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Original Article

Nursing students' experiences of case-based learning in medical-surgical nursing courses: A phenomenological qualitative

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Abstract

Background: Case-Based Learning (CBL) method is interactive and utilizes actual or realistic scenarios to promote authentic learning. It is an interactive, student-centred exploration that begins with illustrating real-life situations. CBL combines a constructivist and experiential approach, developing professional skills such as problem-solving, clinical reasoning, and knowledge of theory.
Objective: This study aimed to explore students' experiences in using CBL learning method in medical-surgical nursing courses at Faculty of Nursing, Universitas Andalas.
Methods: This study used a descriptive phenomenological qualitative design. Twenty-three fifth-semester nursing students enrolled in medical-surgical nursing courses using CBL were selected through purposive sampling. Data were collected in July 2022 through three focus group discussions lasting 60–90 minutes, guided by semi-structured questions on students' perceptions, benefits, challenges, and suggestions for CBL implementation. Audio recordings were transcribed verbatim and analyzed using the Stevick-Colaizzi-Keen phenomenological method. Trustworthiness was ensured through credibility, transferability, dependability, and confirmability.
Results: Based on the results of the thematic analysis, several themes were found, including (1) CBL learning method develops analytical thinking students (2) Using cases in CBL learning method improves the quality of learning (3) Inappropriate standard of implementation CBL learning methods.
Conclusion: This study showed some benefits of using CBL learning method. Based on the results, it is necessary to optimize the implementation of CBL in medical-surgical nursing courses and develop it in other courses in Faculty of Nursing, Universitas Andalas.

Background

Case-based learning (CBL) is a student-centered instructional strategy that uses authentic clinical scenarios to connect theory with practice and to promote active, contextualized learning in nursing education. Recent literature shows that effective CBL depends not only on the presence of a case, but also on careful case design, facilitation, structured discussion, and opportunities for reflection so that students can construct meaning rather than merely reproduce information (Berg & Lepp, 2023; Yao et al., 2023).

In nursing education, CBL has been associated with improvement in critical thinking, problem-solving, self-confidence, empathy, learning satisfaction, and the integration of classroom knowledge with clinical reasoning (Heiney et al., 2019; Li et al., 2019; Shohani et al., 2023). Studies also indicate that case-based seminars and related active learning strategies can strengthen self-efficacy and learning engagement when students are required to interpret patient problems, discuss alternatives, and justify nursing decisions (Choi et al., 2023; Perez-Perdomo & Zabalegui, 2024).

Recent evidence suggests that CBL can improve both cognitive and motivational outcomes. Multi-episode CBL has been reported to increase learning motivation and perceived problem-solving ability, while randomized and observational studies have shown higher student satisfaction and positive perceptions of learning compared with lecture-dominant approaches (Arab & Saeedi, 2024; Gholami et al., 2021; Shohani et al., 2023). More broadly, active learning in nursing education is supported by literature showing that participatory methods, collaborative discussion, and structured feedback contribute to higher engagement and deeper learning (Ghezzi et al., 2021; Saeedi et al., 2021).

At the same time, successful student-centered learning requires educator guidance, feedback, and meaningful learner participation. Constructive feedback, scaffolded facilitation, and active involvement in learning conversations are important because they help

students validate their reasoning, identify gaps in understanding, and improve the quality of their learning experience (Franco-Tantuico, 2022; Ossenberg et al., 2023; Yoong et al., 2023). Therefore, the quality of implementation becomes a central issue when CBL is adopted in nursing curricula. CBL may not produce optimal outcomes if students receive limited feedback, rely on inappropriate references, or participate unequally in group learning activities.

Although quantitative studies on CBL effectiveness are increasing, qualitative evidence exploring how nursing students experience the implementation of CBL in specific curricular and cultural contexts remains comparatively limited. Existing qualitative and mixed-method studies show that students may value case-based learning while still experiencing uncertainty, uneven participation, and variation in faculty facilitation (Koto-Shimada et al., 2023; Shahzeydi et al., 2024; Voldbjerg et al., 2019). In the Indonesian nursing education context, particularly in medical-surgical nursing courses, less is known about how students perceive the benefits and challenges of CBL as it is implemented in routine coursework.

This study addresses that gap by exploring the lived experiences of nursing students who participated in CBL in medical-surgical nursing courses at the Faculty of Nursing, Universitas Andalas. The novelty of this study lies in its focus on students' experiential accounts of both the perceived educational value and the implementation gaps of CBL in a medical-surgical nursing course within an Indonesian university context. The findings are expected to inform the refinement of CBL facilitation, lecturer feedback, student preparation, and group participation in nursing education.

Methods

Study Design

This study employed a qualitative design with a descriptive phenomenological approach. Descriptive qualitative research aims to gain an in-depth understanding of research subjects' experiences, including their behaviors, perceptions, motivations, and actions, by presenting the findings narratively in the form of words (Moleong, 2016). A descriptive phenomenological approach was considered appropriate because this study sought to describe and understand students' lived experiences in participating in case-based learning (CBL) within medical-surgical nursing courses. Through this approach, the researchers were able to explore how students perceived, interpreted, and constructed meaning from CBL as a learning method in their academic setting.

Participants

The study participants were fifth-semester undergraduate nursing students at the Faculty of Nursing, Universitas Andalas, who were enrolled in medical-surgical nursing courses employing the case-based learning (CBL) method. Participants were purposefully selected due to their direct experience and familiarity with the CBL approach, consistent with criteria for expert informants in qualitative research (Cleary et al., 2014). Purposive sampling ensured the recruitment of students who had actively engaged in CBL activities. Inclusion criteria were: (1) enrollment as a fifth-semester nursing student, (2) participation in a medical-surgical nursing course utilizing CBL, (3) attendance and involvement in CBL sessions, and (4) willingness to provide informed consent. Students who were unavailable during data collection or declined participation were excluded from the study.

A total of 23 students participated in the study. Data collection was considered sufficient after the third FGD because the discussion produced recurring ideas and no substantially new themes were identified.

Data Collection

Data were collected in July 2022 using semi-structured interviews through focus group discussions (FGDs). In this study, 23 participants were divided into two groups, and three FGDs were conducted. Each FGD lasted approximately 60–90 minutes and was facilitated by lecturers who were not involved in teaching the course consisting 2 – 3 lecturers. The FGD format was selected because it allowed students to share experiences, compare perceptions, and discuss common issues related to CBL implementation. In this course, the students were exposed to clinical case scenarios

and were expected to analyze patient data, identify nursing problems, formulate nursing diagnoses, and develop nursing care plans. There were 4 cases in this course and 9 – 12 groups of students.

The FGD guide contained open-ended questions about students' experiences of CBL, perceived benefits, challenges during learning, lecturer facilitation, student participation, and suggestions for improving implementation. Examples of guiding questions included: "How did you experience learning through CBL in the medical-surgical nursing course?", "What aspects of CBL helped you understand the course material?", "What difficulties did you experience during CBL?", "How did lecturer feedback influence your learning?", and "What improvements are needed in future CBL implementation?"

The discussions were audio-recorded with participants' permission and transcribed verbatim. Field notes were used to document important contextual information during the discussions, including group interaction, non-verbal responses, and emerging issues relevant to the research objective.

Data Analysis

Data were analyzed using the Stevick-Colaizzi-Keen phenomenological method. The analysis began with repeated reading of the verbatim transcripts to gain an overall understanding of participants' experiences. The transcripts were prepared by three researchers (DPL, EAM, and BPW). Significant statements related to students' experiences of CBL were then identified and extracted. These statements were formulated into meanings, grouped into categories, and organized into subthemes and themes by the research team (DPL, HM, and MM).

The researchers subsequently developed textural descriptions of what participants experienced and structural descriptions of how these experiences occurred within the learning context. The final themes were synthesized into an overall description of nursing students' experiences of CBL in medical-surgical nursing courses by DPL and HM.

To strengthen analytic rigor, coding and theme development were reviewed through discussion among the research team. Differences in interpretation were resolved through consensus by returning to the transcripts and comparing the emerging themes with the original participant statements.

Trustworthiness

Trustworthiness was maintained using Lincoln and Guba's criteria: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1986). Credibility was supported through prolonged familiarity with the research setting, pre-FGD communication with participants, peer debriefing with an experienced qualitative researcher, and participant validation of the main findings. Transferability was strengthened by providing a detailed description of the study setting, participant criteria, learning context, and data collection procedures. Dependability was supported through documentation of the research process, including the interview guide, transcripts, coding notes, and theme development. Confirmability was maintained through peer review, reflective discussion among researchers, and an audit trail to ensure that findings were grounded in participant data rather than researcher assumptions.

Ethical Consideration

This study was approved by the relevant research ethics committee with reference number LB.02.02/5.7/207/2022. Before data collection, participants received an explanation of the study aims, procedures, potential risks and benefits, confidentiality measures, and their right to refuse or withdraw without academic consequences. Written informed consent was obtained from all participants. Participant identities were anonymized using codes such as P1, P2, and P3. Audio recordings and transcripts were stored securely and were accessible only to the research team. To reduce the possibility of coercion, participation was voluntary and students were informed that their decision to participate or not participate would not affect their academic evaluation.

Results

This study was followed by fifth-semester students who enrolled medical-surgical nursing courses using the CBL learning method. The research was conducted in July 2022. Data was collected by using focus group discussion (FGD) technique. The number of students participated in this study was 23 people (Table 1).

Table 1. Results of the Literature Review

Initial	Gender	Age (years)	Semester	Prior Clinical Exposure
P1	Female	19 years	5	Never
P2	Female	19 years	5	Never
P3	Female	20 years	5	Never
P4	Male	19 years	5	Never
P5	Female	19 years	5	Never
P6	Female	19 years	5	Never
P7	Male	20 years	5	Never
P8	Male	20 years	5	Never
P9	Female	19 years	5	Never
P10	Female	19 years	5	Never
P11	Female	19 years	5	Never
P12	Female	19 years	5	Never
P13	Female	19 years	5	Never
P14	Female	19 years	5	Never
P15	Female	19 years	5	Never
P16	Female	19 years	5	Never
P17	Male	20 years	5	Never
P18	Female	19 years	5	Never
P19	Male	19 years	5	Never
P20	Female	19 years	5	Never
P21	Female	19 years	5	Never
P22	Female	20 years	5	Never
P23	Male	19 years	5	Never

Based on the results several themes were found that explored students' experiences in learning with the CBL method. The following table shows the results of the thematic analysis from the FGD to explore students' experiences using the CBL learning method.

Table 2. Identified Subthemes and Themes

No	Subthemes	Themes
1.	CBL learning method improve students' critical thinking	Case-based learning (CBL) developed students' analytical thinking
	CBL learning method makes students think and work in a structured way.	
2.	Using cases that have similarities to clinical situations makes learning easier to understand	The use of cases improved quality of learning
	CBL learning method encourages students' learning motivation	
3.	There is no feedback and conclusions in the implementation of CBL by lecturers	The implementation of CBL required further improvement
	Students don't use the recommended references in learning process	
	Lack of active participation of students in the learning process	

Theme 1: CBL Developed Students' Analytical Thinking

Participants described CBL as a learning method that helped them analyze patient problems more critically and work through learning tasks in a more structured manner. Through case scenarios, students were encouraged to interpret patient data, identify nursing problems, and formulate nursing care plans.

CBL learning method improve students' critical thinking

Participants explained that CBL encouraged them to analyze clinical information rather than only memorize or reproduce theoretical material. One participant stated:

> *"CBL improved our ability to analyze problems. Although we did not observe the patient directly, we could understand the patient's condition from the case and determine the appropriate nursing diagnosis." (P2)*

Another participant emphasized that the data provided in the case stimulated students to think more critically:

> *"The data presented in the case encouraged us to think more critically, especially in deciding how to use the information to establish a nursing diagnosis." (P3)*

These quotations show that CBL supported students' critical thinking by requiring them to interpret case data and connect it with nursing diagnosis.

CBL learning method makes students think and work systematically

Participants also reported that CBL provided a clearer and more organized learning process. The structure of individual and group tasks helped students move from theoretical understanding to nursing care planning.

> *"The system was effective because, in the first task, students learned the theory individually, and in the second task, they worked in groups to develop the nursing care process." (P7)*

Another participant described CBL as a method with clearer learning directions:

> *"This CBL method was different because the directions and instructions were clearer." (P9)*

These findings indicate that CBL helped students organize their learning process systematically, beginning with understanding disease concepts and continuing with case analysis and nursing care planning.

Theme 2: The Use of Cases Improved the Quality of Learning

Participants in this study also explained using cases in the CBL method was able to have a positive influence on students. Students identified the benefits of using cases in the CBL learning method improving of understanding and learning process. The results of the thematic analysis obtained in this study.

Participants perceived that using clinical cases improved the quality of learning because cases helped them understand theoretical concepts in a more concrete and contextual way. The use of realistic cases also encouraged students to become more motivated and engaged in learning.

Cases resembling clinical situations made learning easier to understand

Participants stated that case scenarios helped them imagine real clinical situations and understand patient problems more clearly. One participant explained:

> *"The case helped us understand real situations in the hospital, so it was easier to understand the disease being discussed." (P16)*

Another participant described how case examples made signs and symptoms easier to recognize:

> *"We could identify the signs and symptoms more clearly. For example, when discussing a hernia case, students could understand how hernia appears through the case example." (P23)*

These statements suggest that realistic cases helped bridge theoretical knowledge and clinical application.

CBL encouraged students' learning motivation

Participants also reported that CBL encouraged them to study more actively because they were required to explore the case and prepare appropriate nursing care plans.

> *"Because we had to explore the case, we had to study and understand the case more deeply." (P7)*

Another participant described the learning demand created by CBL:

> *"In the medical-surgical nursing course, we were encouraged to prepare a proper nursing care plan." (P21)*

These quotations indicate that CBL increased students' motivation by requiring them to engage actively with the case and apply their knowledge to nursing care planning.

Theme 3: The Implementation of CBL Required Further Improvement

Although participants identified several benefits of CBL, they also described challenges in its implementation. These challenges included limited lecturer feedback, insufficient use of recommended references, and unequal student participation during group discussions.

Lack of lecturer feedback and final clarification

Participants reported that lecturer feedback was needed to help them confirm whether their analysis and nursing diagnoses were appropriate. One participant stated:

> *"There was a lack of feedback. After students presented, the lecturer did not explain the material again, so the discussion remained unclear." (P7)*

Another participant emphasized the need for final clarification from the lecturer:

> *"We wanted to know which diagnosis was correct and whether our work was right or wrong, but the lecturer did not provide an evaluation." (P19)*

These findings suggest that feedback and final clarification are important elements in CBL implementation because they help students validate their clinical reasoning and correct possible misunderstandings.

Limited use of recommended references

Participants also acknowledged that they did not always use the recommended references provided in the syllabus. Some students preferred more practical sources, while others experienced barriers related to language, textbook length, and workload.

> *"The references or textbooks were already provided in the syllabus, but we did not pay much attention to them because we wanted something practical, so we searched on Google." (P11)*

Another participant explained:

> *"Sometimes we were not active in reading the books. Moreover, the books were in English and quite thick." (P17)*

A similar issue was expressed by another participant:

> *"We did not use the recommended books because we did not have enough time and had many assignments from other courses." (P23)*

These quotations show that students' limited use of recommended references was influenced by accessibility, language difficulty, time constraints, and academic workload.

Unequal student participation in the learning process

Participants also reported that participation in group discussions was uneven. Some students were actively involved, while others were passive or relied on a few group members to complete the task.

> *"During discussions, only a few people in the group were active, while the others remained silent." (P13)*

Another participant stated:

> *"Some students did not seem to care, so students who had completed their own tasks also had to help with tasks that had not been done by other group members." (P14)*

A similar concern was expressed by another participant:

> *"There was a lack of participation in the discussion. Some students relied on only a few friends to complete the task, so the group's understanding of the case was not the same." (P16)*

Another participant added:

> *"Some friends did not respond. Only a few people worked on the task, so during the discussion, only those who had completed the task could answer questions from other groups." (P21)*

These findings indicate that unequal participation affected the quality of group learning. When only some students were actively involved, the understanding of the case became uneven across group members.

Overall, the findings show that CBL was perceived as beneficial for developing analytical thinking, improving understanding of clinical cases, and increasing learning motivation. However, the implementation of CBL still needs improvement, particularly in relation to lecturer feedback, use of recommended references, and equal participation among students

Discussion

This study explored nursing students' experiences of case-based learning (CBL) in medical-surgical nursing courses. CBL is a student-centred learning strategy that can provide students with critical thinking, communication, and interpersonal skills (Schwartz, 2015). The findings revealed that students perceived CBL as beneficial because it helped them develop analytical thinking, understand clinical situations more concretely, and become more motivated to learn. However, the findings also showed that the implementation of CBL was not yet optimal, particularly due to insufficient lecturer feedback, limited use of recommended references, and unequal participation among students during group discussions. These findings indicate that CBL has strong educational value, but its effectiveness depends on the quality of facilitation, student preparation, and group learning processes.

CBL learning method starts with an illustrated case that depicts real-life and authentic learning (Huang et al., 2012; Yoo & Park, 2015). Students perceived CBL as beneficial because it created a learning situation that was closer to real clinical practice. In medical-surgical nursing, students are required not only to memorize disease concepts but also to interpret patient data, identify nursing problems, determine nursing diagnoses, and plan appropriate nursing interventions. The use of clinical cases helped students connect theoretical knowledge with realistic patient situations, making the learning process more meaningful and easier to understand. This finding is consistent with previous studies showing that CBL supports contextual learning by encouraging students to actively construct knowledge through interaction with cases, peers, lecturers, and learning tasks rather than passively receiving information (Berg & Lepp, 2023; Yao et al., 2023).

The findings also showed that CBL supported students' analytical and critical thinking. Students reported that case scenarios required them to examine clinical data, recognize signs and symptoms, and justify nursing decisions. This research is supported by Yoo & Park (2014), which showed that nursing students who enrolled on courses with CBL learning method are more successful in problem-solving and critical thinking. The ability of critical thinking is crucial in the nursing process to assess, diagnose, and connect the gap between theory and practice. This suggests that CBL encouraged students to move from surface learning to deeper clinical reasoning. Previous studies have similarly found that CBL can improve critical thinking, case analysis, empathy, and problem-solving among nursing students when implemented through structured learning activities and repeated exposure to realistic patient problems (Heiney et al., 2019; Li et al., 2019). Evidence on clinical reasoning strategies in nursing education also indicates that problem-oriented and case-oriented learning helps students organize patient information, interpret clinical cues, and

make more appropriate decisions during learning activities (Perez-Perdomo & Zabalegui, 2024).

Another reason students perceived CBL as beneficial was the structured sequence of learning activities. In this study, students described that CBL helped them work more systematically because they first reviewed theoretical concepts and then applied them to case analysis and nursing care planning. This structure may have helped students organize their thinking and understand the relationship between disease concepts, assessment data, nursing diagnoses, and interventions. This finding supports previous evidence that well-designed CBL interventions can improve problem-solving ability and learning motivation because students are guided through a stepwise process from data interpretation to decision-making and justification of care (Gholami et al., 2021; Yao et al., 2023)

The use of cases also increased students' motivation to learn. Students felt that clinical cases encouraged them to prepare, read, and participate because they were expected to understand the case and develop a proper nursing care plan. This motivation may arise because CBL makes learning feel relevant to future clinical practice. In this study, students were given assignments that could be a trigger so that students could be motivated to learn and prepare for lectures. A study shows that using CBL learning method significantly affects student motivation (Wospakrik et al., 2020). When students can see the connection between classroom learning and real patient care, they may become more engaged in the learning process. This finding also is in line with previous studies showing that active and participatory learning methods, including CBL, are associated with higher learning motivation, satisfaction, and engagement because they make learning more relevant, collaborative, and practice-oriented (Arab & Saeedi, 2024; Saeedi et al., 2021; Shohani et al., 2023).

Despite these benefits, this study also identified important gaps in CBL implementation. One major issue was the absence or insufficiency of lecturer feedback and final clarification. Students reported that after group presentations, they did not always receive adequate confirmation about whether their nursing diagnoses, analysis, or care plans were correct. Feedback may have been insufficient because the learning process focused more on student discussion and presentation than on structured lecturer-facilitated reflection at the end of the session. In addition, if clear standards for lecturer roles, feedback timing, and closing summaries were not consistently applied, students could experience uncertainty about the accuracy of their clinical reasoning. The lecturer's role in providing feedback on the CBL learning method is essential to students' understanding of the material. It is because lecturer feedback encourages students to improve their skills (Gholami et al., 2017). However, an inadequate role of lecturers is a challenge in the CBL learning method (Abou-Zaid, 2014).

This finding is important because feedback is a core component of effective active learning. In CBL, students need feedback not only to know whether their answers are correct, but also to understand why a diagnosis or intervention is appropriate. Without feedback, students may complete the learning activity but remain unsure about the quality of their reasoning. Previous studies have emphasized that constructive, timely, and dialogic feedback helps students consolidate knowledge, improve reflective ability, and strengthen clinical performance (Franco-tantuico, 2022; Ossenberg et al., 2023; Yoong et al., 2023). Therefore, lecturer feedback should not be treated as an optional part of CBL, but as an essential element that connects student discussion with accurate clinical understanding.

The findings also showed that students did not always use the recommended references. Some students preferred practical sources, such as internet searches, while others found recommended textbooks difficult because they were written in English, were too thick, or required more reading time. This suggests that limited use of recommended references may not only reflect low motivation, but also issues of accessibility, workload, language barriers, and the need for more guided academic reading. In

CBL, the quality of student analysis depends strongly on the quality of references used. If students rely on unverified or overly simplified sources, their case analysis and nursing care plans may become less accurate.

Unequal participation in group discussions was another important challenge. Students reported that only a few members were actively involved, while others remained silent or depended on more active peers. It was known that one of the challenges in the CBL learning method is the lack of student readiness and problems related to students' ability to teamwork (Ramm et al., 2015). This affected group learning because not all students developed the same level of understanding of the case. When only a small number of students analyze the case and prepare the task, the discussion may become task completion rather than shared learning. Unequal participation may also reduce the effectiveness of peer learning, because passive students have fewer opportunities to practice clinical reasoning, express arguments, and receive correction from peers or lecturers. This finding supports previous literature showing that active learning can be weakened by inconsistent student preparation, inadequate facilitation, and uneven engagement within groups (Ghezzi et al., 2021; Koto-shimada et al., 2023; Pivac et al., 2021).

The findings of this study contribute to nursing education practice by showing that CBL should be implemented with clear standards, not only by providing cases to students. In medical-surgical nursing courses, CBL needs structured case design, clear learning outcomes, guided use of references, balanced student participation, and systematic lecturer feedback. Lecturers should provide final clarification after group presentations to help students validate their analysis and correct misunderstandings. In addition, student accountability mechanisms may be needed, such as assigning rotating roles within groups, requiring individual preparation before group discussion, using peer evaluation, and providing guided reference lists that are accessible and relevant to the case.

Compared with previous CBL studies that mainly emphasize positive outcomes such as critical thinking, motivation, satisfaction, and problem-solving, this study adds a contextual understanding of how CBL is experienced by nursing students in a medical-surgical nursing course within an Indonesian university setting. The novelty of this study lies in its balanced explanation of both the educational benefits and implementation gaps of CBL. The findings show that students valued CBL because it made learning more analytical, structured, and clinically relevant; however, they also experienced uncertainty when feedback was insufficient, references were not optimally used, and group participation was unequal. Therefore, this study highlights that the success of CBL in nursing education depends not only on the use of clinical cases, but also on the quality of facilitation, feedback, reference use, and collaborative learning processes.

Overall, the present findings reinforce that CBL has substantial educational value in medical-surgical nursing education. However, its implementation needs to be strengthened to ensure that all students benefit equally from the learning process. Improving lecturer feedback, standardizing CBL procedures, supporting students' use of academic references, and promoting active participation may optimize the effectiveness of CBL and better prepare nursing students for clinical reasoning in real practice.

Conclusion and Recommendation

Several benefits were obtained from the CBL learning method, including the development of analytical of students and an increase in the quality of learning through the application of the CBL learning method. The study shows the benefits of implementing the CBL learning method. However, the results of this study also indicate that there is still a need to improve CBL learning method system used in medical surgical nursing courses to provide more optimal benefits to reach learning outcomes. This study also explains that the meeting method used in the CBL learning method affects the effectiveness of the learning process.

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Declaration of conflict of interest
The authors declare no competing interests.

Declaration on the Use of AI
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Data sharing is not applicable to this article.

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