Examining the Relationship Between Clinical Judgment and Nursing Actions in Prelicensure Students

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ABSTRACT

Faculty frequently use the Lasater Clinical Judgment Rubric (LCJR) to identify students' clinical judgment; however, it is unclear whether LCJR scores relate to appropriate nursing action. In a pilot study consisting of senior-level nursing students (N = 22), participants were scored on the LCJR and anticipated nursing actions, and results were analyzed using simple linear regression. There was a statistically significant correlation (r = 0.364) between clinical judgment and nursing action. Results suggest that total LCJR scores may be an indicator of the completion of indicated nursing action.

Throughout the course of their work, nurses make many clinical judgments.[1] Clinical judgment is the way "in which nurses come to understand the problems, issues, or concerns of clients/patients to attend to salient information and to respond in concerned and involved ways."[2] (p200) Effective clinical judgment is necessary to ensure patient safety, quality nursing care,[3] and strong nurse-patient relationships.[4] When effective, clinical judgment consists of a process of noticing, interpreting, responding, and reflecting[5] (p208) and has been identified as a precursor to clinical reasoning[6] and nursing action.[5] In nursing research, clinical judgment has been described in a variety of ways. For the purpose of this study, clinical judgment was defined as noticing patient cues, developing interpretations and forming hypotheses, responding through nursing action, and evaluating the actions that occurred through reflection.[2] In this study, clinical judgment began when students gathered patient cues and formed hypotheses.

Following the collection of patient cues and development of hypotheses, responses were taken through nursing action. It is clear then that the ability to form clinical judgments is related to nursing actions in practice.[5,7,8] The extent to which a nurse correctly makes clinical judgments impacts the health and well-being of patients through nursing actions.[9,10] For instance, failing to notice signs of patient deterioration when forming a clinical judgment can lead to errors of inaction.[11,12] Furthermore, coming to a clinical judgment but failing to act is also an error. As such, there is a need for research examining the relationship between clinical judgments and associated nursing actions.

Conceptualization of clinical judgment in nursing was formalized in 2006 when Tanner developed the clinical judgment model. This model consists of 4 aspects: noticing, interpreting, responding, and reflecting. Tanner defined clinical judgment as the "interpretation or conclusion about a patient's needs, concerns, or health problems, and/or the decision to take action (or not), use or modify standard approaches, or improvise new ones as deemed appropriate by the patient's response."[5] [(p204)] Presently, Tanner's clinical judgment model acts as a guiding framework and underpins instructional interventions to support clinical judgment. In the first aspect, Tanner[5] proposed that nurses' understanding of situations and their expectations encompass noticing. For example, a nurse whose initial grasp of a patient situation yields identification of labored breathing, inspiratory and expiratory wheezes, and low oxygen saturations demonstrates noticing. Using analytic, narrative, or intuitive reasoning patterns, nurses then form an interpretation and act. In practice, this is revealed when a nurse generates hypotheses for a patient situation such as an ineffective breathing pattern or chronic obstructive pulmonary disease (COPD) exacerbation. In the case of a COPD exacerbation, a response may be seen as positioning the patient to assist with ventilation or obtaining and administering a bronchodilator. Reflection forms the final and largest aspect of the clinical judgment model.[5] This reflecting on-action and in-action is evident when a nurse evaluates a patient's response to treatment, such as unlabored breathing after the administration of the bronchodilator, and affirms or challenges the choice of actions taken. Tanner's model provided the theoretical basis for this study.

In 2007, Lasater[13] devised a rubric to facilitate dialogue between faculty and students regarding the trajectory of students' clinical judgment development. The Lasater Clinical Judgment Rubric (LCJR) uses Likert scale scoring to measure each of the 4 corresponding aspects of the clinical judgment model.[5] The first aspect of the rubric, noticing, involves 3 dimensions of focused observation: focused observation, recognizing deviations from expected patterns, and information seeking. The second aspect of the LCJR, interpreting, involves 2 dimensions of prioritizing data and making sense of the data. The third aspect, responding, involves 4 dimensions: calmness and confident manner, clear communication, a well-planned intervention/flexibility, and being skillful. The last aspect of effective reflecting involves 2 dimensions: the ability to evaluate and self-analyze and a commitment to continued improvement.[13]

In each dimension, student abilities may range from 1 to 4, with a score of 1 indicating beginner level skills and 4 indicating exemplary skills. Overall total scores may range from 11 to 44, with higher scores identifying students with better and more exemplary clinical judgment as

opposed to lower scores identifying students in the beginning stages of demonstrating clinical judgment.[13] Victor-Chmil and Larew[14] identify the LCJR as a valid and reliable rubric for use in simulation exercises that assess the cognitive, affective, and psychomotor aspects of clinical judgment among undergraduate nursing students.

Although scores on the LCJR identify an individual's demonstration of clinical judgment ranging from beginner to exemplary, it is not clear whether those LCJR scores relate to an associated appropriate nursing action. For instance, an exemplary responding score, as calculated by the LCJR,[13] can occur when a student remains calm and is confident, flexible, and skillful. However, the ability for an individual to remain calm, confident, skillful, and flexible does not indicate whether an indicated action was actually taken. Measuring students' responses in this way (by omitting an action component in the LCJR) has led to gaps in the ways with which clinical judgment is understood and evaluated.[13] Determining a link between demonstration of clinical judgment and implementation of indicated actions would provide a more robust means for gauging nursing student's readiness for practice.

Most instruction and clinical experience related to clinical judgment within the nursing curriculum take place using high-fidelity simulations[15-18] because the environment and desired actions are easily controlled. When simulation is used as the pedagogy for clinical judgment demonstration, researchers have reported improvement in students' abilities over time.[15,19,20] In fact, high-fidelity simulation prepares nursing students to develop clinical judgment for practice by providing realistic patient care settings that are free from the potential of actual patient harm yet offer an opportunity to notice, interpret, respond, and reflect in the context of clinical patient care.[7,13,16] In addition, simulation provides students with a safe environment to practice the transference of clinical judgment into nursing actions.[17,21]

METHOD

The aim of this pilot study was to investigate baccalaureate nursing students' clinical judgment during a simulation and to determine whether scores on the LCJR correlated with the demonstration of the indicated nursing action for the situation. The following 4 research questions guided this study: (1) "Can the indicated nursing action(s) within a simulation be observed in students participating in the simulation?", (2) "Using the LCJR, can a score including all 4 aspects be obtained by observing students in the simulation and subsequent journaling responses?", (3) "Can overall clinical judgment and thinking (according to Tanner's 4 aspects) be determined from a postsimulation journaling experience?", and (4) "Is there a relationship between scores on the LCJR and the demonstration of the indicated nursing action in the simulation?".

Participants in this study were senior-level nursing students, enrolled in a traditional 8-semester Bachelor of Science in Nursing program and in a course that included multiple patient simulations in clinical groups as a part of the current course requirements. Approval from the university institutional review board was obtained before the start of this study. On the basis of a power analysis with $P < .05$ and a power of 0.80, a sample of at least 42 participants was needed for this study. Therefore, a total of 47 students participated in this study (final N = 22).

This study took place at a single institution located in the midwest United States. A researcher observed and scored participants on the LCJR while they were in simulation experiences and debriefing and also checked off anticipated nursing actions that the participants completed during the simulation. Students did not receive course credit to participate in this study, and to protect participant rights, course instructors remained blind to student participation.

Data were collected during 2 simulation scenarios (patient with COPD and one with a chest tube) using 3 versions of a nursing action form. Eleven basic indicated nursing actions (Table 1) were chosen by the study investigators to be examined in the simulations and were included in the nursing action form. Indicated nursing actions were those behaviors expected based on the contextual circumstances and available patient data. Examples of these actions in a scenario about a patient with COPD included positioning the patient to assist with ventilation, conducting a reassessment of the patient, and calling respiratory therapy to administer a nebulizer. The clinical judgment and nursing actions of all participants across all simulation roles (primary nurse, secondary nurse, laboratory/imaging technician, procedural team, and family member) were scored by the investigator.

To get complete LCJR data including reflection, study participants completed a guided journal activity immediately after the simulation but before debriefing, in which written responses to 10 questions associated with interpreting, responding, and reflecting were gathered. Each question in the guided journaling reflected dimensions found within the LCJR and was used as further evidence for determining LCJR scores, particularly in the reflection dimension, for participants when it was difficult to establish scores through observation alone. After LCJR scores were determined, simple linear regression analyses were used to examine potential correlations between overall clinical judgment scores and subscales on the LCJR with the number of completed actions on the nursing action forms.

Table 1. Nursing Actions
Introduces self
Assesses patient
Obtains vital signs
Reports findings to medical doctor
Calls for laboratory results
Interprets laboratory results
Reassesses patient
Reassesses vital signs
Assesses intake/output
Reports findings to physician
Ensures patient safety

RESULTS

Of the 47 individuals who participated in this pilot study, only data from 22 individuals were used because of missing data. Data were eliminated from 25 students who participated in the simulations because they acted in a nonnursing role (laboratory technician, radiology technician, family member) that resulted in incomplete LCJR scores. Therefore, a total sample size of 22 students who were assigned to a nursing role in the simulated learning environment was used. Overall, the participants' nursing actions were clearly observable. The mean (SD) total LCJR score of the participants was 31.64 (2.75). Scores for the 4 dimensions of the LCJR (noticing, interpreting, responding, and reflecting) were obtained easily through observation of the simulation and postsimulation debriefing, and the journaling data were not necessary. Observation of the simulation and debriefing were alone effective in determining total LCJR scores for each participant.

The results of this study further identified that a statistically significant (P = .04) moderate correlation (r = 0.36) existed between students' total LCJR score and indicated actions (Table 2). Therefore, higher total LCJR scores were associated with a greater completion of indicated nursing actions. Examining the data for further evidence of correlations between each individual dimension of clinical judgment and nursing action yielded mixed results. Alone, noticing scores were not correlated with nursing action (r = 0.13) and were not statistically significant (P = .28). Therefore, an individual's ability to have focused observations, recognize deviations, and seek information did not necessarily result in the completion of the indicated nursing actions.

Likewise, individual interpreting scores were not correlated with nursing action (r = 0.08) nor were the results statistically significant (P = .35). Thus, an individual's ability to prioritize and make sense of the data did not consistently result in the completion of the indicated nursing actions. Examining students' responding scores, however, identified a moderate correlation (r = 0.43) with the completion of the indicated actions and that was statistically significant (P = .02). This is important because the ability for an individual to maintain a calm, confident manner; have clear communication; develop a well-planned and flexible intervention; and demonstrate skill in nursing care resulted in an increased completion of indicated nursing actions for the scenario. In other words, students who display accomplished or exemplary responding scores completed a greater number of the indicated nursing actions on the nursing action forms.

Although a moderate correlation existed between students' responding scores and completion of indicated actions, on average, only 44% of all indicated actions for the simulation were completed. This suggests that, although the responding dimension within the LCJR[13] seems to correlate to the completion of indicated actions, more than half of all the indicated actions remained unexecuted. In other words, although students with higher responding scores also had a higher number of completed actions, a large number of the indicated actions were still not performed.

Finally, there was no significant correlation between individual reflecting scores and the completion of indicated nursing actions (r = 0.13, P = .27). Therefore, neither a student's ability

to conduct self-analyses nor their commitment to improvement resulted in the completion of indicated nursing actions.

Table 2. Correlations Between LCJR Scores and Indicated Actions		
Correlations	*P*	*r*
Total LCJR score and indicated action	.04	0.36
Noticing and indicated action	.28	0.13
Interpreting and indicated action	.35	0.08
Responding and indicated action	.02	0.43
Reflecting and indicated action	.27	0.13
LCJR, Lasater Clinical Judgement Rubric		

DISCUSSION

The results of this study suggest that total LCJR scores may be an indicator of students' completion of indicated nursing action. Among the individual dimensions within the LCJR, only the responding dimension had a statistically significant correlation to indicated action completion. In addition, it was noted that the moderate correlation between responding and indicated action was present with only a 44% mean completion of the indicated actions. Thus, although total clinical judgment scores as a whole and responding scores by themselves had statistically significant correlations, on average, participants completed less than half of the indicated nursing actions for the simulation. So, it is possible for students to have exemplary clinical judgment as based on the LCJR but not perform indicated nursing actions. This finding is consistent with other clinical judgment literature in which attributes included in the LCJR, such as students' confidence levels, are not always associated with effective responses.[22]

Identifying students with low total LCJR scores or low responding scores may be beneficial as lower scores could alert nurse educators to students who exhibit challenges in carrying out nursing actions. As such, teachers could use LCJR scores for determining a student's ability to execute nursing actions. Using LCJR scores in this way may make it possible for faculty to focus instruction to improve individuals' performance of indicated nursing actions.

Given the correlation between total LCJR scores and indicated actions, as well as responding scores, the LCJR may benefit from the inclusion of "completes indicated action" as a descriptor within the responding dimension. Future researchers examining use of the LCJR for assessing a student's ability to complete nursing actions should consider using simulation scenarios with fewer anticipated actions and assigning a heavier weight to the responding dimension of clinical judgment to help determine whether scores on the LCJR correlate to appropriate nursing action.

In addition, designs that include larger samples from multiple sites would improve the generalizability of the findings. A larger sample size also may provide further evidence of the relationship between clinical judgment and nursing action. The findings of this study suggest that students comprehended the simulated situation but did not always execute the indicated nursing actions. Completing this study using a larger sample size could provide further evidence

of this discrepancy and support the need for examining educational interventions to move students beyond problem identification to the execution of the necessary nursing actions.

The results of this study also revealed that LCJR and nursing action form scores of students who did not participate in nursing roles during the simulated patient scenario were unable to be thoroughly determined. On the basis of this finding, nurse educators should consider examining the impact of increased simulation frequency on clinical judgment and the execution of indicated nursing action.

LIMITATIONS
This study had several limitations. First, the small sample size using participants from a single site likely influenced the results of this study because adequate power was not reached. To determine the true effect between clinical judgment and the execution of nursing action, this study should be conducted on a larger scale. Second, the simulations had numerous indicated nursing actions so it was necessary to look at each action performed. Data from this study were confounding as there were 11 possible nursing actions to be completed per simulation in the design of this pilot study. Examining a single indicated action per simulation may be a better indicator of the relationship between total and subscale scores on the LCJR and the completion of indicated nursing actions. This study also used only 1 rater. The addition of other raters could be beneficial to establish reliability of scores on the LCJR and nursing action forms. Mitigating circumstances of the simulation such as length of time and peer influence may have limited the actions students demonstrated. In addition, it is not clear whether these findings would transfer to actual practice where less controlled patient situations occur. Finally, reliability and validity were not established when determining the 11 nursing actions for the scenario or for the reflective journaling questions.

CONCLUSIONS

This study confirmed that investigating the association of nursing students' clinical judgment and their nursing actions during a simulation with the LCJR is a fruitful area for inquiry. Nurse educators may use the LCJR to help appraise students' level of understanding about a simulated patient experience; however, caution should be used when using the LCJR as an indicator of students' ability to execute indicated nursing actions as higher scores may not always equate to the completion of necessary nursing actions.

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