COMPARISON OF THE PERCEPTION OF CLINICAL INSTRUCTION

In-Facility, Face-to-Face Simulation, and Virtual Simulation Experiences in Oregon's Nursing Programs

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INTRODUCTION

The COVID-19 pandemic, beginning in March 2020, had profound impacts on nursing education in Oregon and across the country. As emergency declarations were implemented, many health care providers, especially those in urban centers, closed their facilities to students seeking clinical placements due to shortages of protective equipment, risks of further spread of COVID-19, and the ongoing burden on healthcare staff (Oregon Center for Nursing, 2020).

One outcome of this disruption of clinical education was a marked decline in the number of nursing students graduating from Oregon's nursing programs. Data from the Oregon State Board of Nursing (OSBN) show 20 percent fewer students graduating during the school year ending in 2020 than during the previous year (OSBN, 2020; 2021). In response to these disruptions, OSBN issued directives allowing nursing programs to increase the amount of clinical education that could be augmented with simulation so nursing students could continue their education during the pandemic while still gaining valid clinical experiences.

OSBN's decision was supported by literature and evidence-based practice. Prior to the pandemic, studies comparing traditional clinical experiences and simulated experiences found no significant difference in nursing knowledge, clinical competency, or NCLEX-RN performance (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014). Additionally, there were no discernable differences in manager ratings of new-to-practice nurses within their first six months looking at competence and readiness (Cobbett & Snelgrove-Clarke, 2016).

The use of simulation, both face-to-face and remote learning, provide opportunities to address specific challenges in clinical practice through realistic learning environments increasing learner knowledge and

confidence while providing a safe space to practice before entering a clinical setting, potentially decreasing performance anxiety (Cobbett & Snelgrove-Clarke, 2016). In fact, studies have demonstrated higher levels of problem-solving and self-confidence using the nursing process in practice environments following student experience in remote simulation (Badowski et al., 2021).

The primary purpose of this study was to assess the students' and faculty's perception of the ability of the different simulation modalities to meet the students' learning needs. While several studies discussed above provide evidence that face-to-face simulation did not differ from traditional clinical experiences in clinical competency and knowledge, little is known about how virtual simulation is being perceived in effectively meeting the learning needs of nursing students in Oregon. A secondary aim of this study was to shed light on faculty and students' perception of virtual simulation and how it compares to traditional clinical education and face-to-face simulation.

METHOD

The perception of learning needs being met by the three methods of clinical instruction was assessed by employing the Clinical Learning Environment Comparison Survey 2.0 (CLECS 2.0). The CLECS 2.0 tool was developed to better understand how learning needs are being met in in-facility and simulated clinical environments (Leighton, 2015). The instrument was revised in 2020 to include virtual (screen-based) simulation environments (Leighton, 2020). Thus, the CLECS 2.0 assesses the perception of whether the student's learning needs are being met across the three clinical instruction environments. The CLECS 2.0 comprises 28 items that load on six sub-scales, which are communication, nursing process, holism, critical thinking, self-efficacy, and teach-learning dyad.

The CLECS instrument was administered to students and faculty at every prelicensure nursing program in Oregon. The survey instrument was sent to the nursing program deans and directors to distribute to faculty and students within their program. The survey was in the field from November 2, 2022, to December 2, 2022. One hundred eighty-six completed surveys were returned, yielding a four percent response rate; 143 of the CLECS 2.0 surveys were completed by students (response rate = 3.5%), and the remaining 43 were completed by faculty (response rate = 5.6%).

DISCUSSION

The analysis of survey responses shows some surprising results. Faculty members tended to think face-to-face simulation met the learning needs of students the same as traditional clinical experiences across most sub-scales. Faculty perceived face-to-face simulation did not meet the students' learning needs on the communication and holism sub-scales (both sub-scales assess student interactions with patients and their families).

Conversely, the students did not perceive face-to-face simulation in the same light. For each sub-scale, except for one, students felt face-to-face simulation did not meet their needs as well as traditional clinical education. However, students did perceive face-to-face simulation to be effective on the teaching-learning dyad sub-scale; students felt the interactions with faculty in both traditional clinical education and face-to-face simulation were perceived to be similarly beneficial.

However, when examining the perceptions of virtual simulation compared to face-to-face simulation, faculty and students equally thought virtual simulation did not meet the learning needs of students. Faculty and students concurred on every sub-scale of the instrument. Taken with the comparison between traditional clinical and face-to-face simulation, students overall did not feel either modality of simulation met their learning needs as well as traditional clinical experiences.

Generally, the findings from this study contradict findings from studies examining the efficacy of the use of simulation in education. It is unclear why the results from this study differ so dramatically from what one would expect from the literature. One possibility for the variation is based on the technology acceptance model (TAM), which suggests that the user's perception is determined by their negative or positive attitudes towards its usefulness and the ease of use of the technology used (Christensen et al., 2018). In other words, preconceived notions and navigation comfort may impact interpretations of whether the lesson or content met learner needs. The climate of forced change in education expectations during the pandemic may have challenged notions and comfort.

While the idea surrounding the technology acceptance model may explain the perceived inadequacy of virtual simulation across both students and faculty, it does not account for the discrepancy between student and faculty perceptions of the efficacy of face-to-face simulation when compared to traditional clinical learning experiences. While many studies found no differences between these two modalities for either the students or their faculty, students may perceive simulation to be less effective in programs with high faculty turnover, especially among adjunct faculty, and where faculty have little or infrequent experience with simulation (de Rosa, Frost, Ziegler, & Spies, 2023).

However, it remains likely that the observed low response rates for both faculty and students, the sampling method used, and the systematic lack of responses from some nursing programs resulted in some form of nonresponse bias may have affected the results of the survey.

Future work could address this issue by systematically examining the perceptions of simulation modalities in a few schools with differing simulation methods (e.g., high-fidelity vs. low-fidelity) and by better defining students' previous experience with clinical simulation. It is possible that students attending programs with more robust simulation facilities would perceive simulation to better meet the student's learning needs, while those attending programs with minimal simulation facilities would perceive traditional clinical experiences to be superior to either simulation modalities in meeting their clinical learning education needs. A recent study indicates the presence of a facilitator, who is well versed in simulation, along with clinical faculty throughout the simulation experience can lead to an increase in the perceived effectiveness of simulation among students (de Rosa, et al., 2023).

Either way, future research is needed to determine if the results shown in this study are affected by bias or reflect the true perceptions of students and faculty. If these results are shown to be the true perception of students to simulation, then the factors leading to those perceptions must be systematically examined. This would lead to a better understanding of the reason(s) students perceive simulation as being less effective in meeting their learning needs.

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