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Original Article

Nursing Section

Undergraduate Nursing Students' Experiences and Perceptions of Virtual Reality-based Clinical Skills Training in Saudi Arabia: A Qualitative Study

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ABSTRACT

Introduction: Virtual Reality (VR) is increasingly used in nursing education to support clinical skills through immersive and interactive learning. Although evidence of its educational benefits is growing, qualitative research exploring nursing students' experiences of VR-based learning in Saudi Arabia remains limited.

Aim: To explore nursing students' experiences and perceptions of VR-based clinical skills training at King Saud University, Riyadh, Saudi Arabia.

Materials and Methods: A qualitative study was conducted with 11 undergraduate nursing students who had participated in VR-based clinical skills training at King Saud University, Riyadh, Saudi Arabia. Participants were recruited based on predefined eligibility criteria. Data were collected through individual semistructured interviews via Zoom and analysed using Braun and Clarke's reflexive thematic analysis.

Results: Four main themes were identified: VR as an immersive and engaging learning environment; building confidence and clinical readiness; comparing VR with traditional clinical skills training; and challenges and future directions for VR-based nursing education. Participants reported that VR increased engagement, improved their understanding of clinical procedures, and strengthened confidence, clinical judgement, and readiness for practice. They valued repeated practice in a safe environment but emphasised that VR could not reproduce the relational and emotional dimensions of real patient care. Participants therefore preferred a blended approach combining VR with traditional clinical training. Reported challenges included initial unfamiliarity with the technology, occasional temporary dizziness, and the limited range of clinical scenarios available.

Conclusion: Nursing students perceived VR-based clinical skills training as a valuable educational approach that supported learning, confidence, and clinical preparedness. VR may be most beneficial when used as a complementary tool alongside traditional simulation and clinical education rather than as a replacement for direct clinical experience.

Keywords: Baccalaureate, Nursing education, Qualitative research, Simulation

INTRODUCTION

Nursing education increasingly adopts innovative technologies to meet healthcare complexity and prepare clinically competent graduates [1,2]. The Coronavirus Disease-2019 (COVID-19) pandemic reduced access to clinical placements, while patient safety concerns and limited clinical supervision have constrained opportunities for students to practice [3]. VR has emerged as a widely used technology for providing safe, controlled, risk-free environments where students can develop clinical skills, make decisions, and receive feedback [1,4-6]. Immersive VR (IVR) differs from conventional computer-based simulation by placing learners in three-dimensional environments through head-mounted displays and motion-tracking, creating presence and realism that enable interaction with virtual patients in ways resembling actual practice [4,7]. Such experiences align with experiential learning theory and have gained attention for bridging theoretical learning and clinical application [5].

A growing body of evidence supports VR benefits in nursing education. Researchers have reported enhancements in cognitive, psychomotor, and affective outcomes, including improved knowledge retention and skill performance [1,8]. Also, it has been suggested that IVR can equal or surpass traditional simulation methods in the development of clinical skills and patient assessment competencies [9]. Furthermore, studies have showed that students perceive VR as motivating, user-friendly, and effective in enhancing confidence, clinical judgement, and clinical assessment skills [10-13]. Despite advantages, challenges persist, including usability difficulties, cognitive overload, and cybersickness [5,14]. Outcomes also depend on instructional design, orientation, debriefing, and curricular integration [15,16].

Although the evidence is growing, literature has focused on quantitative outcomes such as knowledge gain, usability, and satisfaction, and few studies have qualitatively explored students' experiences and perceptions [15,17]. Evidence from the Middle East and Saudi Arabia remains limited and largely quantitative [17]. As Saudi nursing programs adopt these technologies, students' perspectives provide insight into benefits, challenges, and educational value of VR in local contexts. This qualitative study therefore aimed to explore nursing students' experiences and perceptions of VR-based clinical skills training at King Saud University, Riyadh, Saudi Arabia.

MATERIALS AND METHODS

This study used a qualitative design to explore nursing students' experiences and perceptions of VR-based clinical skills training as this enabled an in-depth exploration of participants' experiences and perceptions. The study was conducted at the College of Nursing, King Saud University (KSU), Riyadh, Saudi Arabia. The VR sessions training that participants attended were delivered during the semester between January and June 2026, and the interviews

and data collection were carried out July 2026. Ethical approval was granted by the King Saud University Institutional Review Board before data collection (KSU-HE-26-0990), and the study followed the Declaration of Helsinki and institutional guidelines on human participant research. Participants were given detailed information about the study's objectives, procedures, risks and benefits, confidentiality measures, and their rights, and were informed that they could withdraw at any time without academic or personal penalty. In addition, recruitment and consent were independent of course's assessment to minimise coercion.

Participants and sampling: The population comprised of Bachelor of Science in Nursing students from adult health nursing courses (acute, chronic, and critical care) with VR-based clinical skills training. Inclusion criteria were registration in the undergraduate nursing program, participation in at least one VR-based clinical skills training session, Arabic or English communication, and consent to participate; students not participating in VR simulation were excluded. Course coordinators emailed students an invitation outlining objectives, methodology, eligibility criteria, and voluntary participation. Eligible students gave informed consent before data collection.

Sample size: The sample size was guided by information power rather than statistical power calculation, which does not apply to qualitative research [18]. Given the aim, a homogeneous sample who had completed the same VR training and focused interviews, a small sample was sufficient, and recruitment continued until the team judged accounts held enough information power. Of 20 students assessed for eligibility, 11 met inclusion criteria and took part; nine declined or were unavailable. All 11 completed the interview and none withdrew.

The Virtual Reality (VR) sessions: The sessions used standalone Meta Quest 2 headsets (Meta Platforms, Inc., Menlo Park, CA, USA), providing a fully immersive, head-mounted environment. The software was SkillupVR (Simlogic AB, Sweden), and a single patient scenario combined two core clinical competencies: a systematic head-to-toe physical assessment and the collection and interpretation of vital signs (temperature, pulse, respiratory rate, blood pressure, and oxygen saturation) for a virtual patient with a defined clinical condition. Two faculty-supervised sessions of three hours were conducted across the semester.

Data collection: Data were collected through semistructured interviews via Zoom, using an open-ended interview guide that ensured consistency while allowing participants to describe experiences with VR-based clinical skills training. The interview guide was developed following a literature review on VR simulation, simulation-based learning, and nursing education [4,15,17], and comprised open-ended questions. It was reviewed by an expert panel in nursing and VR education, and minor revisions to wording and clarity were made before data collection.

Semistructured interviews: Interviews lasted 25 to 40 minutes and were audio-recorded with participants' permission. Conducted in Arabic by the principal investigator, they were translated into English by an independent expert and back-translated by bilingual researchers to ensure accuracy. The principal investigator, not a faculty member and with no relationship to students, is a PhD student and registered nurse with 16 years of experience across nursing schools in Saudi Arabia; she introduced herself in the email and explained the study and their rights. Only the interviewer and participant were present during each interview.

Data analysis: Data were analysed using reflexive thematic analysis, following Braun and Clarke's six-phase approach [19,20]. Analysis began with familiarisation through repeated listening to recordings and reading transcripts. Transcripts were coded inductively, line by line, using participants' accounts rather than predetermined concepts; related codes were grouped into preliminary themes, reviewed and refined against coded extracts and the full dataset, and each final theme was defined, named, and illustrated with representative quotations. Coding was conducted manually and discussed regularly among the research team. These discussions supported reflexive engagement with the data, consideration of alternative interpretations, and refinement of developing themes rather than establishing inter-coder agreement.

Rigour and reflexivity: Reflexivity informed research stages, addressing researchers' backgrounds, experiences, and assumptions in data collection and interpretation. The team comprised academics experienced in nursing education, simulation-based learning, and qualitative methods. Although this facilitated study, reflexive notes documented assumptions, methodological decisions, and evolving interpretations to minimise bias. The quality was guided by Braun and Clarke's criteria for reflexive thematic analysis [19,20]. Themes were grounded in participants' accounts, illustrated with verbatim extracts, and participants confirmed interpretations reflected experiences. Reporting followed the Consolidated Criteria for Reporting Qualitative Research (COREQ), a 32-item checklist on team and reflexivity, study design, and analysis and findings [21].

RESULTS

Participant characteristics: Eleven male undergraduate nursing students participated (22±0.77 years), and all had completed VR-based clinical skills training. Most were senior students able to compare VR with the traditional clinical education they had experienced earlier. Participants reported differing prior exposure to VR (six students had little or no prior VR exposure).

The analysis produced four themes and nine subthemes on participant experiences of VR-based clinical skills training. Themes progressed from virtual experience to effects on confidence and readiness, comparison with traditional training, and challenges and proposed directions.

Theme 1: An Immersive and Engaging Learning Environment

This theme describes participants' experience. They described VR as immersive, interactive, and close to practice, linking it to engagement, clearer understanding of procedures, and safe repeated practice. This pattern was consistent regardless of prior VR experience, suggesting immersion did not depend on familiarity.

Realistic, interactive learning that improved understanding of clinical procedures: Participants positioned themselves as active learners, not passive recipients of classroom instruction. The realism of the environment, sounds, and responses made them feel inside a hospital, in the wider setting (P2) and in the patient responding to their actions (P1).

"The experience was very realistic in terms of the sounds, the environment, and even the patient's responses. I felt as if I was actually inside the hospital." (P2).

The environment let participants observe, practice, and apply assessment skills in a way that clarified concepts difficult to grasp from lectures alone. A benefit was exposure to components laboratories could not reproduce, such as auscultation and a complete nursing assessment.

"The VR assessment was much better because I could hear the lung sounds clearly and perform a complete patient assessment…. It felt closer to what we would actually do in practice." (P1).

Safe repetition without fear of harm: Participants valued repeating procedures safely, without fear of harming patients or being judged. Unlike clinical placements, where practice opportunities may be limited, VR offered the practice they needed, a feature several considered valuable.

"The best thing about VR is that you can repeat the procedure as many times as you need…. If you make a mistake, you simply try again until you feel confident." (P3).

Theme 2: Building Confidence and Clinical Readiness

This theme shows how participants linked VR practice to preparedness for patient care. They reported confidence, less anxiety, a narrower theory-practice gap, and stronger clinical judgement. These gains were reported by participants with little prior VR experience and those familiar with the technology.

Greater confidence in clinical skills: Participants felt better prepared after simulations. Rehearsing procedures in a clinical-like environment reduced uncertainty, and several attributed confidence to performing the procedure before meeting a real patient.

"After using VR, I felt more prepared before entering the clinical setting…. I already knew the steps and what I was expected to do, which made me much more confident." (P2).

Bridging theory and practice: Participants described VR as a stage between classroom theory and clinical work. Practising theory in realistic scenarios before placement reduced uncertainty in clinical environments.

"When we first enter the hospital, there is usually a gap between what we learn in class and what we see in practice… VR helped reduce that gap because it gave us an idea of what to expect before going to the clinical setting." (P6).

Developing clinical judgement: Realistic scenarios required participants to assess patients, recognise cues, identify problems, and choose interventions rather than follow fixed steps to judge the underlying problem.

"The virtual patient scenarios made me think about the patient's condition and identify what the problem was before deciding what intervention was needed." (P4).

Theme 3: Comparison with Traditional Training

This theme reports participants' positioning of VR against conventional laboratory and clinical teaching. They identified clear advantages in interactivity and self-paced learning, yet equally stressed VR's limits and inability to stand alone.

Interactivity and Self-paced learning: Participants valued conventional teaching but described VR as more engaging and learner centered. They contrasted manikins' limited responses with virtual patients that reacted to their actions.

"The difference is that VR is much more interactive… In the skills lab, we usually practice on manikins, but in VR you feel like you are actually dealing with a patient and making decisions." (P2).

Preference for a blended approach: Despite enthusiasm, participants agreed VR should complement traditional clinical education, not replace it, because it still could not fully reproduce the emotional and interpersonal dimensions of real care.

Another student stated "Neither method should replace the other. Combining VR with traditional clinical training would provide the best learning experience for nursing students." (P8).

Theme 4: Challenges and Future Directions

This theme reports difficulties participants encountered and proposed changes. A smaller group raised challenges, including unfamiliarity with the technology, mild discomfort, and limited scenarios. Calls for scenarios reflected the intervention's single-scenario design, not general preference.

Technical challenges and the influence of prior technology experience: Participants found VR unfamiliar at first and needed time to learn the hardware and controls. Most adapted quickly, and the adjustment period was short.

"The only challenge I noticed was some slight dizziness when using the headset for the first time, but it disappeared after I became accustomed to it." (P11).

Prior technology experience shaped participants' adaptation. Those familiar with tools or gaming described smoother transitions and could focus on clinical content rather than operating system.

"I had used VR before for gaming, so it was easier for me to adapt. I already knew how to interact with the virtual environment, which allowed me to focus on the clinical scenario itself." (P8).

Recommendations for expanding VR: Participants supported continued VR integration and recommended introducing it earlier in the program so learners could benefit throughout their education, not only during later stages.

"The current scenario is useful, but I would like to see more cases from different specialties and more complex patient situations." (P6).

DISCUSSION

This study explored nursing students' experiences of VR-based clinical skills training at King Saud University, producing four themes: immersive learning, confidence and readiness, comparison with traditional training, and challenges. Participants valued VR for engagement, practice preparation, and easing the transition to clinical work while recognising its limits. These findings add to evidence on immersive technology in nursing education.

Participants experienced VR as immersive and engaging, valuing it less for appearance than for what it required. The findings align with evidence that VR creates presence and realism, allowing learning to resemble practice [4,5,7], and that students perceive it as motivating and conducive to participation [10]. VR clarified encounters by making links between assessment, decision, and intervention visible, consistent with evidence that it enhances learning and integrates theory with practice [1,8]. Participants valued repeating procedures without risk to patients, consistent with studies showing VR supports repeated practice and learning from mistakes [10,15]. Despite the environmental realism of VR, researchers reported that students perceived the lack of realistic tactile and force feedback and limited fine motor control as barriers to practicing clinical skills requiring manual precision [22,23].

Participants reported increased confidence and reduced anxiety after training, regardless of prior VR experience, largely because they rehearsed a specific expected performance. This aligns with evidence that immersive simulation improves self-confidence, self-efficacy, and readiness for practice [2,6,12]. VR also helped bridge the theory-practice gap by transforming abstract knowledge into rehearsed clinical experience, consistent with studies linking virtual simulation to clinical application and readiness for realistic patient situations [3,13]. Dynamic scenarios further promoted clinical judgement by requiring participants to interpret cues, identify problems, and prioritise interventions, supporting evidence that immersive simulation strengthens critical thinking and clinical reasoning [5,24].

Participants found VR more interactive than manikin-based simulation, valuing its realistic patient responses and greater learner control, consistent with evidence that VR enhances realism and engagement [4,5,10]. However, they preferred a blended approach rather than using VR as a substitute for clinical education. VR was considered useful for technical and procedural learning but limited in reproducing authentic patient interaction, communication, and professional relationships, supporting recommendations that it complement rather than replace traditional simulation and clinical placement [25,26].

A smaller group reported initial unfamiliarity and mild, temporary dizziness, consistent with known technological barriers and cybersickness in IVR. Consistent with the literature, researchers

found that unfamiliarity with VR technology could lead to frustration, distraction, and cognitive overload, particularly when orientation was insufficient [5,14,27]. While these difficulties diminished with use and support, the limited range of clinical scenarios represented a structural constraint requiring expansion of the intervention. Prior technological experience affected adaptation speed but not eventual comfort, supporting evidence that technological readiness facilitates VR acceptance [16,27]. Participants therefore recommended earlier integration, more diverse scenarios, and broader use across specialties, consistent with evidence supporting systematic, long-term VR integration in nursing education [15,16,26].

The findings suggest that VR can provide a safe and engaging environment that supports students' confidence, clinical judgement, and readiness for practice. However, it should complement rather than replace traditional clinical education. Combining VR with simulation laboratories, skills sessions, and clinical placements may strengthen the connection between theory and practice. Effective implementation should also include orientation and technical support to reduce initial difficulties, alongside diverse VR scenarios that expose students to a broader range of clinical situations and decision-making opportunities.

Limitation(s)

The study had several limitations. It was conducted at a single institution with a small sample of 11 undergraduate male nursing students, which may limit transferability to other settings and populations. Although the sample provided sufficient information power, a larger and more diverse sample may have captured additional perspectives. Participants also had varying levels of prior VR exposure, which may have influenced their experiences. In addition, the intervention included only one patient scenario, limiting exposure to different clinical conditions. Finally, the study focused on self-reported experiences and perceptions rather than objectively measured learning outcomes or clinical performance.

CONCLUSION(S)

This study explored nursing students' experiences and perceptions of VR-based clinical skills training at King Saud University. Students perceived VR as an immersive, engaging tool that improved their understanding of clinical procedures, built confidence, developed clinical judgement, and supported the transition from theory to practice, with repeated practice in a safe environment especially valued. They regarded initial unfamiliarity and mild dizziness as temporary and identified the single patient scenario as the main limitation. While valuing VR for technical and procedural learning, students saw direct patient contact as essential for relational and professional skills, and therefore recommended a blended model. VR-based training is a valuable complement to, but not a replacement for, traditional clinical education, and its benefits are best realised through wider, structured integration across the nursing curriculum.

Building on these findings, future research should examine VR using objective outcomes. These may include knowledge, clinical competence, judgement, critical thinking, psychomotor skills, and performance. Studies should also investigate the effectiveness of combining VR with other educational activities, such as simulation laboratories, clinical skills sessions, and clinical placements. Larger, multi-institutional studies with diverse samples, including female students, are needed.

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REFERENCES

[1] Liu K, Zhang W, Li W, Wang T, Zheng Y. Effectiveness of virtual reality in nursing education: A systematic review and meta-analysis. BMC Med Educ. 2023;23(1):710. Doi: 10.1186/s12909-023-04662-x.

[2] Shorey S, Ang E, Yap J, Ng ED, Lau ST, Chui CK. A virtual counseling application using artificial intelligence for communication skills training in nursing education: Development study. J Med Internet Res. 2019;21(10):e14658. Doi: 10.2196/14658.

[3] Kim MJ, Kang HS, De Gagne JC. Nursing students' perceptions and experiences of using virtual simulation during the COVID-19 pandemic. Clin Simul Nurs. 2021;60:11-17. Doi: 10.1016/j.ecns.2021.06.010.

[4] Bauce K, Kaylor MB, Staysniak G, Etcher L. Use of theory to guide integration of virtual reality technology in nursing education: A scoping study. J Prof Nurs. 2023;44:01-07. Doi: 10.1016/j.profnurs.2022.10.003.

[5] Bradley CS, Aebersold M, DiClimente L, Flaten C, Muehlbauer MK, Loomis A. Breaking boundaries: How immersive virtual reality is reshaping nursing education. J Nurs Regul. 2024;15(2):28-37. Doi: 10.1016/S2155-8256(24)00053-X.

[6] Choi J, Thompson CE, Choi J, Waddill CB, Choi S. Effectiveness of immersive virtual reality in nursing education: Systematic review. Nurse Educ. 2022;47(3):E57-E61. Doi: 10.1097/NNE.0000000000001117.

[7] Cypress BS, Caboral-Stevens M. "Sense of presence" in immersive virtual reality environment: An evolutionary concept analysis. Dimens Crit Care Nurs. 2022;41(5):235-45. Doi: 10.1097/DCC.0000000000000538.

[8] Huai P, Li Y, Wang X, Zhang L, Liu N, Yang H. The effectiveness of virtual reality technology in student nurse education: A systematic review and meta-analysis. Nurse Educ Today. 2024;138:106189. Doi: 10.1016/j.nedt.2024.106189.

[9] Berg H, Steinsbekk A. Is individual practice in an immersive and interactive virtual reality application non-inferior to practicing with traditional equipment in learning systematic clinical observation? A randomized controlled trial. BMC Med Educ. 2020;20:123. Doi: 10.1186/s12909-020-02030-7.

[10] Mäkinen H, Haavisto E, Havola S, Koivisto J. Graduating nursing students' user experiences of the immersive virtual reality simulation in learning: A qualitative descriptive study. Nurs Open. 2023;10(5):3210-19. Doi: 10.1002/nop2.1571.

[11] Shah M, Gouveia C, Babcock B. Undergraduate nursing students' experiences and perceptions of self-efficacy in virtual reality simulations. In: 2022 8th International Conference of the Immersive Learning Research Network (iLRN). IEEE; 2022. p. 1-7. Doi: 10.23919/iLRN55037.2022.9815933.

[12] Stenseth H, Reime M, Sundfær H, Olaussen C. Nursing students' perceptions of the ease of use and usefulness of immersive virtual reality simulation: A Mixed-methods study. SAGE Open Nurs. 2025;11:23779608251356599. Doi: 10.1177/23779608251356599.

[13] Chang W, Lin CC, Crilly J, Lee HL, Chen LC, Han CY. Virtual reality simulation for undergraduate nursing students for care of patients with infectious diseases: Mixed methods study. JMIR Med Educ. 2025;11:e64780. Doi: 10.2196/64780.

[14] Erbaş A, Akyüz E, Giustivi D, Privitera D. Two important factors in virtual reality simulations: Nursing students' experiences of cybersickness and sense of presence. Clin Simul Nurs. 2025;106:101787. Doi: 10.1016/j.ecns.2025.101787.

[15] Harder N, Turner S, Workum K. Beyond the pilot: Nursing students' experiences with curricular integration of virtual reality simulation. Clin Simul Nurs. 2026;111:101893. Doi: 10.1016/j.ecns.2025.101893.

[16] Chen PJ. Learning experiences and usability perceptions of an immersive virtual reality simulation for cardiotocography interpretation education: A qualitative-dominant mixed methods inquiry. BMC Nurs. 2026;25(1):113. Doi: 10.1186/s12912-025-04126-1.

[17] AlMekkawi M, ElKhalil R, Aldawsari A, Qatouni F, Pandarakutty S, Nalubega S, et al. Emerging teaching methods in undergraduate nursing education (2015-2025): A systematic mapping review. Nurse Educ Today. 2026;166:107218. Doi: 10.1016/j.nedt.2026.107218.

[18] Malterud K, Siersma VD, Guassora AD. Sample size in qualitative interview studies: Guided by information power. Qual Health Res. 2016;26(13):1753-60. Doi: 10.1177/1049732315617444.

[19] Braun V, Clarke V. One size fits all? What counts as quality practice in (reflexive) thematic analysis? Qual Res Psychol. 2021;18(3):328-52. Doi: 10.1080/14780887.2020.1769238.

[20] Braun V, Clarke V. Thematic analysis: A practical guide. London: SAGE Publications; 2022.

[21] Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. Int J Qual Health Care. 2007;19(6):349-57. Doi: 10.1093/intqhc/mzm042.

[22] Kiegaldie D, Shaw L. Virtual reality simulation for nursing education: Effectiveness and feasibility. BMC Nurs. 2023;22(1):488. Doi: 10.1186/s12912-023-01639-5.

[23] Kim HY. Validating the effectiveness of a VR-based and haptic technology-based operating room simulation program among nursing students. Comput Inform Nurs. 2026;44(8):e01452. Doi: 10.1097/CIN.0000000000001452.

[24] Dubovi I. Cognitive and emotional engagement while learning with VR: The perspective of multimodal methodology. Comput Educ. 2022;183:104495. Doi: 10.1016/j.compedu.2022.104495.
[25] Hoff M, Jensen JK. Nurses' perceptions about the use of virtual reality simulation to develop competencies in managing violent and threatening behaviours: A qualitative study. BMC Nurs. 2026;25(1):135. Doi: 10.1186/s12912-026-04296-6.
[26] Sharma V, Park S, Voinescu A, Jacobs C. Medical students' experiences with virtual reality simulation training: Qualitative study. JMIR Med Educ. 2026;12:e74301. Doi: 10.2196/74301.
[27] Liu K, Han F, Li X, Fu W, Zheng Y, Gao X. Participating experience of virtual reality teaching among nursing students: A meta-synthesis of qualitative studies. BMC Nurs. 2025;24(1):315. Doi: 10.1186/s12912-025-02941-0.

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