearable smart devices, like smartwatches and wristbands, as a new caregiving necessity. One participant stated:

"After experiencing episodes of atrial fibrillation, I bought this (pointing to her smartwatch). I monitor my arrhythmias and heart rate with it, and if necessary, I take action…" (Participant-17).

4.5.3. Telenursing Services

Participants in the current study believe that many nursing services for patients with chronic cardiovascular diseases can be effectively provided remotely, resulting in significant time and cost savings for patients. One participant remarked:

"Many aspects of rehabilitation programs can be remotely provided and monitored by nurses and other healthcare providers…" (Participant-11).

4.5.4. Smartphone Applications for Health Management

According to participants, nearly all patients today have access to smartphones, either personally or through family members, and many are eager to utilize these resources. One participant shared:

"I personally use smartphone apps for reminders and educational tools. I believe it's essential to educate patients on using these apps…" (Participant-15).

5. Discussion

Based on the findings of the current study, the caregiving needs of patients with chronic CVDs, as perceived by nurses with similar conditions, were categorized into five main themes: (1) receiving care from a responsive system, (2) capacity building for the patient, (3) receiving multidimensional care, (4) having a comprehensive support system, and (5) utilizing new caregiving technologies. A key finding was that access to healthcare teams is crucial for delivering timely and effective care. Patients with easier access to healthcare providers report higher satisfaction and better health outcomes. This aligns with Palumbo, who emphasized that access to healthcare teams reduces anxiety and enhances patient security (16). Similarly, Lee et al. emphasized that such access is essential for patient-centered care, improving overall healthcare experiences and outcomes (17). However, contrasting views exist in the literature. For instance, Fox et al. argue that while access to healthcare teams improves patient experience, resource constraints and communication barriers may hinder optimal care delivery in certain settings (18).

Professional competence also plays a critical role in effective caregiving. Cho et al. found that higher staffing and education levels lead to better patient outcomes (19). Our findings resonate with this, underscoring the need for continuous professional development and technical proficiency to provide high-quality care to CVD patients.

Continuity of care, particularly post-discharge, was highlighted both in our study and by Gledhill et al., who found that comprehensive discharge planning and follow-up reduce readmission rates (20). This underscores the importance of sustained care coordination in managing chronic conditions like CVDs.

Patient advocacy also emerged as a critical element, with our findings aligning with Nsiah, who noted that advocate nurses improve patient satisfaction and outcomes by addressing concerns and ensuring appropriate care (21). This highlights the role of nurses in actively representing patient interests, particularly in complex chronic conditions.

Interdisciplinary care emerged as essential for holistic patient management. Herrmann et al. demonstrated that collaborative teamwork enhances patient outcomes, which supports our findings (22). However, our study further suggests that tailored approaches to interdisciplinary care may be necessary to address the diverse needs of CVD patients. Patient empowerment, particularly in healthcare decision-making, was another key theme. Hughes et al. found that involving patients in decisions improves both satisfaction and outcomes, reinforcing our study's emphasis on patient autonomy and engagement (23). Lewis also highlighted the critical role of respecting patient preferences and values in the shared decision-making process (24), a perspective that aligns with our study.

Health literacy plays a crucial role in effective disease management. Our study echoes Ertem, who found that low health literacy correlates with poorer outcomes, underscoring the need for accessible health education to improve care for CVD patients (25).

Multidimensional care addresses the psychological, physical, and spiritual needs of patients. Psychological interventions, such as cognitive-behavioral therapy, have demonstrated efficacy in improving mental health outcomes (26). Adequate nurse staffing levels correlate with improved physical care outcomes (27), while spiritual care interventions enhance quality of life (28). Addressing all these facets improves overall patient well-being, consistent with our findings.

Supportive systems, including peer, family, and financial support, were found to be integral to patient well-being. Our findings align with Shalaby and Agyapong, who demonstrated the positive impact of peer support on mental health, and with studies showing that family involvement improves adherence and self-management (29). Financial support was similarly essential, ensuring access to necessary care and treatments (30).

New caregiving technologies, such as remote monitoring, wearable devices, and telenursing, were identified as crucial aspects of care for enhancing patient safety and engagement. Our findings indicate that incorporating these technologies into patient care can improve communication and monitoring of health conditions. This aligns with Janjua et al., who demonstrated the effectiveness of telehealth in reducing hospitalizations. Additionally, studies have

shown that wearable devices improve patient adherence and engagement, underscoring the importance of these technologies in contemporary care (31). Furthermore, smartphone health management applications were highlighted for their role in supporting patient involvement in care (32).

Finally, culturally competent care, which respects patient preferences, values, and beliefs, emerged as vital for personalized care. This finding is consistent with Henderson et al., who noted that culturally sensitive care improves patient satisfaction and health outcomes (33). Our study also reinforces the importance of considering age and gender when providing personalized care, as Hertler et al. demonstrated the benefits of age- and gender-specific interventions (34).

Incorporating and respecting patients' preferences within their care plans is essential for enhancing satisfaction and improving adherence to treatment. Patient preferences should be integral to all facets of care. Research by Barry and Siebinga et al. indicates that patient-centered care, which prioritizes these preferences, significantly enhances health outcomes and patient satisfaction (35). These findings align with our study, reinforcing the importance of tailoring care to meet the unique needs and desires of patients.

For future research, it is recommended to explore the integration of advanced caregiving technologies in patient-directed care models to evaluate their impact on patient outcomes. Additionally, studies could investigate the long-term effects of nurse-patient empowerment strategies in managing chronic conditions.

5.1. Implications for Nursing

The findings of this study underscore the necessity of a holistic, patient-centered approach in nursing practice for chronic CVD patients, emphasizing the integration of physical, emotional, social, and psychological care. Effective communication is paramount, ensuring patients fully understand their condition and care plans, thereby enhancing engagement and adherence to treatment. Empowering patients through education on self-management and lifestyle modifications is crucial, as is developing supportive systems within healthcare settings, including access to multidisciplinary teams and community resources. The utilization of new caregiving technologies, such as telehealth and mobile health applications, can facilitate continuous monitoring and support, while ensuring continuity of care post-discharge is vital for reducing readmissions and improving long-term outcomes. Implementing a responsive care-cure system that adapts to the evolving needs of CVD patients through regular assessments and timely interventions is essential for managing symptoms and preventing complications. Integrating these elements into nursing practice can significantly enhance care quality and patient satisfaction for those living with chronic CVDs.

5.2. Limitations and Strengths

Potential interviewer bias during face-to-face interviews may have affected data collection and interpretation, potentially leading to incomplete or skewed representations of participants' experiences. Despite these limitations, this study provides unique insights into the care needs of CVD patients from the perspective of nurses with the same condition, highlighting how personal adversity can significantly enhance therapeutic outcomes in nursing practice.

5.3. Conclusions

This study highlights the comprehensive care needs of patients with chronic cardiovascular diseases from the unique perspective of nurses who share the condition. The findings emphasize the importance of a holistic, patient-centered approach that prioritizes effective communication, seamless access to care, and continuity post-discharge. Empowering patients through autonomy, education, and skill-building, along with addressing their psychological, physical, and spiritual needs, is essential. Nurses should advocate for patients, support their active participation in decision-making, and provide culturally competent, personalized care. Embracing innovative caregiving technologies, such as remote monitoring and telenursing, can enhance patient safety and engagement. By integrating these strategies, nurses play a pivotal role in improving patient outcomes and satisfaction in the management of chronic cardiovascular diseases.

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Footnotes

Authors' Contribution: M. N. F. collected and analyzed the data and drafted the manuscript. Z. A. D. analyzed and revised the manuscript. M. Z. collected the data, designed, and supervised the study. Sh. Gh. supervised the study. All authors contributed to the article and approved the submitted version.

Conflict of Interests Statement: The authors declare no conflict of interests.

Data Availability: All raw data, including participants' audio files and interview texts, will remain confidential and cannot be publicly shared. However, the codes that emerged during this study are available from the corresponding author upon reasonable request.

Ethical Approval: This study was approved by the Research Ethics Committee of the Faculty of Nursing and Midwifery at Tehran University of Medical Sciences (ethical code: IR.TUMS.FNM.REC.1402.064).

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