

CONCEPT

The challenges of nursing care for patients with lumbar discectomy: A qualitative study

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Abstract

Aim: Patients with lumbar disc surgery experience many different problems during their hospital stay. Nurses also face different challenges in providing care to them. Nonetheless, no study has yet specifically addressed these challenges to the best of our knowledge. This study aimed at exploring the challenges of nursing care for patients with lumbar discectomy.

Design: This qualitative study was conducted in 2022 using content analysis.

Methods: Eight nurses, three patients with lumbar discectomy, and one physician were purposively selected from the neurosurgery wards of the hospitals affiliated to Golestan University of Medical Sciences, Gorgan, Iran. Semi-structured interviews were conducted for data analysis and the content analysis method recommended by Elo and Kyngas was used for data analysis. The main phases of this method are open coding, grouping, categorization, and abstraction. The MAXQDA 10 software was employed to facilitate data management. Data collection continued to reach data saturation.

Results: The challenges of nursing care for patients with lumbar discectomy were categorized into eleven subcategories and three main categories, namely dominant routine-based practice in the healthcare system, futile attempt for team-based care, and shortages as a major barrier to quality care. There are different personal, professional, financial, structural, and organizational challenges in nursing care for patients with lumbar discectomy which can negatively affect postoperative patient recovery.

KEYWORDS

lumbar disc surgery, nursing care, qualitative study

1 | INTRODUCTION

Lumbar disc disease is one of the most prevalent spinal disorders worldwide (Mok et al., 2016). A study reported that the prevalence of disc disease among men was higher than women (57% vs. 47%)

(Cummins et al., 2006). The herniation of the nucleus pulposus can compress spinal nerves and cause inflammation, irritation, pain, muscular weakness, numbness, and walking problems (Shepard & Cho, 2019). The symptoms of the disease vary according to the severity and the location of the herniation and include back pain that is

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aggravated with mobility and activity, pain radiating to the leg (sciatica), tingling and muscular weakness in the leg, and bladder or bowel incontinence in severe cases (Yaman et al., 2017).

The treatment of lumbar disc disease depends on disease severity and patients' conditions. Medical treatments include over-the-counter analgesics (such as acetaminophen, ibuprofen, and naproxen) and muscle relaxants to reduce mild to moderate pain and muscular spasm (Rogerson et al., 2019). Physiotherapy also helps patients with lumbar disc disease to perform exercises to improve strength, flexibility, and range of motion (Boote et al., 2017). Epidural injection of corticosteroids also alleviates inflammation and pain (Danazumi, 2019). However, medical treatments are ineffective and surgical treatment is indicated in some cases, particularly when severe symptoms negatively affect the quality of life (Rogerson et al., 2019).

Surgical techniques for lumbar disc disease treatment include micro-discectomy, laminectomy, and artificial disc replacement (Glenn et al., 2011). Surgical treatment of lumbar disc disease can reduce pain and improve mobility but may be associated with different complications such as surgical site bleeding and infection, failed disc syndrome (Bombieri et al., 2022; Hinkle et al., 2022), urinary retention, paralytic ileus, anaesthesia-related complications, and problems caused by prolonged postoperative immobility including venous thromboembolism (Mohamed Weheida et al., 2022). Severe postoperative pain may reduce patients' ability to move or perform their activities of daily living (Lewandrowski et al., 2021) and hence, they need help in doing their basic activities such as standing, sitting, walking, etc (Akkaya & Ayhan, 2023). Some patients with disc surgery may also experience surgery- or recovery-related mental and emotional problems such as depression and anxiety (Erken et al., 2022). Lumbar disc surgery in this hospital was performed through the laminectomy and discectomy techniques with fusion and postoperative nursing care services included infection prevention, proper positioning, and assessment and management of acute pain, bleeding, neural defects, urinary retention, and mobility problems.

The multiplicity of the physical, mental, and functional complications, problems, and needs of patients with disc surgery (Thapar et al., 2022) their reduced abilities and increased dependence (Fors et al., 2019), and their families' problems in caregiving to them (Rahnama et al., 2017) highlight the importance of quality nursing care services to facilitate their recovery and improve their quality of life (Afshar et al., 2020; Harper & Klineberg, 2019). A study showed that postoperative nursing care services can significantly improve satisfaction with care among patients with disc surgery (Sinnmaz & Akansel, 2021). However, nurses face different challenges in providing care to these patients. Examples of these challenges are inability to effectively manage severe postoperative pain, the high risk of infection and disability, and disease recurrence (Afshar et al., 2020; Bombieri et al., 2022; Hinkle et al., 2022). To the best of our knowledge, few studies have so far addressed the challenges of nurses in care provision to patients with disc surgery. Therefore, this study was designed and carried out to provide more in-depth data in this area.

2 | AIM

The study aim was to explore the challenges of nursing care for patients with lumbar discectomy.

3 | METHODS

3.1 | Study design

This qualitative study was conducted in 2022 using content analysis. Content analysis is a method for the in-depth description of phenomena and is appropriate for the exploration of human experiences (Elo & Kyngäs, 2008). The naturalistic paradigm and qualitative designs explore the dynamic and multidimensional aspects of realities and hence, are useful for poorly known phenomena (Hasandoost et al., 2023).

3.2 | Setting and participants

Study setting was all neurosurgery wards of the hospitals affiliated to Golestan University of Medical Sciences, Gorgan, Iran. Participants were eight nurses, three patients with lumbar discectomy, and one physician—twelve in total. They were purposively selected with maximum variations respecting their age, gender, educational level, work experience, and socioeconomic status. Inclusion criteria were history of care provision to patients with lumbar disc surgery in neurosurgery wards (for healthcare providers), and lumbar disc surgery (for patients), agreement for participation, and ability to share experiences (for all participants).

3.3 | Data collection

Semi-structured interviews and field notes were used for data collection. The first author was Master's degree in Medical-Surgical Nursing (with several years of clinical work experience), PhD student in nursing, and held all interviews at participants' preferred time and place. Interviews with healthcare providers were started using broad questions such as, "May you please explain your experiences of nursing care for patients with lumbar disc surgery?", "How do you care for them before and after surgery?", and "What problems did you experience in providing care to patients with lumbar disc surgery?" Interview questions for patients included, "May you please explain about your experiences of lumbar disc surgery?" and "May you please describe your experiences of nursing care before and after lumbar disc surgery?" Probing questions such as "Can you explain more?", "Can you provide an example?", "Who", "How", "Where", and "What" were also employed to collect more in-depth data. The time and place of the interviews were arranged based on participants' convenience and most interviews were held in the study setting. Four participants were interviewed

twice to clarify some ambiguities in their first interviews and collect additional data from them and hence, sixteen interviews were held in total with twelve participants. Interviews ranged in length from 45 to 60 min. Data collection continued to reach data saturation and fully develop all categories. All interviews were recorded using an MP3 player and were immediately typed verbatim. Besides, the first author made field notes of participants' behaviours during interviews and during her attendance at the study setting (neurosurgery wards). Field notes helped us access participants' perceptions and experiences. They are considered as objective evidence that gives meaning and helps to understand the phenomenon of humanistic care.

3.4 | Data analysis

The inductive content analysis method recommended by Elo and Kyngäs was used to analyse the data concurrently with data collection (Elo & Kyngäs, 2008; Kyngäs et al., 2020). This method is appropriate when there are limited data about the intended phenomenon. The phases of this method are data preparation, data organizing, and data abstracting (Elo & Kyngäs, 2008). In the preparation phase, the whole interview was considered as the most appropriate unit of analysis. Interview were read several times to obtain in-depth understanding of participants' perceptions. In the organizing phase, open coding was performed through reading the interviews, making notes, and labeling the data. Simultaneously, the generated codes were categorized and the categories were labelled using the words and expressions which showed their content. Moreover, the categories were compared and combined according to their similarities. The abstraction process was also continued until the main ideas of the interviews were determined. The MAXQDA 10 software was employed to facilitate data management.

3.5 | Data trustworthiness

Credibility was ensured by checking the findings of each interview with the corresponding interviewee and making the necessary amendments. Moreover, data were collected using both semi-structured interviews and field notes, and from different sources, namely nurses, patients, and physicians. Dependability was established through peer checking, in which the second and the third authors supervised data collection and analysis by the first author. Moreover, confirmability was established by carefully documenting and reporting all steps of the study. Sampling with maximum variation respecting participants' age, gender, educational level, work experience, and socioeconomic status also helped establish credibility and transferability. Other techniques to ensure the trustworthiness of the data and the findings were concurrent data collection and analysis, selection of key informants, prolonged engagement with the data, and provision of clear explanations about the data (Charmaz & Thornberg, 2021; Hamilton, 2020).

3.6 | Ethical considerations

The Ethics Committee of Golestan University of Medical Sciences, Gorgan, Iran, approved this study with the code of IR.GOUMS.1400.204. At the beginning of the interviews, participants were informed about the study aim, confidentiality of the study data, voluntariness of participation, and audio recording of the interviews, and informed consent was obtained from them.

4 | FINDINGS

Twelve nurses ($n=8$), patients ($n=3$), and physicians ($n=1$) participated in this study. Most participants were female ($n=9$) and the range of their age was 23–70 years. Participants' educational level ranged from elementary to university education. The work experience of the participating nurses and physician was 2–25 years (Table 1).

Eleven subcategories and three main categories were developed in data analysis. The three main categories were dominant routine-based practice in the healthcare system, futile attempt for team-based care, and shortages as a major barrier to quality care (Table 2).

4.1 | Dominant routine-based practice in the healthcare system

Participants' experiences showed that most nursing measures are performed based on predetermined routines. Despite its advantages such as rapid performance of care measures, routine-based practice may be associated with the ignorance of patients' personal needs. Findings showed that most patients in the study setting mainly received general preoperative and postoperative nursing care instead of individualized care. Although nurses in the study setting attempted to fulfil patients' needs, they did not pay adequate attention to their specific post-discectomy needs. The four subcategories of this category were ineffective pain management, weak attempt to prevent complications, careless provision of the routine preoperative and postoperative care measures, and patients' limited preoperative mental readiness due to routine-based practice.

4.1.1 | Ineffective pain management

One of the main reasons for patient dissatisfaction is ineffective postoperative pain management. Despite medical orders for analgesic administration, many patients complain of pain due to nurses' inadequate analgesic administration or their indifference toward pain assessment and management. Besides, most nurses rely on medical orders for pain management, do not use non-pharmacological pain management techniques, and do not pay attention to patients' needs.

No.	Age (years)	Gender	Occupation	Educational level	Work experience (years)
1	38	Male	Head nurse	Master's	10
2	32	Female	Nurse	Bachelor's	6
3	31	Female	Nurse	Bachelor's	5
4	46	Female	Nurse	Bachelor's	20
5	30	Female	Nurse	Bachelor's	4
6	42	Female	Nurse	Bachelor's	17
7	32	Female	Nurse	Bachelor's	8
8	39	Male	Physician	Neurosurgeon	6
9	39	Female	Nurse	Master's	12
10	70	Male	Patient	Master's	—
11	54	Female	Patient	Diploma	—
12	48	Female	Patient	Bachelor's	—

TABLE 1 Participants' characteristics.

Subcategories	Main categories
<i>Ineffective pain management</i> <i>Weak attempt to prevent complications</i> <i>Careless provision of the routine preoperative and postoperative care measures</i> <i>Patients' limited preoperative mental readiness due to routine-based practice</i>	Dominant routine-based practice in the healthcare system
<i>Provision of preoperative and postoperative care merely based on medical orders</i> <i>Poor collaboration among healthcare team members</i> <i>Involvement of family members in the process of care without assessing their readiness</i> <i>Incomplete self-care education at hospital discharge</i>	Futile attempt for team-based care
<i>Treatment discontinuation by patients due to the heavy costs of treatments</i> <i>Delay in patient care due to the shortage of equipment in the hospital</i> <i>Unsuccessful care due to structural problems in the ward</i>	Shortages as a major barrier to quality care

TABLE 2 The main categories and subcategories of the challenges of nursing care for patients with lumbar discectomy.

I had severe pain after the surgery. I called the nurse frequently but she didn't care. She said that I could receive pain killer several hours later. But, what I could do? I still had pain

(P 10, Patient).

4.1.2 | Weak attempt to prevent complications

Prevention of complications is one of the most important responsibilities of nurses in surgical wards. These nurses need to provide various education to patients and their family members from admission to hospital discharge in order to prevent complications. However, in a routine-based care system, patient and family education is not provided effectively and based on the unique personal needs and characteristics of patients such as their age, educational level, and

disease course. Sometimes, complication prevention is totally delegated to patients' family members without any professional supervision. This practice can lead to the inaccurate provision of care measures and the high risk of complications.

The use of compression socks does not need any special education. We give these socks to family members to wear them for their patients

(P. 9, Nurse).

4.1.3 | Careless provision of the routine preoperative and postoperative care measures

The advantages of routine-based practice include effective use of time, prediction of the necessary care measures, and reduction of

healthcare costs. However, routine-based practice gradually causes nurses to ignore patients' unique needs and solely rely on pre-determined routines and medical orders which can be associated with the increased risk of unpredicted complications or the ignorance of essential care measures.

The urinary catheter is used just for one or two days and hence, it is not associated with a serious complication [and does not need any special care]. We remove it with medical order

(P. 3, Nurse).

The nurse removed the urinary catheter based on the routines but did not provide any education to the patient about the symptoms and complications of catheter removal (a field note made on Tuesday, 09:40).

4.1.4 | Patients' limited preoperative mental readiness due to routine-based practice

Surgery is associated with varying levels of fear and anxiety for patients. Patients' limited knowledge about surgery outcomes, their unfamiliarity with the operating room environment, and their fear over and the possibility of potential complications can aggravate their psychological distress. Meanwhile, nurses pay limited attention to their fears and concerns due to their routine-based practice.

I had great fear, not for myself, but for my two children to lose their mother. I had great anxiety. I cried so much and had great fear on the hospitalization day. The nurses asked why I feared so much. When they wanted to establish an intravenous line, my family member also told them that I had great fear and they reprimanded her

(P. 12, Patient).

4.2 | Futile attempt for team-based care

Poor interprofessional collaboration and healthcare team members' unawareness of patient care plans can lead to the failure of team-based care. The most important contributing factors to ineffective team-based care are healthcare providers' inability to establish communication with colleagues, patients, and families, inability to determine patients' real needs, non-responsiveness to patients' clinical needs, and inadequate supply of care equipment. This main category had four subcategories, namely provision of preoperative and postoperative care merely based on medical orders, poor collaboration among healthcare team members,

involvement of family members in the process of care without assessing their readiness, and incomplete self-care education at hospital discharge.

4.2.1 | Provision of preoperative and postoperative care merely based on medical orders

Nurses perform preoperative and postoperative care measures, provide patient education, and make care-related decisions based mainly on predetermined medical orders. Consequently, they cannot make sound decisions in new challenging conditions. This can increase the risk of complications and reduce patient satisfaction.

We don't have a specific protocol for care and education and work based on the physician's opinions and our daily routines

(P. 2, Nurse).

4.2.2 | Poor collaboration among healthcare team members

Despite the known benefits of team-based care, healthcare providers such as nurses and physicians provide their services separately and without joint decision-making. This reduces care efficiency and healthcare providers' ability to carefully assess patients' problems.

The physiotherapist came to the ward each day to provide physiotherapy but nurses were unaware of his plans and exercises (a field note made on Saturday, 11:15).

4.2.3 | Involvement of family members in the process of care without assessing their readiness

In many cases, nurses delegate some nursing care measures such as patient positioning and wearing compression socks to patients' family members due to reasons such as staff shortage, time shortage, and heavy workload. Although the involvement of family members in the process of care is a key component of participatory care and can ensure care continuity, it may reduce care quality and endanger patient safety and even family safety if their involvement is not based on a well-developed plan and quality family education. Sometimes, nurses delegate basic postoperative care measures such as patient transfer to family members without providing them with any education or supervision.

After the surgery, a patient who is confined to complete bed rest should have a family member who gives him bedpan or urinal or help him in feeding

(P. 4, Nurse).

4.2.4 | Incomplete self-care education at hospital discharge

Nurses do not provide quality need-based discharge education to patients and their family members due to time shortage, inadequate need assessment of patients and family members, inattention to their readiness for education, inattention to feedback-oriented education, and low educational level of patients and family members. Moreover, nurses mostly do not consider self-care guidelines and standards in providing patient and family education.

After the physician's order for my hospital discharge, the nurse came and provided some education to me. But, I did not accurately understand when I should remove my support belt

(P. 10, Patient).

4.3 | Shortages as a major barrier to quality care

Shortages of staff, equipment, and budget reduce care quality. Nursing staff shortage is associated with inadequate care provision and ignorance of some important aspects of care such as therapeutic relationships and psychological care. The three subcategories of this category are treatment discontinuation by patients due to the heavy costs of treatment, delay in patient care due to the shortage of equipment in the hospital, and unsuccessful care due to structural problems in the ward.

4.3.1 | Treatment discontinuation by patients due to the heavy costs of treatment

In recent years, factors such as heavy international sanctions against Iran, incomplete insurance coverage of many healthcare services, and increased costs of surgical devices and hospitalization have reduced patients' ability to afford treatment costs and made them discontinue their treatments. Accordingly, patients may postpone medical help-seeking and hence, experience serious and long-term complications which in turn impose heavy costs on the community.

Unfortunately, surgery has become so expensive that patients and families are concerned more with its costs than its outcomes. Of course, we refer patients with financial problems to social workers

(P. 1, Nurse).

One of the patients who had undergone surgery two weeks ago called the ward yesterday and asked about his sutures. I told him that the doctor should visit him and remove his sutures. He said that he is far from the

hospital and does not have enough money to travel this long distance

(P.1, Nurse).

4.3.2 | Delay in patient care due to the shortage of equipment in the hospital

The shortages of resources and staff negatively affect care quality, reduce satisfaction of patients and nurses, cause stress and fatigue for nurses, and cause financial strain and psychological stress for patients and their families. The shortage of surgical devices and their incomplete insurance coverage also require patients to buy them at higher costs from private suppliers. These problems cause them dissatisfaction, postpone their medical help-seeking, and negatively affect their recovery and surgery outcomes.

A patient had come with delay and numbness in the leg. After the surgery, he asked why his problem had not been treated with the surgery. I told him that he had to undergo the surgery before the permanent injury of his nerves. He answered that he came for surgery with delay because he did not have enough money

(P. 8, Doctor).

We went to buy a screw for the surgery. They said that it cost five million Tomans. After two days, they said that it cost nine million Tomans and we had to buy it at that cost.

(P. 11, Patient).

4.3.3 | Unsuccessful care due to structural problems in the ward

The inappropriate design of the wards, long distance between the nursing station and patient rooms, and small size of the rooms cause different problems in providing quality nursing care. Moreover, the long distance between the nursing station and patient rooms requires nurses to walk faster and longer distances and hence, causes them fatigue. Moreover, the inappropriate design of the wards negatively affects care quality and nurses' access to patients.

Generally, the design of this ward is inappropriate for a neurosurgery ward because nurses can't see patients from the nursing station and rooms are small. In case of cardiopulmonary resuscitation, we can't easily take the resuscitation trolley to the rooms because they are small and there are two beds in each of them

(P. 7, Nurse).

5 | DISCUSSION

This study explored the challenges of nursing care for patients with lumbar discectomy. These challenges came into eleven subcategories and the three main categories of dominant routine-based practice in the healthcare system, futile attempt for team-based care, and shortages as a major barrier to quality care.

Dominant routine-based practice in the healthcare system was one of the main challenges of nursing care for patients with lumbar discectomy. In agreement with this finding, a study reported that the difficulties in following medical care services, problems in understanding postoperative exercises and guidelines, and difficulties in wound dressing were among the challenges of nursing care due to routine-based care practice and lack of time to provide patient education (Thapar et al., 2022). Our findings revealed that routine-based practice was associated with ineffective pain management. Although nurses attempted to timely prepare analgesics according to medical order, they had inevitable delay in their administration due to factors such as heavy workload. Pain management is a significant part of nurses' workload in providing postoperative care to patients with lumbar disc surgery (Jabłońska et al., 2017; Sinmaz & Akansel, 2021). However, previous studies showed that acute pain is inadequately managed due to delays in analgesic administration and inappropriate pain management strategies. For example, a study on nurses' perceptions reported inadequate pain management, incoherences in the healthcare team, complexity of the pain phenomenon, and patients' unrealistic expectations of nurses as the major barriers to pain management (Bergman, 2012). Despite the great importance of effective postoperative pain management, several studies reported that nurses may not assign a high priority to it due to reasons such as the non-accessibility of pain assessment instruments, lack of comprehensive pain assessment and management protocols, and inattention to the timely analgesic administration and the effectiveness of the administered analgesics (Hatfield et al., 2019; McLennan et al., 2019; Sine, 2019). Moreover, a study found that both physicians and nurses did not use any instrument for pain assessment and considerably underestimated patient pain (Baharuddin et al., 2010). Comprehensive pain assessment and effective pain management are among the basic rights of patients and improve patient satisfaction, shorten patients' hospital stay, and reduce healthcare costs (Hatfield et al., 2019).

We also found weak attempt to prevent postoperative complications as a major challenge of nursing care for patients with lumbar discectomy due to the dominant routine-based practice. The barriers to postoperative care for complication prevention were ineffective use of supportive equipment and nurses' inattention to appropriate patient positioning, patient mobility, and patient education about mobility. Findings indicated that although nurses attempted to prevent postoperative complications, some of them, particularly the novice, were overconfident about the very low risk of the complications. Contrarily, more experienced nurses were more sensitive to postoperative complications and took more serious actions for their prevention. A study showed that nurses who provide postoperative care

to patients with spinal surgeries need to have adequate knowledge about surgical complications (Hemmer, 2018), while another study found that nurses' time pressure and routine-based practice can reduce care quality and make them pay limited attention to disease complications and patient rehabilitation (Ausserhofer et al., 2014). Therefore, nurses should greatly focus on quality patient education and post-discharge patient care and monitoring in order to maintain care continuity (Smith Jr et al., 2020; Yuan et al., 2019).

Careless provision of the routine preoperative and postoperative care measures and patients' limited preoperative mental readiness were other challenges of nursing care for patients with lumbar discectomy due to dominant routine-based practice in the healthcare system. Our findings revealed that nurses paid inadequate attention to mentally prepare patients for surgery due to factors such as heavy workload, fatigue, and great focus on routine physical care. Before surgery, patients experience anxiety and stress and have different fears and concerns like fear over postoperative pain. Stress weakens the immune system and thereby negatively affects patients during anaesthesia, surgery, and recovery (Shinall et al., 2020). Moreover, stress can impair wound healing, increase the prevalence of depression and anxiety, prolong recovery, and increase the risk of postoperative infections (Azoury et al., 2015; Ghoneim & O'Hara, 2016). Depression is also associated with poor postoperative outcomes among patients with lumbar surgeries (Celestin et al., 2009). Therefore, social support is considered an important psychosocial aspect of patient care with significant role in patients' preparation for surgery (Wasilewski, 2008). A study reported that low mental distress and great psychological support after surgery can be associated with more satisfactory recovery outcomes among patients with postoperative pain (Carragee, 2001). Development of the most appropriate care plans necessitates the integration of the best evidence and research finding, personal professionalism, clinical experience, and patients' thoughts and realities. Healthcare providers should closely be adherent to quality care provision in order to enhance patient satisfaction (Huang et al., 2019). However, our findings indicated that nurses paid more attention to routine and general care services valued by their managers and physicians and little attention to patients' specific needs and requests.

Futile attempt for team-based care was the second main category of the challenges of nursing care for patients with lumbar discectomy. Findings showed poor collaboration among healthcare team members. Physicians' heavy workload and the high number of their patients reduced their ability to closely interact with nurses for team-based care. They spend most of their time in the operating room or outpatient clinics. In line with this finding, a study showed that the barriers to team-based care were attitudinal-cultural barriers such as poor systemic thinking, individualism, and physician-oriented care and structural-functional barriers such as poor management structure, stunted growth of educational management, and poor understanding (Vafadar et al., 2015). Team-based care allows nurses to provide comprehensive and systemic care to patients with surgery, facilitates patients' recovery, and improves patients' understanding of surgical complications (Abikoye et al., 2021).

Currently, individuals and communities have complex healthcare needs determined by a wide range of factors and hence, interdisciplinary team-based patient care and education are essential to fulfil them (Soukup et al., 2018; West & Lyubovnikova, 2013; Xiaoyan et al., 2023).

The two other subcategories of the futile attempt for team-based care main category were involvement of family members in the process of care without assessing their readiness and incomplete self-care education to patients and families at hospital discharge. Families' lack of knowledge about patient care may be associated with poor patient outcomes such as increased rate of rehospitalization, longer hospital stay, and increased risk of medical errors. Therefore, quality education for families and their close collaboration with healthcare providers in the process of care can increase treatment success and patient satisfaction (Bauer et al., 2009; Calabro et al., 2018; Rizk & Ali, 2021). Self-care is also associated with lower risk of postoperative complications, faster return to normal life, and higher levels of personal and social functioning (Mohamed Weheida et al., 2022; Saha & Goktas, 2021).

The third main category of the challenges of nursing care for patients with lumbar discectomy was shortages as a major barrier to quality care. Its three subcategories were treatment discontinuation by patients due to the heavy costs of treatments, delay in patient care due to the shortage of equipment in the hospital, and unsuccessful care due to structural problems in the ward. Our findings showed that although nurses attempted to provide high quality care, nursing staff shortage required them to focus more on basic care services such as medication administration and surgical wound dressing. The shortage of equipment also compelled them to spend more time on requesting equipment which in turn reduced their time for care provision and caused them added stress. Similarly, a study reported that nursing staff shortage leads to different problems such as ethical challenges, job burnout, job dissatisfaction, job turnover, stress, and emotional fatigue for nurses (Larijani & Fathi, 2018). Nursing staff shortage and nurses' heavy workload require nurses to spend more time on basic and routine care services, increase the risk of medication errors, and reduce care quality (Carthon et al., 2019; McHugh et al., 2021). Contrarily, adequate nursing staffing is associated with higher patient satisfaction, lower risk of complications, and lower mortality rate (Abbaszadeh & Abdi, 2017). The physical structure of neurosurgery wards should also facilitate quality care provision in the shortest time and with the highest quality. Therefore, the structure of these wards should be designed based on patients' psychological and supportive needs to facilitate their coping with environmental stressors (Dalke et al., 2006). On the other hand, international economic sanctions against Iran in recent years have markedly increased the cost of imported healthcare equipment and services and caused difficulties for patients in accessing these services, although the government has tried to help solve these problems by increasing the coverage of insurance services such as insurance for villagers and low-income groups, or the production of medical equipment and drugs inside.

5.1 | Limitations and strengths

In this study, humans were the means of data collection, and humans are not free from errors, on the other hand, the control of mentalities cannot be completely controlled. However, the researchers made great efforts to minimize the above limitations by using methods that increase accuracy and validity in different stages of data collection and analysis.

6 | CONCLUSION

This study shows that there are different personal, professional, financial, structural, and organizational challenges in nursing care for patients with lumbar discectomy which can negatively affect postoperative patient recovery. Given the significant role of active team-based collaboration among patients, family members, and healthcare providers in quality care provision to patients with lumbar discectomy, the findings of the present study can be used as a source to develop effective interventions to foster active collaboration among the members of healthcare teams.

6.1 | Relevance to clinical practice

Routine-based practice may lead to the ignorance of patients' real needs and negative effects on their health and recovery after disc surgery. For quality care provision, nurses need to pay careful attention to not only general care services but also patients' unique needs and problems. The findings of the present study highlight the necessity of developing policies and strategies to overcome the challenges of quality nursing care provision.

AUTHOR CONTRIBUTIONS

Sahar Haghighat have made contributions to study design, acquisition of data, analysis, interpreting of data, drafting and revising the article. Khadijeh Yazdi have made contributions to study design, acquisition of data, analysis, interpreting of data, drafting and revising the article. Gholam Reza Mahmoodi Shan have made contributions to study design, acquisition of data, analysis and interpreting of data, drafting and revising the article. Zahra Sabzi have made contributions to study design, interpreting of data, drafting and revising the article. All authors read and approved the final article.

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CONFLICT OF INTEREST STATEMENT

The authors of this article declare that they have no conflict of interest.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article. Further inquiries can be directed to the corresponding author upon reasonable request.

ETHICAL APPROVAL

This study has been approved and granted by the Golestan University of Research and Technology deputy and confirmed by national committee of ethics in research on 22rd September 2021 (Code: IR.GUMS.REC.1400.204).

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REFERENCES

- Abbaszadeh, A., & Abdi, A. (2017). Nursing shortage challenge: A serious threat for the health system: A review study. *Community Health Journal*, 9(1), 37–47.
- Abikoye, G. E., Ineme, M. E., Akinawo, E. O., Okonkwo, E. A., & Osinowo, H. O. (2021). Drug use and motivation for treatment in patrons of selected bunks in Uyo, Nigeria: A qualitative perspective. *Journal of Substance Use*, 26(6), 599–602.
- Afshar, M., Sadeghi-Gandomani, H., & Masoudi Alavi, N. (2020). A study on improving nursing clinical competencies in a surgical department: A participatory action research. *Nursing Open*, 7(4), 1052–1059.
- Akkaya, H., & Ayhan, H. (2023). The effect of in-bed turning and mobilization training given to patients who undergo lumbar disk surgery on postoperative first mobility level: A single-blind, randomized controlled trial. *International Journal of Orthopaedic and Trauma Nursing*, 50, 101022. <https://doi.org/10.1016/j.ijotn.2023.101022>
- Ausserhofer, D., Zander, B., Busse, R., Schubert, M., De Geest, S., Rafferty, A. M., Ball, J., Scott, A., Kinnunen, J., & Heinen, M. (2014). Prevalence, patterns and predictors of nursing care left undone in European hospitals: Results from the multicountry cross-sectional RN4CAST study. *BMJ Quality and Safety*, 23(2), 126–135.
- Azoury, S. C., Farrow, N. E., Hu, Q. L., Soares, K. C., Hicks, C. W., Azar, F., Rodriguez-Unda, N., Poruk, K. E., Cornell, P., & Burce, K. K. (2015). Postoperative abdominal wound infection–epidemiology, risk factors, identification, and management. *Chronic Wound Care Management and Research*, 2, 137–148.
- Baharuddin, K. A., Mohamad, N., Rahman, N. H. N. A., Ahmad, R., & Him, N. A. S. N. (2010). Assessing patient pain scores in the emergency department. *The Malaysian Journal of Medical Sciences: MJMS*, 17(1), 17–22.
- Bauer, M., Fitzgerald, L., Haesler, E., & Manfrin, M. (2009). Hospital discharge planning for frail older people and their family. Are we delivering best practice? A review of the evidence. *Journal of Clinical Nursing*, 18(18), 2539–2546.
- Bergman, C. L. (2012). Emergency nurses' perceived barriers to demonstrating caring when managing adult patients' pain. *Journal of Emergency Nursing*, 38(3), 218–225.
- Bombieri, F. F., Shafafy, R., & Elsayed, S. (2022). Complications associated with lumbar discectomy surgical techniques: A systematic review. *Journal of Spine Surgery*, 8(3), 377–389.
- Boote, J., Newsome, R., Reddington, M., Cole, A., & Dimairo, M. (2017). Physiotherapy for patients with sciatica awaiting lumbar micro-discectomy surgery: A nested, qualitative study of Patients' views and experiences. *Physiotherapy Research International*, 22(3), e1665. <https://doi.org/10.1002/pri.1665>
- Calabro, K. A., Raval, M. V., & Rothstein, D. H. (2018). Importance of patient and family satisfaction in perioperative care. *Seminars in Pediatric Surgery*, 27, 114–120.
- Carragee, E. J. (2001). Psychological screening in the surgical treatment of lumbar disc herniation. *The Clinical Journal of Pain*, 17(3), 215–219.
- Carthon, J. M. B., Davis, L., Dierkes, A., Hatfield, L., Hedgeland, T., Holland, S., Plover, C., Sanders, A. M., Visco, F., & Ballinghoff, J. (2019). Association of nurse engagement and nurse staffing on patient safety. *Journal of Nursing Care Quality*, 34(1), 40–46.
- Celestin, J., Edwards, R. R., & Jamison, R. N. (2009). Pretreatment psychosocial variables as predictors of outcomes following lumbar surgery and spinal cord stimulation: A systematic review and literature synthesis. *Pain Medicine*, 10(4), 639–653.
- Charmaz, K., & Thornberg, R. (2021). The pursuit of quality in grounded theory. *Qualitative Research in Psychology*, 18(3), 305–327.
- Cummins, J., Lurie, J. D., Tosteson, T., Hanscom, B., Abdu, W. A., Birkmeyer, N. J., Herkowitz, H., & Weinstein, J. (2006). Descriptive epidemiology and prior healthcare utilization of patients in the spine patient outcomes research trial's (sport) three observational cohorts: Disc herniation, spinal stenosis and degenerative spondylolisthesis. *Spine*, 31(7), 806–814.
- Dalke, H., Little, J., Niemann, E., Camgoz, N., Steadman, G., Hill, S., & Stott, L. (2006). Colour and lighting in hospital design. *Optics & Laser Technology*, 38(4–6), 343–365.
- Danazumi, M. S. (2019). Physiotherapy management of lumbar disc herniation with radiculopathy: A narrative review. *Nigerian Journal of Experimental and Clinical Biosciences*, 7(2), 93.
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107–115.
- Erken, H. Y., Karaeminogullari, O., Yilmaz, O., Mirel, K., & Ozer, R. O. (2022). Local anesthesia and conscious sedation does not affect Patient's mood and anxiety levels during percutaneous endoscopic lumbar Discectomy: A prospective study. *Journal of Neurological Surgery, Part A: Central European Neurosurgery*, 83(5), 435–441. <https://doi.org/10.1055/s-0041-1739203>
- Fors, M., Enthoven, P., Abbott, A., & Öberg, B. (2019). Effects of pre-surgery physiotherapy on walking ability and lower extremity strength in patients with degenerative lumbar spine disorder: Secondary outcomes of the PREPARE randomised controlled trial. *BMC Musculoskeletal Disorders*, 20(1), 468. <https://doi.org/10.1186/s12891-019-2850-3>
- Ghoneim, M. M., & O'Hara, M. W. (2016). Depression and postoperative complications: An overview. *BMC Surgery*, 16, 1–10.
- Glenn, J. S., Yaker, J., Guyer, R. D., & Ohnmeiss, D. D. (2011). Anterior discectomy and total disc replacement for three patients with multiple recurrent lumbar disc herniations. *The Spine Journal*, 11(9), e1–e6.
- Hamilton, J. B. (2020). Rigor in qualitative methods: An evaluation of strategies among underrepresented rural communities. *Qualitative Health Research*, 30(2), 196–204. <https://doi.org/10.1177/1049732319860267>
- Harper, R., & Klineberg, E. (2019). The evidence-based approach for surgical complications in the treatment of lumbar disc herniation. *International Orthopaedics*, 43, 975–980.
- Hasandoost, F., Mohammadi, E., Khademi, M., & Seddighi, M. (2023). Paradoxical perception of humanistic care in the intensive care unit: A qualitative study. *Nursing Open*, 10(3), 1492–1502.

- Hatfield, L. A., Murphy, N., Karp, K., & Polomano, R. C. (2019). A systematic review of behavioral and environmental interventions for procedural pain management in preterm infants. *Journal of Pediatric Nursing*, 44, 22–30.
- Hemmer, C. (2018). Surgical complications associated with cervical spine surgery. *Orthopaedic Nursing*, 37(6), 348–354.
- Hinkle, J. L., Cheever, K. H., & Overbaugh, K. J. (2022). *Brunner & Suddarth's textbook of medical-surgical nursing* (Vol. 2, 15th ed.). Wolters Kluwer.
- Huang, F., Yi, L., Xu, L., & Wang, L. (2019). Evidence-based nursing versus routine nursing in preventing surgical incision infection. *International Journal of Clinical and Experimental Medicine*, 12(7), 8863–8870.
- Jabłońska, R., Ślusarz, R., Królikowska, A., Haor, B., Antczak, A., & Szewczyk, M. (2017). Depression, social factors, and pain perception before and after surgery for lumbar and cervical degenerative vertebral disc disease. *Journal of Pain Research*, 10, 89–99. <https://doi.org/10.2147/jpr.S121328>
- Kyngäs, H., Kääriäinen, M., & Elo, S. (2020). The trustworthiness of content analysis. In H. Kyngäs, K. Mikkonen, & M. Kääriäinen (Eds.), *The application of content analysis in nursing science research*. Springer. https://doi.org/10.1007/978-3-030-30199-6_5
- Larijani, T. T., & Fathi, R. (2018). Nursing shortage and ethical issues: A narrative review. *Iranian Journal of Nursing Research*, 13, 50–57.
- Lewandrowski, K.-U., Telfeian, A. E., Hellinger, S., León, J. F. R., de Carvalho, P. S. T., Ramos, M. R., Kim, H. S., Hanson, D. W., Salari, N., & Yeung, A. (2021). Difficulties, challenges, and the learning curve of avoiding complications in lumbar endoscopic spine surgery. *International Journal of Spine Surgery*, 15(suppl 3), S21–S37.
- McHugh, M. D., Aiken, L. H., Sloane, D. M., Windsor, C., Douglas, C., & Yates, P. (2021). Effects of nurse-to-patient ratio legislation on nurse staffing and patient mortality, readmissions, and length of stay: A prospective study in a panel of hospitals. *The Lancet*, 397(10288), 1905–1913.
- McLennan, K. M., Miller, A. L., Dalla Costa, E., Stucke, D., Corke, M. J., Broom, D. M., & Leach, M. C. (2019). Conceptual and methodological issues relating to pain assessment in mammals: The development and utilisation of pain facial expression scales. *Applied Animal Behaviour Science*, 217, 1–15.
- Mohamed Weheida, S., Elsayed Khatib, H., Abdel Mowla Ahmed Abdel Mowla, H., & Mohamed Mohamed, H. (2022). Effect of applying an educational program on knowledge and self-care activities of patients undergoing lumbar discectomy. *Egyptian Journal of Health Care*, 13(4), 1334–1350.
- Mok, F. P., Samartzis, D., Karppinen, J., Fong, D. Y., Luk, K. D., & Cheung, K. M. (2016). Modic changes of the lumbar spine: Prevalence, risk factors, and association with disc degeneration and low back pain in a large-scale population-based cohort. *The Spine Journal*, 16(1), 32–41.
- Rahnama, M., Shahdadi, H., Bagheri, S., Moghadam, M. P., & Absalan, A. (2017). The relationship between anxiety and coping strategies in family caregivers of patients with trauma. *Journal of Clinical and Diagnostic Research: JCDR*, 11(4), IC06–IC09.
- Rizk, S. M. A., & Ali, S. M. M. (2021). Effect of preoperative patient education on quality of recovery for patient undergoing lumbar discectomy. *Egyptian Journal of Health Care*, 12(1), 921–937.
- Rogerson, A., Aidlen, J., & Jenis, L. G. (2019). Persistent radiculopathy after surgical treatment for lumbar disc herniation: Causes and treatment options. *International Orthopaedics*, 43, 969–973.
- Saha, B. S., & Goktas, S. (2021). The effect of computer-based training on self-care and daily living activities in patients with lumbar discectomy surgery: A randomized controlled study. *Computers, Informatics, Nursing*, 40(3), 147–153. <https://doi.org/10.1097/cin.0000000000000829>
- Shepard, N., & Cho, W. (2019). Recurrent lumbar disc herniation: A review. *Global Spine Journal*, 9(2), 202–209.
- Shinall, M. C., Arya, S., Youk, A., Varley, P., Shah, R., Massarweh, N. N., Shireman, P. K., Johanning, J. M., Brown, A. J., & Christie, N. A. (2020). Association of preoperative patient frailty and operative stress with postoperative mortality. *JAMA Surgery*, 155(1), e194620.
- Sine, R. M. (2019). Therapeutic pain management: Nursing Care for Patients Suffering from burns.
- Sinmaz, T., & Akansel, N. (2021). Experience of pain and satisfaction with pain Management in Patients after a lumbar disc herniation surgery. *Journal of Perianesthesia Nursing*, 36(6), 647–655. <https://doi.org/10.1016/j.jopan.2021.01.009>
- Smith, T. W., Jr., Wang, X., Singer, M. A., Godellas, C. V., & Vaince, F. T. (2020). Enhanced recovery after surgery: A clinical review of implementation across multiple surgical subspecialties. *The American Journal of Surgery*, 219(3), 530–534.
- Soukup, T., Lamb, B. W., Arora, S., Darzi, A., Sevdalis, N., & Green, J. S. (2018). Successful strategies in implementing a multidisciplinary team working in the care of patients with cancer: An overview and synthesis of the available literature. *Journal of Multidisciplinary Healthcare*, 11, 49–61.
- Thapar, G., Dhandapani, M., Singla, N., & Dhandapani, S. (2022). Post-hospitalization problems and nursing care needs of patients who underwent thoracolumbar spine surgery. *Nursing & Midwifery Research Journal*, 18(3), 130–136.
- Vafadar, Z., Vanaki, Z., & Ebadi, A. (2015). Barriers to implementation of team care and interprofessional education: The viewpoints of educational managers of Iranian health system. *Iranian Journal of Medical Education*, 14(11), 943–956.
- Wasilewski, T. P. (2008). A subjective assessment of selected aspects of hospital's stay satisfaction in surgical departments. *Pielęgniarstwo Chirurgiczne i Angiologiczne/Surgical and Vascular Nursing*, 2(3), 81–86.
- West, M. A., & Lyubovnikova, J. (2013). Illusions of team working in health care. *Journal of Health Organization and Management*, 27(1), 134–142.
- Xiaoyan, C., Wenbin, H., Li, D., Lijun, L., Yan, Y., Ting, W., Xueyu, H., Fang, L., Bei, W., & Bilong, F. (2023). *Construction and application of enhanced recovery after surgery-optimized management system with nurse-led multidisciplinary cooperation*. Nursing Open.
- Yaman, M. E., Kazancı, A., Yaman, N. D., Baş, F., & Ayberk, G. (2017). Factors that influence recurrent lumbar disc herniation. *Hong Kong Medical Journal*, 23(3), 258–263.
- Yuan, P., Wu, Z., Li, Z., Bu, Z., Wu, A., Wu, X., Zhang, L., Shi, J., & Ji, J. (2019). Impact of postoperative major complications on long-term survival after radical resection of gastric cancer. *BMC Cancer*, 19, 1–9.

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