Original Article

How is Nursing Care Provided for Cardiovascular Patients with Substance Use Disorders?

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Abstract

Background: Patients with cardiovascular diseases who also suffer from substance use disorders face distinct challenges in nursing care. Similarly, nurses encounter various caregiving challenges. Therefore, this study aims to explore the nursing care process for patients with co-occurring cardiovascular diseases and substance use disorders. **Materials and Methods:** This grounded theory study, informed by Strauss and Corbin (2015), was conducted at the University of Social Welfare and Rehabilitation Sciences in 2023. The participants consisted of 23 nurses, patients, and other treatment team members, who were purposefully selected from the cardiac and internal cardiac intensive care units of hospitals in Iran. A total of 25 semi-structured interviews were conducted to collect data, with the primary question being: "How is nursing care provided to cardiac patients with substance use disorders?" The primary analysis strategies employed included constant comparison, data questioning, and memo writing. **Results:** The analysis revealed six main categories: the complexity of care, an inappropriate work environment, and insufficient nurse competency as conditions; discrimination in care and informal care as strategies; and nurse-patient dissatisfaction as consequences. Based on the findings, nurses employ unstructured care to address their most pressing concerns. **Conclusions:** Nurses encounter various challenges when caring for patients who receive ineffective and unstructured care, which often leads to adverse outcomes. Consequently, developing appropriate care guidelines is essential. Based on the study's findings, nurses, managers, and researchers can collaborate to enhance care quality and improve nurses' professional competence.

Keywords: *Cardiovascular diseases, grounded theory, nursing care, substance-related disorders*

Introduction

In Asian and Middle Eastern countries, particularly Iran, the co-occurrence of opium and its derivatives with cardiovascular diseases is more prevalent than with other chronic diseases.[1,2] Evidence indicates that cardiovascular patients with Substance Use Disorders (SUD), especially those involving opium and its derivatives, often experience anxiety due to their dependence on substances and changes in their substance use conditions within the hospital environment. This anxiety may lead them to exhibit destructive and aggressive behaviors, causing disruption and distress among nurses. Such situations can result in unmet health needs for these patients and hinder the care of other patients.[3,4]

Researchers have recently conducted studies to assess the challenges of caring for targeted patients. Many of these efforts have focused on clarifying care challenges and have been carried out as descriptive studies. However, there is a significant gap in understanding how to implement care for these patients, identify fundamental concepts, or provide prescriptive models to facilitate the development of clinical solutions.[5,6] Consequently, despite the numerous challenges faced by healthcare teams and nurses in our country when caring for Cardiovascular patients with SUD, the process of nursing care for these patients remains undefined. Multiple studies have emphasized the necessity of recognizing this process and developing practical guidelines.[4,7] The synthesis of the reviewed results indicates that studies on this topic are limited globally, and no study has been conducted in our country to provide an in-depth view of the current situation. If adequate attention is not paid to studies elucidating the nursing care process for CVD patients with SUD, there is a risk of consequences such as decreased

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care quality, patient dissatisfaction, deficits in self-care, lack of treatment adherence, and inadequate rehabilitation. Additionally, misconceptions about the effects of opium on pain management and cardiovascular issues may spread among the public. This situation could also lead to increased stress and negative attitudes among nurses toward caring for these patients.[4-6,8]

Furthermore, the persistence of this issue may result in abnormal care practices and increased tensions within the department, often directed at nurses. On the other hand, there will be various legal, ethical, and organizational repercussions, including reduced service quality, increased costs, and decreased productivity for nursing managers and the healthcare system.[9,10] Therefore, this study aims to explore the nursing care process for patients with co-occurring cardiovascular diseases and substance use disorders.

Materials and Methods

This qualitative study began in 2023 and concluded in 2024. To achieve the research objective, the grounded theory methodology, specifically the approach of Strauss and Corbin (2015), was employed.[11] The study method involved five key steps: open coding, developing concepts regarding dimensions and characteristics, analyzing data in context, integrating the process into the analysis, and integrating categories. The research environment consists of the cardiovascular inpatient departments of educational hospitals affiliated with the Ministry of Health and Medical Education. Sampling was conducted from the internal cardiac wards and cardiac intensive care units of Shahid Rajaei Heart and Vascular Institute, Ayatollah Taleghani Hospital in Tehran, Ayatollah Mousavi Hospital, Alghadir Hospital, and Bouali Sina Hospital in Zanjan, Iran.

The main participants included nurses and other contributors, such as hospitalized CVD patients with SUD and their companions, along with other healthcare team members, selected based on theoretical sampling. In this study, 25 interviews were conducted with 23 participants, including nurses, patients, a head nurse, a clinical supervisor, a physician, a patient family member, and a social worker [Table 1]. An effort was made to maximize variation in the sample in terms of gender, age, education level, and experience in caring for the patients in question. Additionally, theoretical sensitivity was considered during the analysis and code extraction. Initially, participants were selected based on purposive sampling and specific inclusion criteria, which included willingness to participate in the study, experience in caring for the targeted patients, and the ability to articulate and convey experiences.

In grounded theory methodology, researchers employ multiple data collection strategies. Among these,

Table 1: Demographic Characteristics of Participants

Code	Age	Gender	Position	Nursing background (Years)	Educational degree	Interview Duration (minutes)
1	32	Female	CCU Nurse	11	BSN*	80
2	43	Female	Head Nurse	18	BSN	94
3	42	Female	CCU Nurse	20	MSN**	45
4	36	Female	CCU Nurse	13	MSN	46
5	39	Female	Internal Medicine Nurse	9	DNP***	45
6	35	Female	Internal Medicine Nurse	12	BSN	52
7	33	Female	Internal Medicine Nurse	10	BSN	47
8	39	Male	Internal Medicine Nurse	16	BSN	55
9	43	Female	Internal Medicine Nurse	20	BSN	35
10	34	Female	CCU Nurse	12	MSN	37
11	52	Male	CCU Patient	-	Bachelor's	30
12	43	Female	CCU Nurse	20	DNP	32
13	28	Male	Cardiac Surgery Nurse	5	BSN	32
14	59	Male	CCU Patient	-	High School	20
15	65	Female	Internal Medicine Patient	-	Associate's	25
16	63	Male	Cardiac Surgery Patient	-	High School	20
17	47	Male	Emergency Patient	-	Middle School	15
18	35	Male	Social Worker	15	BSW****, MSc***** Clinical Psychology	46
19	45	Male	Clinical Supervisor	23	MSN	35
20	42	Male	CCU Patient	-	High School	15
21	67	Female	Patient Companion	-	Elementary	37
22	41	Male	Cardiologist	14	Cardiology Specialist	40
23	77	Male	Internal Medicine Patient	-	Middle School	20

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interviewing stands out as the most widely utilized and effective approach. Specifically, semi-structured and unstructured interviews are particularly valued for their capacity to generate rich, theory-building data.[11] This study primarily utilized semi-structured interviews featuring open-ended questions. All interviews were conducted individually and face-to-face. Participants provided informed consent for audio recording and subsequent verbatim transcription at a convenient time. Interview durations ranged from 15 to 94 minutes (mean duration: 54 minutes). The interview process began with broad and exploratory questions tailored to each participant group. Nurses were asked, "*How do you care for cardiovascular patients with substance use disorders, and what daily practices do you implement for these patients?*" Patients were asked, "*Please describe how nurses care for you?*" Patient companions were also asked to say, "*How do nurses care for your patient?*" Additionally, doctors, social workers, supervisors, and head nurses were requested to share their thoughts on "*How do nurses care for cardiovascular patients with substance use disorders?*"

Following analysis of participants' shared experiences and contextual factors, probing questions such as *"What do you mean by that?"*, *"Could you elaborate further?"*, *"Why?"*, *"What factors contributed to this event?"* and *"What were the outcomes of this interaction?"* were employed to deepen the interview process and align responses with research objectives. The researcher posed clarifying questions whenever novel concepts emerged, avoiding leading participants toward predetermined conclusions while allowing their narratives to organically shape theoretical development. Interviews continued until theoretical saturation was achieved, where no additional data contributed new conceptual characteristics or dimensions. Data analysis adhered to Corbin and Strauss' five-phase methodology.[11] The process began with open coding, where raw data was systematically decomposed into meaning units through micro-analysis techniques. This ensured semantic alignment between codes and data segments, enabling the formation of preliminary conceptual categories. Emerging concepts were documented for targeted exploration in subsequent interviews. During the concept development phase, Memos were explored through subsequent interviews. In the context analysis phase, the researcher sought to understand factors affecting nursing care for CVD patients with SUD [Table 2]. The process incorporation stage examined how nurses respond to patient care challenges, revealing strategies, and

Table 2: An Example of the Process of Analysis

Quotation	Codes (*p*: participant, *c*: code)	Subcategory	Category
"The patient would twist and turn and not reveal that he was addicted and was worried that we would tell his family that he was an addict. He would tell us, 'My wife doesn't know. Don't tell her." (P2)	Patient's Concern About Disclosure of Substance Use (p2c127) (P8C48) (p13c15) (P8C49)	Mutual distrust in the clinical environment	Care complexity
"When I brought the drugs to the hospital, I was worried they would be stolen from my drawer. Even though they inject here, I have to be transferred to another hospital in a few more days. What if they don't inject there? I kept this opium for a rainy day." (P23)	Patient's Concern About Drugs Being Stolen in the Hospital (p23c11)		
"The basis of treating an addicted patient is the trust between the nurse and the patient. We doubt everything the patient says if we feel no sincerity between us and they are lying. For example, did they tell us correctly about their previous medications? Did they tell us correctly about their family situation? Is their pain real? In general, we question their sincerity." (P5)	Nurse's Distrust of Patient's Reported History (p5c168)		
"In small towns, they don't want anyone to know they are using opium, they don't tell us. Their companions secretly bring them to the hospital and they use it." (P22)	Nurse's Distrust of Patient's Expression of Pain (p5c169) (p5c52) (p12c19) (p20c27)		
"They would usually become lively in the evenings during visiting hours. They would see their companions and the companions who had brought them in the evening would use with them." (P4)	Provision of Drugs by Companions Without Coordination with the Ward (p4c50) (p1c19) (p2c195) (P9C15) (p6c46) (p12c15) (p22c2)		
"When we ask these patients how much they use, they say a large amount. They take and use it out of our sight. They usually didn't sleep at night and used." (P1 and 4)	Secret Use of Substances During Hospitalization (p1c23) (p2c75) (p2c71) (p2c118) (p2c144) (p2c148) (P4C11) (p4c24) (p4c26) (p5c19) (P9C12) (P9C16) (P9C21) (P9C22) (P8C18) (P8C50) (p12c10) (p13c16) (p4c49) (P9C17) (p18c8) (p18c29) (p18c35) (p1c30) (p18c23)		
"Usually on the second day of hospitalization, the patient comes and says, 'I use occasionally for fun.' And those who don't say it and come later, sometimes they don't say what kind it is." (P2)			
"The patient, especially in four-bed rooms, cannot use at all. To use their drugs, they go inside the bathroom. They lock the door and use it secretly. Because their use is such that it takes at least twenty minutes for them to use and they lock the door." (P18)			

their consequences. Finally, in the integration stage, the researcher linked categories around a central concept, using diagrams to aid in constructing the narrative. Consulting with the research team helped shape and integrate these categories into a cohesive theory.

Ethical considerations

Ethical approval was granted by the Ethics Committee of the University of Social Welfare and Rehabilitation Sciences (IR.USWR.REC.1402.019). Participants were informed about the study's objectives and assured of their anonymity and the confidentiality of their information before signing the informed consent forms. They also consented to the recording of interviews. All confidentiality protocols were strictly followed. Identifiable information, including names and addresses, was removed from the data. Electronic files and audio recordings were securely stored on a password-protected computer, while transcripts and field notes were kept in a locked drawer accessible only to the research team. Participants were informed that their involvement in the study was voluntary and that they could withdraw their consent at any point.

Results

This study involved 25 interviews with 23 participants, comprising 11 nurses (male and female), 7 patients, 1 head nurse, 1 clinical supervisor, 1 physician, 1 patient family member, and 1 social worker [Table 1].

Analysis of the interview data yielded six main categories: care complexity, inappropriate work environment, and inadequate nursing competence as conditions; discrimination in care and informal care as strategies; and patient–nurse dissatisfaction as outcomes.

Key findings reveal that nurses' main concern in caring for these patients is the disturbed care atmosphere, which is addressed through unstructured care practices [Table 3 and Figure 1]. Care complications include subcategories such as mutual distrust in the clinical environment, difficulty in pain management, patients' lack of commitment to treatment, inappropriate social beliefs about substances, and inadequate family support.

Regarding the Mutual distrust in the clinical environment, participant 7 states: "*They don't trust what we say at all. They say, 'yours doesn't work for us.' That means the patient doesn't trust our prescription for painkillers. It's probably because of their previous experiences. They say, 'Did you bring distilled water to give it to me?' We heard that. Our acquaintance says that they give patients distilled water, but they say we gave them drugs*." (P7)

Regarding the Difficulty in pain management, participant 22 states: "*When an addicted patient comes in and expresses heartache, this is more important to us than a non-addicted patient. Because his pain is such that it has not been relieved by the drugs he has taken at home*." (P22)

Participant 3 states: "*Patients who don't have real heart pain and are on drugs get very agitated. They start a fuss. Because a patient who has real chest pain never screams. They never disrupt the ward. These patients declare Levine's sign as a show. Some of them are not a show. We understand that he really can't make a sound, he's in bed, sweating, pale. You go and ask him what's wrong. He says I have pain. You know that he has chest pain.*" (P3)

Regarding the Patient's lack of commitment to treatment, participant 2 says: *"Giving them medication is a lot of trouble. They say, 'I won't take this.' You have to stand next to them and make them take their pills one by one. If you leave the medication there and come back, they won't take it. They don't take it and hide it. We say, 'So I told you to*

Table 3: The Nursing Care Process for Hospitalized CVD* Patients with SUD**

Conditions		Main Concern	Strategies		Core Category	Outcomes	
Subcategories	Main Categories	Disturbed care atmosphere	Subcategories	Main Categories		Subcategories	Main Categories
Mutual Distrust in the Clinical Environment	Care complexity		Negligence in care	Discrimination in care	Unstructured care	Decline in the quality of care	Patient-nurse dissatisfaction
Difficulty in Pain Management			Ineffective communication			Burnout	
The Patient's Lack of Commitment to Treatment			Trust building	Informal care			
Inappropriate Social Beliefs about Substances			Care based on unwritten agreements				
Inadequate Family Support							
High Workload	Inappropriate work environment						
Workplace Insecurity							
Poor Management							
Inappropriate Attitude	Inadequate nursing competence						
Inadequate Knowledge							
Inadequate Skills							

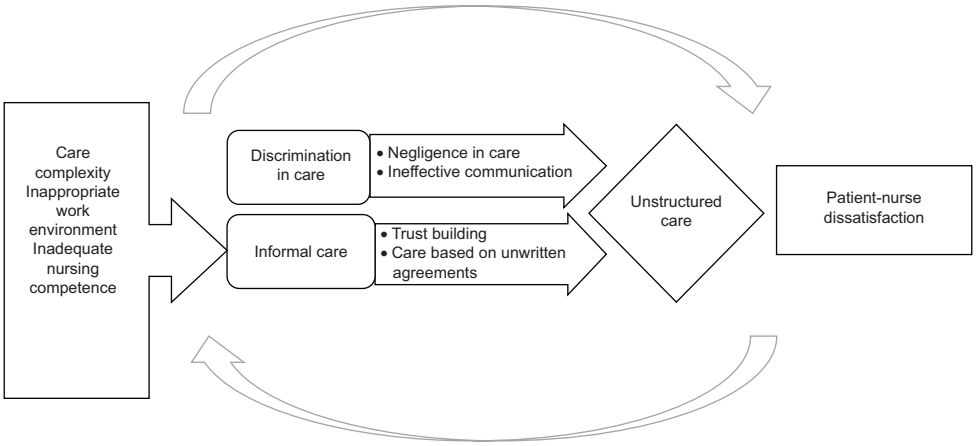

Figure 1: The nursing care process for hospitalized CVD* patients with SUD. *Cardiovascular diseases. **Substance use disorders**

take it, why didn't you?' They say 'I didn't feel like taking it now.' Some of them make taking medication conditional on giving them a substance that I have to give them for them to take it." (P2)

Regarding the Inappropriate social beliefs about substances, participant 14 states: "*Pure opium is a medicine. It's very good, especially for older people. For example, for fifty to sixty years old, it's a medicine. You see, those who quit it, whatever illness they have, they get better. It bothers them much later.*" (P14)

Regarding the Inadequate family support, participant 17 says: "*I came alone and was hospitalized. I have no one. My wife divorced me and left. My children left me. I'm going home, there's no one to take care of me.*" (P17)

The second category of contextual factors is an inappropriate work environment. This category includes subcategories such as High workload, workplace insecurity, and Poor management.

Regarding the High workload, participant 5 states: "*Unfortunately, due to the high workload, we don't have time to communicate with them much. When did they become addicted and why? We don't have time to do a comprehensive examination of the patient.*" (P5)

Regarding workplace insecurity, participant 18 says*:* "*One of the challenges is that they attack the nurses. Well, they are not in their right mind and usually push them away with their hands. They throw objects at them.*" (P18)

Regarding Poor management, participant 8 says: *"Not assigning one person to oversee addiction-related tasks. Because we have dedicated staff for every other hospital function. Someone manages blood pressure. Someone handles diabetes care. Someone coordinates dispatch. Someone assesses dangers and risks. I wish there were someone for our addicted patients, too. They became hospital assistants and resolved payment issues for patients who couldn't settle their accounts before discharge."* (P8)

The final category of contextual factors is inadequate nursing competence, which comprises three subcategories: inappropriate attitudes, inadequate knowledge, and inadequate skills. Regarding Inappropriate attitude, participant 4 says: *"Addiction was like a social stigma and a sticker on their forehead. When we handed over the patient, we always said, 'He's an addict.' Some didn't suffer much harassment, but I have to admit. in the back of my mind, there was a big addiction sticker on the patient's forehead. I feel this addiction is attached to him, and he can't be separated from it at all."* (P4)

Regarding Inadequate knowledge, participant 7 states: *"Our knowledge about drug interactions in these patients is so limited. I don't know if the medication they are taking is interfering or not. Many of my colleagues don't know."* (P7)

Regarding Inadequate skills, participant 5 says: "*When you meet them, you don't know what mood they're in. Are they okay? Are they sad? Are they worried? Are they scared? We don't have the skills to communicate with them.*" (P5)

Nurses attempt to address existing underlying conditions through measures such as discrimination and informal care, including care based on unwritten agreements with the treatment team, as well as trust-building.

Participant 19 describes informal care (care based on unwritten agreements) as follows: *"Caring for these patients follows a specific process, like an unwritten rule."* (P19)

Participant 23 discusses discrimination in care: "*Nurses are disrespectful. When they talk to us, they speak rudely. Usually, they don't answer our questions. Nurses came and told my companion to take me for angiography. How would my companion know where angiography is? When my companion came to help me into the wheelchair, we didn't know how to open and close it properly. When I tried to sit down, my finger got caught in the wheelchair and was severely injured. They don't provide good care at all. We are completely dissatisfied."* (P23)

Therefore, unstructured care, which includes discrimination in care and informal, team-based care, highlights the ongoing concern about the Disturbed care atmosphere as a critical unresolved issue for nurses in the process of caring for CVD patients with SUD. The result of this unstructured care is dissatisfaction among nurses and patients. For example, Participant 20 says: "*They didn't give me painkillers. They didn't give me painkillers last night and the night before. I couldn't sleep. I was writhing in pain*." (P20)

Or, participant 5 says: "*All these useless services just to get drugs. Taking care of these people is mentally exhausting for the nurse. You think to yourself, this person is someone who, no matter what I do, will come back in two days with the same symptoms*." (P5)

According to the study's findings, this care process is cyclical: patient and nurse dissatisfaction lead to a chaotic care atmosphere, prompting unstructured care to be implemented again, and dissatisfaction is repeated. Reviewing the memos and interviews, unstructured care (based on nurses' preferences and informal agreements) emerges as the core variable of the study.

Discussion

The analysis of data in this study identified six main categories related to nursing care for patients with CVD and SUD: care complexity, inappropriate work environment, and inadequate nursing competence as conditions; discrimination in care and informal care as strategies; and patient-nurse dissatisfaction as outcomes. This framework highlights the intricate dynamics of nursing practice and the various factors influencing patient care.

The findings of the present study demonstrate the complexities of caring for CVD patients with SUD. These complexities arise from the patient's health status and social, cultural, and environmental factors. Numerous studies have addressed the challenges of caring for CVD patients with chronic diseases, especially CVD.[3,12,13] The results of these studies are consistent with the findings of the present study.

Many studies have described caring for these patients as a complex process due to overlapping medical and psychological problems, the need for multidisciplinary care, and the lack of specific protocols.[5,14] Various studies have shown that nurses face serious challenges in providing quality care in work environments with limited resources, high workloads, and an atmosphere of mutual distrust.[15,16]

Studies have also shown that cultural misconceptions about the effects of drugs on health, as well as beliefs related to traditional healing, influence patients and their families decisions about treatment and care.[2,17,18] On the other hand, studies have shown that inadequate social support from the family can affect a patient's motivation to pursue and comply with treatment, as well as the ability of nurses to provide effective care.[19] The findings of the present study are also consistent with previous studies.

The findings of the present study, which show that nurses adopt different strategies in the face of these challenges, have also been observed in other studies. Some nurses may refrain from providing quality care due to feelings of fatigue and frustration, while others try to continue providing care by building trusting relationships with the patient and their family. Several studies have confirmed discrimination in care for patients with SUD.[20-22] On the other hand, some studies have emphasized informal agreements among the treatment team in the care of CVD patients with SUD.[23,24]

As observed in the present study, the consequences of these strategies can lead to dissatisfaction among nurses and patients, burnout of nurses, and ultimately a decline in the quality of care.[25,26]

Therefore, this study demonstrates that care is often provided in an unstructured manner. Researchers, nurses, and managers must develop specific programs and protocols to address this issue. Developing evidence-based, structured care protocols can help nurses deliver integrated, high-quality care. It is essential to provide nurses with training and empowerment courses in pain management, effective communication with patients, drug interactions, and comorbidity care. On the other hand, fostering supportive work environments and offering counseling services to nurses can reduce job stress and enhance job satisfaction. Close collaboration between nurses, physicians, social workers, and other treatment team members is critical for comprehensive care. Additionally, understanding patients' and families' cultural beliefs and integrating this knowledge into care programs can improve cooperation and treatment outcomes.

Therefore, the findings of the present study revealed that nurses, in response to the contextual characteristics of the care process that created a chaotic care environment, adopt unstructured care, approaches that fail to yield desirable outcomes. These findings align with global studies but also provide a comprehensive framework specifically tailored to the care of CVD patients with SUD.

Due to the social stigma surrounding SUD, recruiting participants, including patients and their families, proved challenging. This limitation is acknowledged in the study.

Conclusion

In conclusion, the findings of this study reveal the complex interplay of conditions including care complexity, inappropriate work environment, inadequate nursing competency; strategies such as discrimination in care, Ineffective communication, Trust-building efforts, and care based on unwritten agreements and outcomes including Decline in care quality, Burnout in nursing care for CVD patients with SUD.

The application of these findings to nurses, managers, and researchers is that addressing care complexity, improving the work environment, enhancing nursing competence, fostering trust, and reducing ethical violations can help improve patient-nurse relationships and overall care quality.

Future studies can focus on evaluating the effectiveness of educational and support interventions for nurses, examining the role of the families in the treatment process, and exploring different care models for CVD patients with SUD.

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Conflicts of interest

Nothing to declare.

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