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Perceptions and Experiences of Continuity of Care (COC) Nurses in Lower Limb Fracture Patients: Phenomenological Approach

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ABSTRACT

Background: Traffic accidents remain a major public health concern globally, particularly in developing countries like Indonesia, which ranks among the highest in road traffic-related mortality. Indonesia, as one of the fourth most populous countries in the world, is at greater risk for increased mortality from traffic accidents. Lower limb fractures are frequently associated with considerable morbidity and lengthy hospital stays.

Purpose: This study identifies the perceptions and experiences of continuity of care (COC) nurses in lower limb fracture patients.

Methods: This research utilizes a descriptive qualitative model with a phenomenology approach. Researchers recruited respondents after obtaining ethical clearance and an approval letter from West Sulawesi Provincial Hospital. In this study, 5 participants were determined according to the inclusion criteria set by the researcher. The data collection process was carried out by conducting a Focus group Discussion (FGD) for 40–60 minutes. During the FGD, the researchers used FGD notes and field notes. The analysis in this study used content analysis.

Results: This study explored nurses' perceptions and experiences of continuity of care (COC) in fracture patients in the lower extremity. This study identified four themes, namely, continuity of care (COC) in fracture patients, perceived physical discomfort, support needs in ambulating, and support for improving nurse competency.

Conclusion: The implementation of COC can be a solution to the physical discomfort experienced by patients. Nurse support, family support, interprofessional support, and hospital support are needed so that COC can be implemented properly to improve musculoskeletal recovery and sustainable independence in lower limb fracture patients. The hope of the participants, in addition to motivation and the availability of tools for ambulation exercises, should be provided in the surgical room, especially in the treatment room for patients with musculoskeletal system disorders.

Keywords: continuity of care, experience, fracture, nurses, perception

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BACKGROUND

Fractures are the biggest cause of trauma or injury that can occur at any age and can cause significant changes in the quality of life of individuals. The increase in death rates due to traffic accidents occurs mainly in developing countries. Indonesia, as a country with the fourth largest population in the world, has a greater risk of increasing death rates due to traffic accidents. Lower extremity fractures often occur associated with significant morbidity and long hospitalization. People with lower extremity fractures may have difficulty standing or walking for long periods, squatting, lifting heavy objects, or working that involves holding weights. (Hesti Platini, Rizal Chaidir, 2020).

WHO recorded the incidence of fractures in the world at around 18 million people, and there was an increase in prevalence every year, which was around 21 million people (6.5%) in 2016 (Amin et al., 2014). In Indonesia, the trend of fracture cases has increased quite significantly every year. Fractures in Indonesia show that cases reach a prevalence of 5.5% of 92,976 injury cases in Indonesia (Ministry of Health of the Republic of Indonesia, 2019). Gender is related to the incidence of bone fractures; men (6.6%) are more susceptible to bone fractures than women (4.6%), and the most common causes of injury are traffic accidents (2.2%), motorcycle accidents (72.7%), motorcycle riding injuries (19.2%), driving a car (1.2%), riding a car (1.3%), riding a motorized vehicle (2.7%), and pedestrians (4.3%). The parts of the body that are most injured are the lower extremities (67%) and upper extremities (32%). The most common type of fracture is a femur fracture, which is 39%, followed by a humerus fracture (15%), tibia and fibula fracture (11%) (Sembiring & Rahmadhany, 2022).

Riskesdas 2018, the incidence of bone fractures (fractures) in Indonesia ranked fourth in injuries, at 5.5%. Desiartama & Aryana (2018) stated that the most frequent fracture cases in Indonesia were femur fractures (42%), humerus fractures (17%), and tibia and fibula fractures (14%), with the main cause being traffic accidents and the majority being men, which was 73.8%. Trauma is the main factor causing fractures, one of which is fractures in the lower extremities. Trauma occurs in more than 58 million people each year, 30% of which (17.4 million) are trauma accompanied by open tibia fibula fractures (Maher et al., 2002).

Based on the results of a qualitative study conducted at the West Sulawesi Provincial Hospital, inpatient data in 2023 were obtained, namely 517 cases of musculoskeletal disorders consisting of 331 men and 186 women; of the 157 inpatients, there were 120 patients with a fracture diagnosis. In addition, visit data at the Orthopedic Polyclinic of the West Sulawesi Provincial Hospital showed 134 tibia fractures, 14 pedis fractures, 101 femur fractures, 10 ankle fractures, and 7 femur neck fractures (secondary data from the West Sulawesi Provincial Hospital, 2023).

The prevalence of injuries in Indonesia also increased in 2016; the death rate from physical injuries was around 92 per 100,000 population. In 2018, around 8.5% of the Indonesian population had experienced physical injuries in the past year before the study was conducted (Kementrian kesehatan, 2018). The occurrence of fractures can affect the patient's activities, especially those related to the movement and function of the injured limb due to fractures. Various levels of disorders will occur as a result of the injured tissue, either caused by the fracture or damage to the soft tissue around the fracture or because of wounds that are infected during surgery (Budharaju et al., 2023; Pakhan et al., 2023).

Fracture management aims to reduce, immobilize, and restore normal function. (Halstead & Stoten, 2010). Reposition, reduction, and retention are a series that cannot be separated. Post-orthopedic surgery problems are related to pain, tissue perfusion, health promotion, self-concept, and physical mobility. The problems that occur as a whole can cause

changes in functional status. Changes in functional status often occur as part of a chronic condition (Ropyanto et al., 2013; Smeltzer et al., 2009).

Lower extremity function decline can impact balance stability. Balance consists of static, dynamic, and functional components that focus on balance and its recovery (Griffioen et al., 2020; Pang et al., 2022). The study showed that patients who ambulated within 48 hours of surgery had better physical health and Visual Analog Scale (VAS) scores on the first day after surgery compared to the group who started ambulating less than 48 hours after surgery. This suggests that postoperative muscle weakness, pain, and limited range of motion are associated with delayed ambulation (Dubljanin-Raspopovic et al., 2013; Labraca et al., 2011).

Various criteria can reveal the patient's level of independence, namely the ability to take the initiative to act without the help of others, the ability to select the activities to be carried out, and the ability to regulate oneself so as not to depend on others (Jayakumar et al., 2018). The goal of primary care for patients with heart problems is to enable them to carry out total self-care as independently as possible (Li et al., 2020; Pardasaney et al., 2018).

The results of patient observation are still found in postoperative patients, limiting movement and performing early ambulation several days after surgery. However, it has been recommended that early ambulation exercises be performed. Based on the problems above, further research is necessary, starting with assessment, nursing diagnosis, intervention, implementation, and evaluation comprehensively, which is called the current nursing process.

OBJECTIVE

This paper explores how nurses' perceptions and experiences of Continuity of Care (COC) in lower extremity fracture patients.

METHODS

Research Design

This research uses a qualitative descriptive method with a phenomenological approach. The data collection method is through interviews and observations of individual life experiences (Creswell, 2015).

Population and sample

The population consisted of nurses who had experience managing nursing care for post-fracture surgery patients, and the sample used a purposive sampling method. The inclusion criteria for nurses for in-depth interviews were as follows: a) they were respondents by signing an informed consent, b) they were able to communicate in Indonesian, and c) nurses who worked in the dental care unit and the orthopaedic ward. This research was conducted at the West Sulawesi Provincial Hospital from May to July 2024 with 5 participants.

Implementation Procedure

The procedures carried out for this research consist of two activities, namely, the preparation stage, where the researcher first collects data from participants, the administration process, and the hospital licensing process so that the researcher can obtain participant data for the benefit of the research. The selection of participants begins with identifying prospective participants who have met the criteria for inclusion in this research. In the implementation stage, the researcher first determines the time or schedule of the FGD in this research, which is adjusted by agreement between the researcher and the participants. This is done with the aim of not disturbing the participant's schedule. The researcher asks for permission to conduct the FGD. During the FGD, the researcher recorded participants' verbal and nonverbal responses and the FGD process. The FGD lasted for 40–60 minutes. The

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researcher gave participants time to describe what they did and felt during the nursing care of the fractured patient. During the FGD, the researcher used FGD guidelines and field notes.

Data Analysis

The data analysis steps were carried out in accordance with Colaizzi's analysis in Creswell (Creswell, 2015). Pelnelliti's analysis process transcribed and carried out data analysis by listening to various verbal descriptions of participants based on the results of the recordings obtained from participants, followed by reading each text again and again. Pelnelliti conducted coding by identifying keywords related to the research objectives and grouping keywords into the same group or group. Pelnelliti identified the text, then sorted the categorical groups and grouped them into the appropriate text. We define and name the texts by identifying the essence of each text and providing a concise, interesting, and informative name for each text. We describe the entire narrative by conducting a good and coherent analysis and extracting data in relation to the existing literature.

Ethical Consideration

The ethical feasibility of the study was obtained from the research ethics committee, Faculty of Nursing, University of Indonesia No. KET-153/UN2.F12.D1.2.1/PPM.00.02/2024 and a research implementation certificate from the West Sulawesi Provincial Hospital Number. 000.9.2/97/2024. The study conducted the study in accordance with research ethics (Crelswell, 2014). Autonomy was carried out by explaining the research procedure and the impacts that the participants would feel at the beginning of the study—compliance or respecting rights and preventing discomfort that may arise during the study. Confidentiality or maintaining the confidentiality of participants is done by anonymity or keeping the identity of participants secret. The researcher conducts coding with codes FP1, FP2, and so on for participants when conducting transcripts or other cross-documentation. Jurisdiction, or the principle of fairness, is done by conducting the interview or FGD process using the same procedure for participants.

RESULTS

Participants in this study were nurses working in the surgical ward of the West Sulawesi Provincial Hospital. The focus group discussion (FGD) process was conducted with nurses working in the surgical and orthopaedic wards. The age range of participants was between 33 and 45 years, with D3 nursing and Ners education, and consisted of 5 participants and 1 participant, who was a hospital contract employee. The characteristics of participants selected were participants who worked in the surgical ward and orthopaedic ward of the West Sulawesi Provincial Hospital. All participants consisted of 5 people consisting of 3 men and 2 women.

Table 1. participant characteristics

Characteristics	F,P1	F,P2	F,P3	F,P4	F,P5
Gender	Male	Male	Male	Female	Female
Age	45	33	42	33	40
Work	Surgical Nurse	Surgical Nurse	Surgical Nurse	Surgical Nurse	Orthopedic poly Nurse

In the participant recruitment process, 5 participants were obtained who were willing and met the participant criteria according to the research, so they were taken as research participants. FGD was conducted and labelled F, P1 for the first participant, F, P2 for the second participant, F, P3 for the third participant, F, P4 for the fourth participant and F, P5 as the fifth participant.

The results of the Focus Group Discussion (FGD) obtained four themes, namely: 1) Continuity of Care (COC) in fracture patients. 2) Physical discomfort felt. 3) Need for support in ambulating. 4) Support for increasing nurse competence is explained in the table below.

Table 2. Results of theme analysis

Theme 1	**"Continuity of Care (COC) in fracture patients"**	
Quotation	"……Usually in these orthopedic cases, before surgery or action is carried out, planning must be carried out first before entering the room…." (F, P1). "……how to care for patients with lower extremity fractures considering the risks experienced….." (F, P2).	"……..regarding COC, this is ongoing care……but how does it also include discharge planning….." (F,P3). "……traffic accident victims become traffic accident victims who have bone fractures then action is taken….."(F, P4).
Theme 2	**"Physical discomfort felt"**	
	"……almost all patients experience pain and experience activity limitations…" (F, P1). "…….continuous care at home, how independent is the patient ……then secondly, how is the support from his family……" (F, P3).	"".....Yes, because most of the patients when learning to walk complain a lot of aches and pains, it's normal for the patient to feel a bit stiff..." (F, P5). '…..requires a rather long healing process….." (F, P2).
Theme 3	**"Need for support in ambulating."**	
	"……..the level of anxiety or fear is quite high…afraid to move and do activities…."(F,P1). "…….the core of the ongoing care process is to maintain or fix or immobilize the fractured area……"(F, P2). "……..the discharge planning is the most important thing….the continuity of care process…we have to be involved in the care process….everyone has to support each other…."(F,P5)	"….violence becomes a necessity in how to treat patients….."(F,P3). "…….no other mobilization will be risky possibly causing other problems……"(F, P4)
Theme 4	"Support for Increasing Nurse Competence"	
Quatation	"…….maybe this happens in some hospitals, regulations related to budgets or costs that do not	"…….in this case, competency development, for example attending a workshop, the

	support……" (F, P1). "……even though it concerns our skills and knowledge, it will get better if we often participate in activities…." (F, P2)	hospital sometimes doesn't want to pay for it…" (F, P3). "……our skills are getting better and of course it will definitely have an impact on patients….." (F, P4). "……that's right, so it really depends on the hospital…" (F, P5)

DISCUSSION

Continuity of Care (COC) in fracture patients

Fracture patients require continuity of care (COC), which is related to the quality of care over time. This means that patients repeatedly consult the same doctor and form a therapeutic relationship to achieve the goal of high-quality and cost-effective medical care. (Usman et al., 2020). In Australia, continuity of care is a basic element in public services and is part of the philosophy of general practice. Consistent continuity of care will have an impact on patient satisfaction, increased treatment compliance, lower mortality rates, fewer hospitalized patients, closer connections between secondary and tertiary service sectors and patient practice, and coordinated care planning. Continuity of care is implemented with cultural change steps that prioritize access to primary care. Implementation of a new nursing model with health care home (Jackson & Ball, 2018).

However, there are definitely obstacles at every level of health service facilities, so to overcome this, a discharge plan is needed so that the patient will undergo continuity of care in the form of continuing treatment, care and even physiotherapy and returning the patient to the level of primary, secondary or home care health services according to the patient's condition. (Wissel et al., 2013). Continuity of care is considered an important principle in the care of fracture patients because it can increase the survival of life in fracture patients.

Physical discomfort felt

In this study, 4 participants stated that patients experienced obstacles and pain during early ambulation, two participants stated that most patients experienced pain and limited activity, this could be due to patients being afraid to mobilize, and two participants stated that COC and family support were very much needed because fracture patients require a long healing process. The analysis that was done obtained physical discomfort, namely physical complaints obtained from participants, such as pain, aches, and fear in doing early mobilization because fractures cause this. Damage to the tissue around the muscles, nerves and vascular due to bone fragment trauma caused by fractures or surgical procedures.

In this study, the complaints that appear in fracture patients can be said to be a response to physical discomfort that appears in the form of physical complaints. Pain is a common occurrence felt in patients with lower extremity fractures and in patients who have undergone surgery due to fractures (Schneider, 2018). This is what causes patients to be lazy about early ambulation. Many things can hinder and influence the decision of patients who experience lower extremity fractures, which are defined by the physical environment, such as a lack of adequate seating, equipment, or hospital facilities (King et al., 2021).

There is a retrospective study that concluded that ambulation within 48 hours was associated with a 5.4% reduction in mortality compared to patients mobilized on the eighth day(Ariza-Vega et al., 2020). implementation of early ambulation in patients with low pain

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scores and increased exercise confirmed success in postoperative recovery efforts (Götz et al., 2022). Pain also affects quality of life and is a substantial burden on the health care system. Early ambulation is one effort that can improve patient function, pain, and quality of life (Nooh et al., 2018).

Need for support in ambulating

The theme of early ambulation support for participants in this study was identified as support by health workers and families to motivate participants to ambulate after lower extremity fractures. The forms of support provided are physical support and assistance, as well as motivational support. This support is very much needed by patients who are carrying out early ambulation, both physically and motivationally, so that they can be motivated to ambulate after lower extremity fractures. Nurses generally prepare for treatment for fracture patients. Nurses offer support, explain and verify that patients have truly understood the information provided by other members of the Health team and instruct patients on what can be done during post-lower extremity fracture care (Uma et al., 2020). Nurses' knowledge about ambulation can influence decision-making regarding early ambulation interventions, teaching patients how to ambulate and determining when patients can ambulate (Helwan Ismaiel et al., 2022).

With support from health workers, especially nurses, in the implementation of early ambulation after lower extremity fractures, nurses have a very important role. Nurse-led ambulation programs are very effective in improving safety, early patient mobilization, and the culture of mobility (Jones et al., 2020). Implementation of standard operating procedures for ambulation resulted in a nine-hour reduction in Length of Stay (LOS). It allowed nurses more autonomy in patient care for patient involvement in early ambulation (Rupich et al., 2018). Patient and family involvement in early ambulation training addresses patient expectations before hospital discharge and can improve patient compliance with rehabilitation programs, functional outcomes, and quality of life (Nurjanah, 2020; Sims-Gould et al., 2017).

Support for Increasing Nurse Competence

The clinical competence of nurses must be maintained to ensure patient safety. Nurse competence is an integration of knowledge, skills, and attitudes. In addition, nurse competence can improve the quality of nursing services and reduce the incidence of nursing care loss. The study's results showed that maintaining nursing competence through continuous professional development can improve the quality of nursing services. In addition, leadership support is needed to improve nurses' competence. Competent nurses can improve the quality of nursing services and increase patient satisfaction (Hariyati et al., 2017; Rahmah et al., 2022; Sandehang et al., 2019).

In addition, if the nurse has worked, it is necessary to gain career certainty. A career can take the form of awards or efforts to improve competence. Without a career, a nurse will be in a stagnant position and cannot develop (Hamilton et al., 2014; Sandehang et al., 2019). Nursing career pathway programs are designed to reward nurses with clinical expertise. Nursing practice and education must be credentialed to demonstrate that official standards have been met (Perry, 2008; Rahmah et al., 2022). Nurses need to improve their competence, although several factors can hinder this; besides work experience, personal factors such as knowledge, attitude, self-confidence, and nurse health will have an impact on the development of nurse competence (Rizany et al., 2018).

CONCLUSION

The perception and experience of Continuity of Care (COC) nurses in lower extremity fracture patients are described in 4 themes, namely: (1) application of Continuity of Care (COC) in lower extremity fracture patients; (2) physical discomfort felt, (3) Patients experience a fairly high level of anxiety that makes them afraid to do activities: (4) support for increasing competency for nurses such as attending workshops, seminars and training, sometimes the hospital does not provide full facilities. The application of COC can be a solution to the physical discomfort experienced by patients. Support from nurses and family support, as well as interprofessional support and hospital support, are needed so that COC can be implemented properly in improving musculoskeletal recovery and ongoing independence in lower extremity fracture patients. The hopes of participants, in addition to motivation and the availability of aids for ambulation training, can be provided in the surgical room, especially in the treatment room for patients with musculoskeletal system disorders.

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CONFLICTS OF INTEREST

In this research, the author has no conflict of interest with any party.

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