



Effective strategies for implementing patient-centered care in cardiac care unit: An opportunity for change

Firouzeh Charosaei, Shahnaz Rostami¹, Maryam Esmaeili², Shahram Molavynejad¹, Zohreh Vanaki³

Abstract:

BACKGROUND: Patient-centered care (PCC) is a cornerstone for health-care professionals to improve the quality of care they provide to patients with cardiac disease. However, implementation of PCC programs has always accompanied with unpredictable challenges and obstacles. Therefore, the present study was conducted to determine effective strategies for the implementation of PCC from the perspective of patients and healthcare providers.

MATERIALS AND METHODS: The present research was a qualitative study using conventional content analysis method in one of the university hospitals of Abadan University of Medical Sciences during 2019–2020. Purposive sampling was performed until data saturation was achieved. Data were collected through four focused group discussions and 24 in-depth semi-structured interviews with 22 health-care providers and seven cardiac patients. Depending on the interview process and the responses of each individual, the sequencing of questions was different from one participant to another. Data analysis was performed continuously and concurrently with data collection, using a comparative method.

RESULTS: After data analysis, seven subcategories and three main categories were extracted. The main categories included structural, process, and outcome strategies. The category of structural strategies included subcategories of *nursing care organization*, *application of appropriate motivational mechanisms*, and *expansion of team coordination*. Process strategies included three subcategories, namely, *promoting communication*, *respectful and compassionate care*, and *the development of holistic care*. Finally, the outcome strategy consisted of the subcategory of *patient empowerment*.

CONCLUSION: The practical strategies for the implementation of PCC in coronary care unit revealed in this study were at structural, process, and outcome levels. Health-care managers and administrators can avail themselves of the findings of the present study to promote the quality care for cardiac care unit patients and improve patient satisfaction.

Keywords:

Coronary care units, patient-centered care, qualitative research

Introduction

Quality in the health system is defined in terms of providing safe, prompt, effective, efficient, fair, and patient-centered care (PCC).^[1,2] PCC, as one of the six axes put forward for the development of quality of care, is a global issue today.^[1,2] According to the definition provided by the Institute of Medicine, PCC is the provision of respectful

care and response to the patient's primary preferences, needs, and values.^[1]

Patients admitted to the cardiac care unit (CCU) are faced with numerous challenges due to the difficult conditions and illnesses, the unknown environment, distance from relatives and friends, and exposure to aggressive care. Nurses in these wards also have to deal with environmental stress, high workload, shortage of staff, and

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Department of Nursing,
School of Nursing
and Midwifery, Ahvaz
Jundishapur University
of Medical Sciences,
Ahvaz, Iran, ¹Nursing
Care Research Center in
Chronic Disease, School
of Nursing and Midwifery,
Ahvaz Jundishapur
University of Medical
Sciences, Ahvaz, Iran,
²Nursing and Midwifery
Care Research Center,
School of Nursing
and Midwifery, Tehran
University of Medical
Sciences, Tehran, Iran,
³Department of Nursing,
Faculty of Medical
Sciences, Tarbiat Modares
University, Tehran, Iran

Address for correspondence:

Dr. Shahnaz Rostami,
Nursing Care Research
Center in Chronic Disease,
School of Nursing
and Midwifery, Ahvaz
Jundishapur University of
Medical Sciences, Ahvaz,
Iran.
E-mail: rostami-sh@ajums.ac.ir

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difficult patient care conditions, which affects the nursing care process and can compromise the quality of care provided.^[3] In addition to these factors, what doubles the vulnerability of patients is receiving unfavorable and disproportionate care.^[4] Fremont *et al.* reported that caring for myocardial infarction patients focused primarily on technical aspects of care such as drug therapy and specific procedures. They also found that nontechnical aspects of care that had a significant impact on the patient and their family such as education on their status, emotional support, and discharge programs are rarely evaluated, and there is little evidence on these aspects of care, often referred to as PCC processes.^[5] According to another study, a significant number of patients reported problems with neglecting their preferences and lack of participation of family and friends in their care. More than a third of patients reported that they either did not receive clear information about their medical services or received little information in this regard.^[6] One solution to overcome these problems is to focus on the patient. In recent years, the patient care model has changed from the standard care approach which is identical for all patients to a patient-centered approach.^[7] Nonetheless, applying PCC is not always an easy task.^[8] While members of the health-care team are expected to use PCC in an acute care setting, they complain about the challenges they face in trying to apply PCC in daily activities.^[9,10] These challenges include lack of comprehensive policies, insufficient education in universities and hospitals, inconsistencies in the specification of the roles of different people in providing care to the patient, neglecting all aspects of the patient, inappropriate communication between health-care providers, and lack of manpower.^[11-13]

Nowadays, the concept of PCC is taken into account in the planning stage of educational systems and accreditation processes of hospitals, and health institutions, and it has become a commonly used jargon in educational groups. Nevertheless, there is little evidence available regarding the operational use of this concept, and its absence in health-care systems round the globe is a matter of concern.^[11,12,14] In this regard, the Iranian Ministry of Health has set certain standards for accreditation of Iranian healthcare facilities and hospitals since 2012.^[11,15] One of these important standards is patient-centered accreditation that entails access to care and continuity of care, observation of the rights of the patients and their family, patient assessment and patient care, anesthesia and surgery care, drug use and management, and patient and family education.^[11,16] However, despite the acquisition of the 1st and 2nd degrees of accreditation by hospitals, the persistent problem of the health system is the issue of quality and how to provide patient-centered services.^[11,14,16,17] While PCC should be tailored to the individual's clinical needs, living conditions, and

personal preferences, little is known about how to do so. A review of published research on PCC shows that most studies have focused on developing the conceptual components of PCC, but few, if any, have reported on how to personalize these components for individuals or specific groups of individuals.^[18,19] Therefore, to understand how to implement PCC in the CCU, it is necessary to use the experiences of patients as well as health-care providers regarding effective solutions to provide PCC. In this respect, the present study was conducted to investigate the views of patients and health-care providers on effective strategies for implementing PCC in the CCU.

Materials and Methods

Study design and setting

The present research was a descriptive-qualitative study aimed at examining the views of healthcare providers and patients in the CCU on effective strategies for implementing PCC. The research setting was the CCU in the teaching hospital of Abadan University of Medical Sciences in Iran.

Study participants and sampling

In this study, purposive sampling method was used to select the participants including the following health-care providers: 10 nurses, assistant nurses, and head nurses working in the CCU, two cardiologists, three clinical supervisors and health and education promotion supervisors, a nursing manager, a deputy matron, and an accreditation manager) along with seven patients hospitalized in the CCU. The inclusion criteria for selecting the patients were at least 3 days of hospitalization in the CCU ward, alertness, and willingness to participate in the study, and appropriate physical condition for answering questions and sharing their experiences with the researcher. Furthermore, the health-care providers were eligible to participate provided that they had at least 2 years of clinical experience and were willing to comment on the topic under study.

Data collection tool and technique

The required data were collected through semi-structured in-depth interviews and focused group discussion. Prior to the start of the interviews and group discussions, the purpose of the study, anonymity, confidentiality of information, and recording of interviews were explained to the participants. After obtaining informed consent, the patients were interviewed by the researcher next to their beds, individually, and in a safe and comfortable environment. The interview began with a general and open-ended question such as "Would you please explain the way things are done and the care you receive in this ward?" Then, more follow-up questions about PCC

were co-constructed on the basis of the responses of the participants. Examples include: "Which aspect of nursing care and intervention is most important and most satisfying to you?" "What actions have not fulfilled your expectations?" "Which part of your expectations have not been realized?" Interviews and group discussions of care providers began with a general question such as "Would you please share your experiences about PCC?" Then, based on the participants' responses, the interviews became more structured and focused more on practical solutions for implementing PCC. All interviews and group discussions with care providers were conducted by the researcher in a private room. It should be noted that caregivers were familiar with the group discussion process, and the average length of group discussions was 90 min, with each interview lasting between 40 and 70 min. Analysis of the data of each interview was a guide for the next interview, and thus sampling continued until data saturation was achieved. This study ended with interviews with seven patients and 22 care providers and 4 group discussions from March 2019 to July 2020. Data saturation occurred when no new code or subcategory was obtained from the last group discussion and interview. In this study, conventional content analysis method was used to analyze the data. The qualitative data analysis process was performed based on the proposed steps of Graneheim and Lundman.^[20] Initially, the contents of interviews and group discussions were transcribed verbatim, and then the texts were broken down into the smallest semantic units or codes several times. In the third step, the initial codes related to compact semantic units were extracted. In the fourth step, the primary codes were subdivided into subcategories according to their similarities, and finally, the subcategories were each replaced within the main categories which contained the main research themes and were in a degree of abstraction through continuous comparison of the subcategories based on their suitability and similarities. To achieve the accuracy and stability of the data, the four criteria proposed by Lincoln and Guba were considered.^[21] To increase the validity, reliability and dependability of the data, issues such as allocating sufficient time and copying the data as soon as possible, and re-reading of the entire data were considered. The results of the analysis of the findings were provided to three faculty members to evaluate credibility, confirmability, and reliability of the results. Their review confirmed the credibility of the results. Purposive sampling with maximum variability was used to help make the findings relevant or transferable to others. Furthermore, the researcher tried to increase the validity of the research by having sufficient participation and interaction with the participants, collecting valid information, and obtaining information confirmation from the participants.

Ethical consideration

The present study was confirmed by the Ethics Committee of Ahvaz Jundishapur University of Medical Sciences (Ref No. IR.AJUMS.REC.1397.813). The study approval was received from the Medical Deputy of Abadan University of Medical Sciences. Ethical considerations were also taken into account. To this aim, the participants were provided with necessary information, briefed on the objectives of the study and the procedure, required to provide informed written consent, and made assured that their information would be confidential.

Results

In this study, the participants included seven patients with cardiovascular disease and 22 care providers [Table 1]. Content analysis of the data led to the extraction of three main categories including structural, process, and outcome strategies. Each of the categories entails several subcategories which demonstrate the main dimensions of the category [Table 2].

Structural strategies

Structure means the context in which services are provided and is a prerequisite for facilitating processes and influencing outcomes to achieve PCC.^[22]

Expansion of team coordination

Teamwork was one of the important factors for the implementation of PCC. In teamwork, strong communication, collaboration and leadership, and managerial commitment are required for service providers. It is also important to have managers who act as role models for teamwork and actively involve employees in teamwork. Therefore, effective cooperation among professional groups is increasingly considered as an essential element in the implementation of PCC. In this regard, one of the physicians stated:

"Performing PCC requires cooperation among the treatment team. For example, my work depends on the work of the nurse. It helps to see how well the treatment is going and what the consequences are." (Physician 2).

Organizing nursing care

One of the factors that affect the quality of nursing care is the workload of nurses. Therefore, one of the most important management strategies to increase the quality of care is the use of labor division methods by nursing managers, especially head nurses. Regarding the division of labor, one of the nurses said:

"The role of nursing managers is very important. Given the limited facilities of the ward and the shortage of staff, the nursing care should be organized in such a way that

Table 1: Demographic characteristics of patients and care providers

(a) Demographic characteristics of patients						
Participant	Age (year)	Gender	Literacy level	Marital status	Occupation	History of affliction (year)
Patient 1	71	Female	Primary school	Married	Retired	10
Patient 2	46	Male	Secondary school	Married	Laborer	4
Patient 3	42	Male	BSc	Married	Employee	2
Patient 4	64	Female	Primary school	Married	Housewife	8
Patient 5	45	Male	Secondary school	Married	Self-employed	3
Patient 6	57	Male	High school diploma	Married	Retired	5
Patient 7	55	Female	High school diploma	Married	Housewife	4
(b) Demographic characteristics of care providers						
Work experience	Literacy level	Gender	Age (year)	Participant		
15	BSc	Female	42	Nurse 1		
9	BSc	Female	36	Nurse 2		
28	BSc	Female	52	Nurse 3		
20	BSc	Female	44	Nurse 4		
20	BSc	Female	46	Nurse 5		
14	MSc	Female	37	Nurse 6		
15	BSc	Female	38	Nurse 7		
13	BSc	Female	39	Nurse 8		
14	BSc	Female	36	Nurse 9		
22	BSc	Female	46	Nurse 10		
10	High school diploma	Male	40	Nurse assistant		
23	BSc	Female	54	Head nurse		
25	BSc	Female	53	Matron		
21	MSs	Female	45	Educational supervisor		
18	BSc	Female	41	Clinical supervisor 1		
12	BSc	Female	37	Clinical supervisor 2		
20	BSc	Female	45	Clinical supervisor 3		
18	MSc	Female	42	Health promotion supervisor		
3	Cardiologist	Male	35	Physician 1		
10	Cardiologist	Male	45	Physician 2		
5	BSc	Female	30	Accreditation manager		
12	BSc	Female	37	Deputy matron		

we can provide comprehensive and PCC for patients." (Group discussion 2).

Nurses have been assigned many unnecessary tasks and correspondence along with tasks related to documentation and accreditation, and this has restricted them in doing their main tasks such as focusing on the patients, educating them, providing comprehensive care, and communicating with the patient's family. Regarding the organization of care, one of the nurses said:

"The number of checklists has increased and a lot been added to the staff's work. Instead of providing care to patients, the nurses have to deal with these issues. They are more involved in paperwork than staying at the patient's bedside." (Group discussion 2).

Participants also believed that effective clinical monitoring would improve the nursing care process, and if maintained for a long time, would make the staff

more sensitive to the patient. The culture and structure of the organization is another important factor that affects the organization of nursing care. Our data showed that the culture of hospitals is highly physician-centered and organized based on hospital routines and division of labor, which has, directly and/or indirectly, made the nurses task-oriented.

Motivational mechanisms

From the participants' point of view, using appropriate motivational mechanisms aimed at the optimal implementation of PCC is an effective structural strategy. This, according to our participants, includes providing financial and moral support for employees, reducing their working hours, providing them with the necessary facilities in the workplace, and building empowerment and self-confidence in them. In this regard, one of the participants stated: *"In order to increase the motivation of nurses, their requested program should be considered, and it is important that they are appreciated orally or in written*

Table 2: Factors affecting implementation of patient-centered care: categories, subcategories, and codes

Categories	Subcategories	Codes
Structural strategies	Organizing nursing care	Creating a patient-centered culture
		Facilitating nonnursing activities
		Effective care control and clinical supervision
		Adjusting work pressure
	Expanding team and intra-ward coordination	The need for management commitment for team coordination
		The need for teamwork
		Coordination between care team members
	Using appropriate motivational mechanisms	Holding intra-ward meetings
		Appreciation and encouragement of positive staff work
Process strategies	Promoting communication	Motivating staff to improve knowledge
		Creating sufficient motivation in payment and incentive programs
		The importance of communication skills in providing care
		Information sharing
	Respectful and compassionate care	Learning active listening
		Flexibility in care
		Responding to the patient's preferences, needs and values
	Development of holistic care	Providing supportive care
		Comprehensive monitoring and paying attention to the needs and problems of the patient
		Gaining awareness of the patient's culture and concerns through communication
Outcome strategies	Creating empowerment in the patient	Purposeful examination and recognition of the patient
		Managing patient concerns
		Involving the patients in managing their illness
		Establishing continuous care

form. When an employee does a positive job, they should be appreciated and empowered because their empowerment increases their self-confidence and self-esteem.” (Matron).

Process strategies

Process is here defined as the course of giving and receiving services, and the process of care affects the outcome. The process also includes areas related to the interaction between patients and health-care providers.^[22]

In this study, participants stated that communication is one of the most important aspects of nursing care, and many of the nurses’ duties such as physical care of patients, emotional support to, and exchange of information with patients are not possible without communication. To cultivate communication, they emphasized active listening for collecting information, application of communicative skills, sharing information, and discussing care with the patient. One patient stated, “I would like nurses to take the time to listen to us and ask questions and encourage the patient to fully explain their condition” (Patient 3).

Furthermore, the participants stated that effective communication provides respectful and compassionate care that includes flexibility in care and responding to the patient’s preferences, needs, and values. This is done by affirming the patient’s personal, cultural, religious,

and spiritual values, while expressing empathy and confidence and responding to the patient’s feelings. One of the patients commented on the importance of communication:

“I feel comfortable and happy when I see that my doctor is treating me like a friend. They [doctors] should pay attention to the patient’s opinions and problems when they visit them. The patient should be able to comment on their own treatment” (Patient 7).

Most participants stated that in order to provide PCC, it is very important to develop a holistic understanding in nurses. A nurse with a holistic attitude should take into account the psychological and emotional health of the patient so that she could facilitate the patient’s physical treatment. This demands purposeful investigation and recognition of the patient. In this regard, one of the participants stated: “In order to be able to provide good care, we must examine the patient from all angles and give them the opportunity to express their problems” (Group discussion 2).

Outcome strategies

Outcome is defined as the impact of services on the health status of patients and people. In this study, outcome shows the importance of implementation of PCC.^[22] Participants believed that factors that empower patients admitted to the CCU include managing the patient’s

concerns, involving the patient in managing their illness, and maintaining continuity of care. In this regard, one of the nurses stated:

"We must involve the patient according to their capacity and we must set the stage for that.... there will be no cooperation without any agreement between the patient and the nurse, i.e., if trust is established and we train the patients and they realize this, it leads to cooperation" (Nurse10). Patient empowerment begins with providing information and education and involves seeking information about the illness or condition and actively participating in care decisions. Increasing patients' involvement in self-care is a step toward permeating a person's sense of responsibility for their illness. Involvement in self-care involves the joint design of a care plan that includes aspects of joint decision-making, support, and goal setting, all of which contribute to clinical management, better health outcomes, and improved quality of patient care. Finally, to ensure of successful patient empowerment, continuity of care, and increased cooperation among patients and caregivers is important.

Discussion

According to the results of the present study, effective strategies for implementing PCC were divided into three main categories: structural, process, and outcome strategies. Participants in the present study described the organization of nursing care as an important factor for the implementation of PCC. Previous studies have also acknowledge the organization of nursing care. Nobahar, for example, reported in her study that the organization of nursing performance affects the quality of nursing care.^[23] Ahmadi *et al.* also believe that patient centeredness is one of the best ways to organize to nursing care in order to increase its quality. However, the task-oriented method is the one still used in medical centers.^[24]

Culture change has been widely referred to in different studies as one of the components of employing PCC which plays an important role for patients, care providers, and health-care organizations.^[25] Linschi reported in their study that the PCC culture is a fixed procedure that entails a change in the perception of care. This is achieved by providing the individual with the right to choose, to participate in decision-making, and to support their willingness to participate in the management of their health in a way that gives patient respect independence, increases patient satisfaction with care, and promotes the patient's human dignity.^[26]

In studies conducted so far, the existence of a control and monitoring system with effective feedback is considered effective in clinical competence of health-care providers,

which plays an important role in their competency development. It is also believed that management and having a control and monitoring system is effective in health development.^[27] According to the results of one study, implementation of clinical supervision system has resulted in improvement of the professional performance of nurses in the field of patient education. That is, patients understand this system, and it causes the majority of patients in the experimental group to introduce nurses as their source of information. This group of patients also had a higher level of awareness and self-care performance compared to the control group.^[28]

Participants in the present study suggested that workload due to shortage in nursing staff increased the number of work shifts and increased number of documentations related to accreditation. They also believed that tasks not related to nursing practice can reduce the relationship between nurses and patients and thus diminishing the quality of health care and job motivation. According to Mahmoodi Shan *et al.*, nurses suffer from physical and mental fatigue due to hard work and numerous shifts, which runs counter to appropriate working conditions.^[29]

Using an appropriate motivational mechanism is another strategy mentioned by the participants. Other solutions suggested by the participants included: raising their salary in proportion to the expected workload and activities, reducing the number of working hours, appreciating and encouraging the positive work of the staff, motivating the staff to improve their knowledge, and establishing a professional position and job independence in the workplace. In this regard, Esmaeili *et al.* found that, in the view of nurses, supporting and encouraging those who provide high-quality PCC can enhance positive behavior. In fact, the study participants thought that managers' ignorance of distinguished employees at the workplace and lack of encouragement mechanisms were obstacles to promoting motivation and achieving PCC.^[30] Constantly motivated nurses are more willing to take care of the patient, work with other members of the treatment team, and provide better care services. They also have high verbal and behavioral skills in their work, as opposed to unmotivated and dissatisfied nurses who have little, if any, desire to provide quality nursing care.^[31] Therefore, creating a motivational and supportive atmosphere can lead to increased care outcomes.

Based on the data, it seems that the enhancement of team coordination is important for the implementation of PCC. According to McCormack *et al.*, application of PCC is a team effort which requires improved work efficiency, time management, and improved relationships.^[32] Working in a team entails learning new skills and continuous study, and it is important that

team members have a common view on how to provide PCC.^[19,26]

Intensive care team members interact with each other to achieve clinical goals, push career boundaries, and obtain results from complex and new systems.^[33] Nurses' participation in this regard creates more a sense of belonging and responsibility toward the work environment.^[33,34] A sense of teamwork must be strongly nurtured by the management of special wards.^[35] In addition, care coordination among team members increases the quality of health care and provides access to adequate patient information, improves patient empowerment, and reduces the rate of long hospital stays.^[30,36]

Process strategies, which include promotion of communication, were offered by the participants as another group of effective strategies for providing PCC. Communication was regarded as a critical aspect of effective implementation of PCC. In this respect, van der Cingel *et al.* described the importance of a caring relationship in the use of PCC, noting that a good caring relationship is an important precondition for good care in which compassion, respect, participation, as well as individual and professional closeness can flourish.^[37] Nurses spend a large amount of time with patients and are responsible for planning and administration of treatment to patients. In this regard, effective communication skills are essential for hospital care environments in order to improve the interaction between nurse and patient and the patient experience of care.^[38] Nikmanesh *et al.* reported that teaching communication skills to nurses increases the satisfaction of caregivers.^[39]

Respectful care is another subcategory of process strategy. According to the participants, it is attainable through flexibility in care, responding to the patient's preferences, needs, and values and providing supportive care. In order to provide respectful and compassionate care, the patient should be considered as a specialist in their health, and through this, partnerships should be developed, allowing for sensitivity to emotional and psychological needs and empathetic responses.^[22] According to Epstein and Street, having a flexible approach to patients' preferences and planning care based on their needs and preferences is one of the basic features of PCC.^[40]

Holistic care is another subcategory of process strategy. Participants in our study believed that in order to develop holistic care, it is necessary to study and know the patient purposefully, to gain an understanding of the patient's culture and concerns through communication and monitoring, and to pay full attention to the patient's needs and problems. The component of holistic care is comparable to elements of PCC mentioned previously

in other studies such as: ensuring physical comfort and emotional support,^[41] identification of the physical, cognitive, emotional, and social needs of patients,^[42] combining health promotion with disease management in a patient care program, and respect for patients' individuality and values.^[43]

Creating patient empowerment is one of the subcategories of outcome strategies. Participants stated that empowerment interventions designed to improve patient participation in care should focus on adhering to the ethical principles of patient independence and autonomy. When patients are provided with accurate and clear information through effective partnership and collaboration, they can have a better understanding of what they are required to do.^[44] In addition, nurses can educate patients about their rights to participate in care and about the questions they may ask care providers to obtain the information they need to make care decisions. Patient empowerment has been advocated as a way for patients to participate in the self-management of chronic diseases.^[45,46] Aujoulat *et al.* reported that the educational goals of an empowerment-based approach are not specific to the disease, but rather to strengthening the patient or developing their general and psychological skills. Empowerment training methods are necessarily patient centered and based on experiential learning. Besides, the patient-provider relationship must be continuous and involve the participation of both parties.^[47]

Therefore, reshaping health-care system with PCC strategies becomes fundamental to improving health-care experiences of both the health-care providers and the patients. This concept is essential to health-care providers at the hospital setting in order for them to boost quality healthcare practices and to enhance and improve nurse-patient collaboration. In addition, the ability to fully operationalize PCC in the hospital setting lies with both the managers as a guarantor and nurses as benefactors of this innovative approach in health-care provision. Managers need to implement and enforce PCC, especially at hospital settings. In addition, periodic in-service training of the nurses and devising a model of translating new nursing skills and competencies into practice should be embraced in nursing training.

Limitation and suggestion

Since the current study was a qualitative research that was carried out in one university hospital, its findings do not have a high level of generalizability. Therefore, it is recommended that similar studies in other regions be conducted because patients and health-care providers in other regions might have views different from those found in the present study.

Conclusion

Changing the course of healthcare processes and achieving PCC requires effective strategies. The results of the present study explained the lived experiences of heart patients and members of the treatment team regarding the implementation of PCC in the CCU. Therefore, managers and health-care officials can use the results of the present study to improve the quality of care for patients admitted to the CCU in order to maximize patient satisfaction.

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Conflicts of interest

There are no conflicts of interest.

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