

Clinical Readiness of Nursing Students in Oman: A Sequential Explanatory Mixed-Methods Study

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Abstract:

Clinical readiness among nursing students is a critical determinant of safe and effective patient care. Despite structured theoretical and clinical education, gaps in clinical competence remain a global concern. This study aimed to assess the readiness of nursing students for clinical practice in Oman and to identify factors influencing their readiness. A sequential explanatory mixed-methods design was employed. The quantitative phase was conducted between September 2022 and June 2023 and involved a cross-sectional survey of 235 final-year nursing students from different branches of Oman College of Health Sciences using the Casey-Fink Readiness for Practice Survey. Data were analyzed using descriptive and inferential statistics. The subsequent qualitative phase included semi-structured interviews with 16 students to further explain the quantitative findings, and the data were analyzed using qualitative content analysis. The overall level of clinical readiness was moderate (mean = 2.71 ± 0.34). Higher confidence was reported in communication and problem-solving skills, while lower confidence was observed in patient safety, documentation, and recognition of clinical deterioration. No statistically significant associations were found between readiness and demographic variables. A significant negative correlation was identified between readiness and GPA ($r = -0.160$, $p = 0.014$). Qualitative findings revealed three main themes: enhancing self-confidence, progressive learning experiences, and the need for increased hands-on clinical practice. Integration of the quantitative and qualitative findings indicated that limited clinical exposure, COVID-19-related disruptions, insufficient supervision, and resource constraints negatively influenced clinical readiness. Although nursing students demonstrated moderate readiness for clinical practice, important gaps remain. Strengthening clinical training, supervision, and experiential learning is essential to enhance preparedness for professional nursing practice.

Keywords: Nursing students, Clinical readiness, Mixed-methods, Clinical education, Middle East.

1. Introduction

Nursing education plays a fundamental role in preparing competent healthcare professionals capable of delivering safe, evidence-based, and patient-centered care. As healthcare systems become increasingly complex, nursing graduates are expected to demonstrate not only sound theoretical knowledge but also clinical judgment, technical competence, effective communication, adaptability, and professional confidence before entering professional practice. Clinical readiness is a multidimensional construct that encompasses the integration of knowledge, psychomotor skills, clinical reasoning, communication, professional behaviour, and self-confidence required for safe and effective patient care (Casey et al., 2011; Kavanagh & Sharpnack, 2021). Recent evidence further conceptualizes clinical readiness as an essential outcome of undergraduate nursing education that reflects students' preparedness to assume professional responsibilities in increasingly complex healthcare environments (Natarajan et al., 2026; Al-Marzouqi et al., 2025).

Benner's From Novice to Expert theory provides an important theoretical framework for understanding the development of clinical readiness (Benner, 1984; Benner et al., 2010). According to Benner, nursing competence develops progressively through experiential learning and repeated exposure to authentic clinical situations rather than through theoretical instruction alone. Undergraduate nursing students generally function at the novice or advanced beginner stage, where structured supervision, reflective learning, and meaningful clinical experiences



are essential for developing competence and confidence. Therefore, clinical readiness reflects students' progression toward competent professional practice through the integration of theoretical knowledge, clinical experience, and reflective practice.

The transition from academic education to professional nursing practice is widely recognized as one of the most challenging stages in a nurse's professional development. Duchscher (2009) described this transition as "reality shock," during which newly graduated nurses frequently experience uncertainty, stress, and difficulty adapting to the complexity of real clinical environments. Despite advances in nursing curricula, many graduates continue to report feeling insufficiently prepared for independent practice. Previous studies have consistently demonstrated moderate levels of readiness among nursing students and newly graduated nurses, particularly regarding clinical decision-making, prioritization of care, patient safety, documentation, and recognition of deteriorating patients (Missen et al., 2016; Kavanagh & Sharpnack, 2021). More recent investigations continue to report moderate readiness among senior nursing students, suggesting that strengthening the transition from education to practice remains a global priority (Alruwaili et al., 2024).

Several educational and clinical factors influence students' readiness for professional practice. Clinical exposure is considered one of the strongest determinants because repeated hands-on experiences enable students to translate theoretical knowledge into competent clinical performance while building confidence and professional judgement (Benner et al., 2010). Similarly, effective clinical supervision, mentorship, and constructive feedback facilitate students' transition into professional practice (Henderson et al., 2012). Supportive clinical learning environments characterized by positive staff attitudes, effective communication, psychological safety, and structured guidance have also been shown to improve students' competence, confidence, and sense of belonging (Levett-Jones et al., 2009). Conversely, inadequate supervision, limited opportunities for direct patient care, and negative clinical experiences may hinder competency development and reduce readiness for independent practice (Flott & Linden, 2016).

Competency-based nursing education has become increasingly emphasized worldwide as a strategy to ensure graduates possess the knowledge, skills, clinical judgement, and professional behaviours required for safe practice. Contemporary nursing curricula emphasize progressive achievement of measurable competencies through active learning, simulation, clinical immersion, and continuous assessment rather than reliance on theoretical knowledge alone. Such educational approaches aim to enhance graduates' readiness to meet the demands of increasingly complex healthcare systems.

Simulation-based learning has become an important component of contemporary nursing education by providing opportunities to develop psychomotor skills, communication, teamwork, and clinical decision-making within a safe learning environment. Although high-fidelity simulation effectively enhances competence, it cannot fully replicate the complexity of authentic patient care, particularly interpersonal communication, emotional engagement, ethical decision-making, and unpredictable clinical situations. Consequently, simulation should complement rather than replace direct clinical experience (Cant & Cooper, 2020).

Global healthcare challenges, including increasing patient complexity, rapid technological advancement, workforce shortages, and heightened patient safety expectations, have further reinforced the need for practice-ready nursing graduates (World Health Organization, 2020). The COVID-19 pandemic introduced additional challenges by substantially disrupting nursing education worldwide. Restrictions on clinical placements and increased reliance on online learning and virtual simulation reduced opportunities for direct patient care and experiential learning. Although conventional clinical placements have largely resumed, evidence suggests that the educational consequences of the pandemic may persist through reduced clinical confidence, fewer opportunities for experiential learning, and greater dependence on simulation-based education (Almadani et al., 2024).

Within the Middle East, studies continue to report moderate levels of clinical readiness among nursing students while emphasizing the importance of clinical learning environments, supervision, and internship experiences in facilitating successful transition to professional practice. Recent studies conducted in Saudi Arabia reported that most nursing interns demonstrated moderate readiness for professional practice and highlighted the importance of structured clinical education, supportive preceptorship, and progressive clinical experiences in developing professional competence, findings that are consistent with Benner's theoretical framework (Alruwaili et al., 2024).

In Oman, nursing education has undergone substantial development through competency-based curricula delivered by higher education institutions in collaboration with Ministry of Health clinical training sites. Nevertheless, clinical education remains influenced by variations in clinical placement opportunities, availability of experienced preceptors, and healthcare service demands. Despite these contextual characteristics, empirical evidence examining nursing students' readiness for professional practice in Oman remains limited. A recent Omani study similarly reported moderate readiness among senior nursing students and highlighted the need to strengthen clinical preparation before graduation (Natarajan et al., 2026; Al-Marzouqi et al., 2026).

Therefore, this study aimed to provide a comprehensive understanding of nursing students' readiness for clinical practice in Oman using a sequential explanatory mixed-methods design. Guided by Benner's From Novice to Expert theory, the study integrated quantitative findings with qualitative experiences to explain how educational, clinical, and contextual factors shape students' readiness for professional practice. The findings are expected to inform nursing education, curriculum development, clinical training, and workforce preparation in Oman and other Middle Eastern healthcare settings.

2. Materials and Methods

2.1 Study Design

This study employed a sequential explanatory mixed-methods design, consisting of an initial quantitative phase followed by a qualitative phase. The quantitative phase was conducted first to assess the level of clinical readiness among final-year nursing students and identify associated factors. The subsequent qualitative phase was undertaken to explain and expand upon the quantitative findings by exploring students' experiences and perceptions in greater depth. Integration of the quantitative and qualitative findings provided a comprehensive understanding of nursing students' readiness for clinical practice. The study was reported in accordance with the Good Reporting of A Mixed Methods Study (GRAMMS) recommendations to enhance methodological rigor and transparency.

2.2 Study Setting

The study was conducted at the Oman College of Health Sciences (OCHS), which has multiple campuses across Oman. Final-year undergraduate nursing students from different OCHS branches were invited to participate. These students had completed most of their theoretical coursework and clinical placements and were preparing to transition into professional nursing practice.

2.3 Quantitative Phase

2.3.1 Study Design and Participants

A descriptive cross-sectional survey was conducted among final-year nursing students enrolled at different branches of Oman College of Health Sciences.

2.3.2 Sample Size and Sampling

A non-probability convenience sampling technique was used to recruit final-year nursing students from different branches of Oman College of Health Sciences. All eligible students who met the inclusion criteria during the study period were invited to participate. A total of 235 students completed the survey. This sample size was considered adequate to achieve the study objectives and exceeded the sample sizes reported in several comparable studies investigating nursing students' clinical readiness and transition to practice (Casey et al., 2011; Missen et al., 2016; Kavanagh & Sharpnack, 2021). Although convenience sampling may introduce selection bias, it enabled the recruitment of students from multiple campuses and provided sufficient statistical power for the planned descriptive and inferential analyses.

2.3.3 Instrument

Data were collected using the Casey-Fink Readiness for Practice Survey, a validated instrument that measures nursing students' readiness across domains including communication, problem-solving, clinical competence, patient safety, and professional role development. Responses are recorded on a Likert scale, with higher scores indicating greater readiness for professional practice. The internal consistency of the instrument in the present study was good, with a Cronbach's alpha coefficient of 0.805.

2.3.4 Data Collection

Data were collected using a self-administered questionnaire between September 2022 and June 2023. Participation was voluntary, and completion of the questionnaire indicated informed consent.

2.3.5 Quantitative Data Analysis

Quantitative data were entered into Microsoft Excel and analyzed using IBM SPSS Statistics version 20. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated. Independent-samples *t*-tests and one-way analysis of variance (ANOVA) were used to compare readiness scores across demographic characteristics. Pearson's correlation coefficient was used to examine the relationship between readiness and grade point average (GPA). Statistical significance was established at $p < 0.05$.

2.4 Qualitative Phase

2.4.1 Sampling

Following completion of the quantitative phase, purposive sampling was employed to recruit participants who could provide rich information regarding their experiences of clinical readiness. Sixteen nursing students from the quantitative phase participated in semi-structured interviews. Recruitment continued until data saturation was achieved, defined as the point at which no new codes, categories, or themes emerged during successive interviews. Saturation was determined through concurrent data collection and analysis.

2.4.2 Interview Guide

A semi-structured interview guide was developed following a review of the relevant literature and the quantitative findings, as well as the study objectives. The interview guide was reviewed by experts in nursing education and qualitative research to establish content validity. Minor revisions were made to improve clarity and sequencing of questions. The guide was pilot-tested with two nursing students who met the inclusion criteria but were not included in the final analysis.

2.4.3 Data Collection

Semi-structured interviews were conducted through secure online platforms. Each interview lasted approximately 30–45 minutes, was audio-recorded with participants' permission, and transcribed verbatim for analysis.

2.4.4 Qualitative Data Analysis

Qualitative data were analyzed using conventional content analysis. Analysis involved repeated reading of transcripts, open coding, grouping similar codes into categories, and developing overarching themes that reflected participants' experiences of clinical readiness. Coding and analysis were conducted concurrently with data collection to facilitate assessment of data saturation.

2.5 Integration of Quantitative and Qualitative Findings

Integration occurred during the interpretation stage using a joint display approach. The quantitative findings informed the development of the qualitative interview guide by identifying areas requiring further exploration. Following separate analyses of both datasets, qualitative themes were systematically compared with quantitative findings to identify areas of convergence, complementarity, and explanation. This integration enabled qualitative

findings to explain and contextualize the quantitative results, providing a more comprehensive understanding of nursing students' readiness for clinical practice.

2.6 Ethical Considerations

Ethical approval was obtained from the Research Ethics Review Committee (RERAC), Ministry of Health, Oman (MOH/CSR/22/25970). Participation was voluntary, and electronic informed consent was obtained before data collection. Confidentiality and anonymity were maintained throughout the study, with no personally identifiable information collected. All data were stored securely and used exclusively for research purposes.

3. Results

3.1 Quantitative Findings

The quantitative phase included 235 final-year nursing students from different branches of the Oman College of Health Sciences. Overall, participants demonstrated a moderate level of clinical readiness for professional practice, with a composite mean score of 2.71 ± 0.34 (Table 1).

Domain-specific analysis (Table 2) indicated that students reported relatively higher confidence in communication with patients and healthcare professionals (Mean = 2.97), delegation and teamwork (Mean = 2.97), problem-solving ability (Mean = 3.01), and satisfaction with nursing as a career (Mean = 3.16). In contrast, lower levels of readiness were observed in patient safety (Mean = 1.97), recognition of changes in patients' conditions (Mean = 1.98), documentation and reflective practice (Mean = 1.97), and management of ethical challenges (Mean = 2.00). These findings suggest that although students felt relatively confident in interpersonal communication and routine clinical responsibilities, they were less confident in more complex clinical competencies requiring independent clinical judgment, patient safety, and clinical decision-making.

Table 1. Overall Clinical Readiness Score (N = 235)

Variable	Mean	Standard Deviation
Overall Readiness Score	2.71	0.34

Table 2. Domain-Specific Readiness Scores

Domain	Mean (1–4)	Interpretation
Communication with patients and healthcare professionals	2.97	Moderate
Delegation and teamwork	2.97	Moderate
Problem-solving ability	3.01	High
Satisfaction with nursing career	3.16	High
Patient safety	1.97	Low
Recognition of changes in patient condition	1.98	Low
Documentation and reflective practice	1.97	Low
Ethical challenges management	2.00	Moderate*

Analysis of demographic characteristics revealed no statistically significant differences in readiness scores according to age, gender, or previous clinical experience ($p > 0.05$) (Table 3). However, Pearson's correlation analysis demonstrated a small but statistically significant negative correlation between clinical readiness and grade

point average (GPA) ($r = -0.160, p = 0.014$), indicating that higher academic performance was not associated with greater perceived clinical readiness (Table 4).

Table 3. Comparison of Readiness by Demographic Variables

Variable	p-value	Significance
Age	> 0.05	Not significant
Gender	> 0.05	Not significant
Clinical experience	> 0.05	Not significant

Table 4. Correlation between Readiness and GPA

Variable	r-value	p-value	Interpretation
Readiness vs GPA	-0.160	0.014	Significant negative correlation

3.2 Qualitative Findings

To explain the quantitative findings, semi-structured interviews were conducted with 16 nursing students. Analysis of the interview data generated three interrelated themes describing students' experiences of developing clinical readiness.

Theme 1. Enhancing Self-Confidence

Participants described self-confidence as a fundamental component of clinical readiness. Confidence developed gradually through repeated opportunities to perform clinical skills independently, interact with patients, and manage authentic clinical situations. Conversely, limited clinical exposure reduced confidence and increased anxiety about making mistakes or assuming professional responsibilities.

Theme 2. Progressive Learning Experiences

Students emphasized that clinical readiness developed through progressive learning experiences supported by effective clinical supervision, constructive feedback, and collaboration with peers and clinical instructors. Participants reported that gradually increasing responsibility during clinical placements enabled them to strengthen both competence and confidence while preparing for independent professional practice.

Theme 3. Need for More Hands-On Clinical Practice

The most prominent theme reflected students' perceptions that they required greater opportunities for direct clinical practice before graduation. Participants reported that reduced clinical placements during the COVID-19 pandemic, insufficient opportunities to perform procedures independently, inconsistent supervision, limited clinical resources, and extensive documentation requirements restricted experiential learning and competency development.

3.3 Integration of Qualitative and Quantitative Findings

Integration of the quantitative and qualitative findings provided a more comprehensive understanding of nursing students' readiness for clinical practice. As presented in Table 5, the qualitative findings complemented and

explained the quantitative results. The moderate overall readiness identified in the quantitative phase was explained by students' reports of limited opportunities for hands-on clinical practice and reduced clinical exposure, particularly during the COVID-19 pandemic.

Similarly, higher quantitative scores in communication, teamwork, and problem-solving were supported by qualitative descriptions of progressive learning experiences, supportive supervision, and peer collaboration, all of which contributed to increased confidence and competence. Conversely, lower scores in patient safety, recognition of clinical deterioration, and documentation were explained by participants' limited exposure to complex clinical situations, inconsistent supervision, and high administrative workload, which restricted opportunities for developing advanced clinical competencies.

Furthermore, the significant negative correlation between GPA and clinical readiness was clarified through participants' emphasis on experiential learning, suggesting that academic achievement alone does not necessarily translate into confidence or preparedness for professional clinical practice. Overall, the integrated findings demonstrate that nursing students' readiness is influenced not only by individual knowledge and abilities but also by educational and systemic factors, including the quality of clinical placements, supervision, and opportunities for experiential learning.

Table 5: Joint Display of Quantitative and Qualitative Findings

Qualitative Themes	Quantitative Findings	Integrated Interpretation
Need for more hands-on practice	Moderate overall readiness (Mean = 2.71 ± 0.34)	The moderate level of readiness is explained by insufficient clinical exposure and limited opportunities for skill application.
Progressive learning experiences	High scores in communication and teamwork	Students' confidence in communication and teamwork is supported by structured learning, peer collaboration, and supportive supervision.
Enhancing self-confidence	High problem-solving ability	Repeated clinical exposure and gradual learning contributed to the development of problem-solving skills and self-confidence.
Need for more hands-on practice	Low scores in patient safety	Limited clinical exposure reduced students' confidence in managing high-risk situations such as patient safety.
Need for more hands-on practice	Low scores in recognizing patient deterioration	Lack of real-life clinical experience limited students' ability to identify and respond to changes in patient conditions.
System challenges (workload, supervision, resources)	Low scores in documentation and reflective practice	Excessive workload and limited guidance contributed to weaker documentation skills and reflective practice.
Shared learning experiences	No significant demographic differences	Similar educational and clinical environments resulted in consistent readiness levels across students.
Enhancing self-confidence through experience	Negative correlation between GPA and readiness ($r = -0.160$, $p = 0.014$)	Clinical readiness is more strongly influenced by experiential learning than academic performance alone.

4. Discussion

This sequential explanatory mixed-methods study provides a comprehensive understanding of nursing students' readiness for clinical practice by integrating quantitative and qualitative findings. While the quantitative phase demonstrated a moderate level of clinical readiness, the qualitative findings revealed underlying challenges related to clinical competence, confidence, experiential learning, and the clinical learning environment. The integration of both datasets enabled a more comprehensive interpretation of students' preparedness by explaining not only the

level of readiness but also the factors contributing to it. Guided by Benner's *From Novice to Expert* theory (Benner, 1984; Benner et al., 2010), the findings suggest that readiness develops progressively through experiential learning, repeated clinical exposure, reflective practice, and supportive supervision rather than through theoretical knowledge alone. This interpretation is consistent with recent evidence describing clinical readiness as a multidimensional construct encompassing clinical knowledge, technical skills, communication, critical thinking, professional behaviour, and self-confidence (Labrague et al., 2022).

The moderate level of clinical readiness identified in this study indicates that although students perceived themselves as reasonably prepared for professional practice, important gaps remain in several essential clinical competencies. Students reported greater confidence in communication, teamwork, problem-solving, and satisfaction with nursing as a career, while lower confidence was observed in patient safety, recognition of clinical deterioration, documentation, and management of ethical challenges. These findings are consistent with previous studies reporting that nursing students often demonstrate adequate interpersonal and communication skills but experience greater difficulty in competencies requiring independent clinical judgment and complex decision-making (Suliman et al., 2021). Within Benner's theoretical framework, these findings suggest that students remain at the advanced beginner stage, where competence continues to depend on guided clinical experiences and repeated exposure to authentic patient care situations.

A major finding of this study was the central role of experiential learning in developing clinical readiness. Participants consistently emphasized that repeated opportunities to perform clinical procedures, interact with patients, and assume increasing clinical responsibilities enhanced both competence and confidence. Similarly, the integrated findings demonstrated that limited opportunities for hands-on clinical practice explained the moderate readiness scores observed in the quantitative phase. These findings support previous research demonstrating that direct clinical exposure remains one of the strongest predictors of readiness for professional practice because it enables students to integrate theoretical knowledge with clinical reasoning and practical skills (Suliman et al., 2021). Although simulation-based learning has become an integral component of contemporary nursing education, participants perceived that simulation alone could not fully prepare them for the complexity and unpredictability of real clinical environments. This finding is supported by the INACSL Standards Committee (2021) and Cant and Cooper (2020), who concluded that simulation effectively enhances psychomotor skills and clinical decision-making but should complement rather than replace direct patient care experiences.

The qualitative findings further highlighted several educational and system-level factors influencing clinical readiness, including limited clinical supervision, shortages of qualified clinical instructors, insufficient learning resources, and excessive documentation requirements. These findings help explain the lower quantitative scores observed in patient safety, documentation, and recognition of clinical deterioration. Similar barriers have been reported in studies from Saudi Arabia, Jordan, and other Middle Eastern countries, where limited supervision, high student-to-instructor ratios, and heavy clinical workloads reduced opportunities for meaningful experiential learning (Labrague et al., 2022; Papastavrou et al., 2020). Conversely, supportive clinical supervision, constructive feedback, and collaborative learning environments have consistently been associated with improved confidence, competence, and successful transition to professional practice.

The Omani context provides additional insight into these findings. Nursing students in Oman complete much of their clinical education within Ministry of Health healthcare institutions, where learning opportunities may vary according to patient volume, service demands, availability of experienced preceptors, and clinical workload. While competency-based nursing curricula have strengthened theoretical preparation, variations in clinical placement experiences may influence students' opportunities to develop confidence in complex clinical situations. Consequently, strengthening collaboration between nursing education institutions and clinical practice settings is essential to ensure that all students receive consistent, high-quality experiential learning before graduation.

Participants also described the substantial impact of the COVID-19 pandemic on their clinical education. Reduced clinical placements, restrictions on direct patient contact, and increased reliance on online learning and simulation limited opportunities for experiential learning and skill development. These findings are consistent with previous

studies demonstrating that disruptions during the pandemic negatively affected nursing students' confidence and preparedness for professional practice (Ulenaers et al., 2021; Michel et al., 2021). Although most nursing programs have resumed conventional clinical placements, the educational consequences of the pandemic may extend beyond the immediate disruption. Students whose clinical education occurred during this period may continue to experience reduced confidence and require additional clinical support during their transition into professional practice.

One of the most notable findings of this study was the significant negative correlation between GPA and clinical readiness. Although the relationship was weak, it suggests that academic achievement alone may not accurately reflect students' preparedness for clinical practice. This finding supports previous research indicating that success in academic coursework does not necessarily translate into confidence or competence in complex clinical environments (Kavanagh & Sharpnack, 2021). A possible explanation is that students with higher academic performance may evaluate their own clinical competence more critically, whereas students with greater practical experience may perceive themselves as more clinically prepared despite lower academic achievement. Consistent with Benner's theoretical perspective, competence develops primarily through repeated clinical experiences, reflection, and application of knowledge in authentic practice rather than through academic performance alone. These findings reinforce the importance of competency-based nursing education that integrates theoretical learning with extensive supervised clinical experience.

The integration of quantitative and qualitative findings demonstrated that clinical readiness is influenced by both individual and educational factors. Students' knowledge and communication skills alone were insufficient to ensure readiness for independent practice. Instead, the quality of clinical placements, opportunities for hands-on practice, supportive supervision, constructive feedback, and positive clinical learning environments collectively shaped students' preparedness for professional nursing roles. The qualitative findings therefore complemented the quantitative results by explaining why students who demonstrated moderate readiness continued to report uncertainty regarding patient safety, documentation, and independent clinical decision-making.

The findings have important implications for nursing education in Oman and similar healthcare settings. Nursing programmes should strengthen partnerships with clinical institutions to increase opportunities for supervised experiential learning, enhance preceptorship models, improve instructor-to-student ratios, and ensure consistent exposure to complex clinical situations. Furthermore, competency-based assessment strategies should be integrated throughout undergraduate education to evaluate not only theoretical knowledge but also clinical judgment, patient safety, communication, and professional competence. Such approaches may facilitate students' progression from novice learners towards competent practitioners capable of delivering safe, high-quality patient care.

Overall, this study demonstrates that nursing students exhibited a moderate level of clinical readiness; however, important gaps remain in patient safety, recognition of clinical deterioration, documentation, and independent clinical decision-making. Addressing these gaps requires strengthening experiential learning, improving the quality of clinical supervision, enhancing the clinical learning environment, and continuing to implement competency-based educational strategies. These initiatives will better prepare future nursing graduates to meet the increasingly complex demands of contemporary healthcare systems.

5. Conclusion

This sequential explanatory mixed-methods study demonstrated that nursing students in Oman exhibit a moderate level of clinical readiness for professional practice. Although students reported strengths in communication, teamwork, and problem-solving, important gaps remain in patient safety, recognition of clinical deterioration, documentation, and independent clinical decision-making. The integration of quantitative and qualitative findings showed that these gaps are primarily influenced by limited opportunities for hands-on clinical practice, inconsistent clinical supervision, and challenges within the clinical learning environment. The findings reinforce the importance of experiential learning in developing clinical competence and support competency-based nursing

education that integrates theoretical knowledge with authentic clinical experience. Strengthening partnerships between nursing education institutions and clinical practice settings, enhancing preceptorship and clinical supervision, increasing opportunities for supervised hands-on learning, and implementing competency-based assessment strategies may improve students' readiness for professional practice. The findings provide important implications for nursing education, curriculum development, and healthcare policy in Oman. Investing in high-quality clinical education and supportive learning environments will better prepare nursing graduates to deliver safe, effective, and evidence-based patient care. Future research should evaluate the effectiveness of educational interventions designed to enhance clinical readiness and examine students' transition into professional practice across different healthcare settings.

5.1 Implications for Practice

The findings of this study have important implications for nursing education, clinical practice, and healthcare policy. Strengthening nursing students' readiness for professional practice requires coordinated efforts across educational institutions and clinical settings.

At the educational level, nursing curricula should place greater emphasis on competency-based education that integrates theoretical knowledge with experiential learning. Increasing opportunities for supervised hands-on clinical practice, incorporating structured competency assessments, and using simulation as a complement to, not a replacement for, direct patient care can enhance students' clinical competence, confidence, and decision-making abilities.

Within clinical practice settings, strengthening preceptorship and clinical supervision is essential. Assigning trained clinical preceptors, maintaining appropriate student-to-instructor ratios, and providing regular feedback can facilitate progressive skill development and improve students' preparedness for independent practice. Clinical placements should also provide sufficient exposure to diverse patient populations and complex clinical situations, particularly those involving patient safety, recognition of clinical deterioration, documentation, and ethical decision-making.

Healthcare institutions should foster supportive clinical learning environments by ensuring adequate staffing, access to clinical resources, and effective collaboration between academic faculty and clinical teams. Reducing unnecessary administrative workload during clinical placements may further increase opportunities for direct patient care and experiential learning.

At the policy level, stronger partnerships between nursing education institutions and healthcare organizations are needed to standardize clinical training, strengthen preceptorship programmes, optimize clinical placement experiences, and establish competency-based evaluation frameworks. Such collaborative initiatives can contribute to a more consistent and high-quality clinical education experience for nursing students. Collectively, these strategies have the potential to strengthen clinical readiness, facilitate students' transition into professional practice, and support the preparation of nursing graduates who are competent to deliver safe, effective, and high-quality patient care within increasingly complex healthcare systems.

5.2 Limitations

This study has several limitations that should be considered when interpreting the findings. First, the study was conducted among final-year nursing students from the Oman College of Health Sciences, which may limit the generalizability of the findings to nursing students from other educational institutions or healthcare systems. Differences in curricula, clinical placement models, and institutional resources may influence students' readiness for clinical practice in other settings. Second, the quantitative phase relied on self-reported measures of clinical readiness. Although a validated instrument was used, participants' perceptions may not accurately reflect their actual clinical competence and may be influenced by response or social desirability bias. Third, the qualitative phase included a relatively small sample of 16 participants. However, purposive sampling enabled the selection of information-rich participants, and data collection continued until data saturation was achieved. As with qualitative

research generally, the findings are intended to provide an in-depth understanding of participants' experiences rather than statistical generalization. Fourth, the cross-sectional design of the quantitative phase limits the ability to establish causal relationships between study variables. For example, although a significant association was identified between GPA and clinical readiness, the direction or cause of this relationship cannot be determined. Despite these limitations, the sequential explanatory mixed-methods design represents a major strength of the study. Integrating quantitative and qualitative findings provided a more comprehensive understanding of nursing students' clinical readiness by combining measurable outcomes with detailed explanations of the educational and clinical factors influencing preparedness for professional practice. This integration enhanced the credibility and overall interpretation of the study findings.

Conflict of Interest

The authors declare that there is no conflict of interest.

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الجاهزية السريرية لدى طلبة التمريض في سلطنة عُمان: دراسة بالمنهج المختلط التفسيري التتابعي

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الملخص:

تُعد الجاهزية السريرية لدى طلبة التمريض عاملاً أساسياً لضمان تقديم رعاية صحية آمنة وفعالة للمرضى. وعلى الرغم من توفير برامج تعليمية نظرية وسريرية منظمة، لا تزال الفجوات في الكفاءة السريرية تمثل تحدياً عالمياً. هدفت هذه الدراسة إلى تقييم جاهزية طلبة التمريض للممارسة السريرية في سلطنة عُمان، وتحديد العوامل المؤثرة في مستوى جاهزيتهم. اعتمدت الدراسة المنهج المختلط التفسيري التتابعي (Sequential Explanatory Mixed-Methods Design). وقد نُفذت المرحلة الكمية خلال الفترة من سبتمبر ٢٠٢٢ إلى يونيو ٢٠٢٣، وشملت دراسة مقطعية أجريت على (٢٣٥) طالباً وطالبة من طلبة السنة النهائية في تخصص التمريض من مختلف فروع كلية عُمان للعلوم الصحية، باستخدام استبيان كيسي-فينك للجاهزية للممارسة (Casey-Fink Readiness for Practice Survey). وحُللت البيانات باستخدام الإحصاءات الوصفية والاستدلالية. أما المرحلة النوعية، فقد تضمنت إجراء مقابلات شبه منظمة مع (١٦) طالباً وطالبة بهدف تفسير نتائج المرحلة الكمية بصورة أعمق، وتم تحليل البيانات باستخدام تحليل المحتوى النوعي. أظهرت النتائج أن المستوى العام للجاهزية السريرية كان متوسطاً، بمتوسط حسابي بلغ (٢,٧١ ± ٠,٣٤). وسجل الطلبة مستويات أعلى من الثقة في مهارات التواصل وحل المشكلات، في حين انخفضت مستويات الثقة فيما يتعلق بسلامة المرضى، والتوثيق السريري، والتعرف المبكر على تدهور الحالة السريرية للمريض. كما لم تظهر النتائج وجود علاقات ذات دلالة إحصائية بين مستوى الجاهزية والمتغيرات الديموغرافية. في المقابل، كشفت النتائج عن وجود ارتباط سلبي دال إحصائياً بين الجاهزية السريرية والمعدل التراكمي (GPA)، $(r = -0.160)$ ، $p = 0.014$. وأظهرت نتائج المرحلة النوعية ثلاثة محاور رئيسية، تمثلت في: تعزيز الثقة بالنفس، والخبرات التعليمية التدريجية، والحاجة إلى زيادة التدريب السريري العملي المباشر. كما أوضح التكامل بين نتائج المرحلتين الكمية والنوعية أن محدودية التعرض السريري، والاضطرابات الناجمة عن جائحة كوفيد-١٩، وعدم كفاية الإشراف السريري، ونقص الموارد، كانت من أبرز العوامل التي أثرت سلباً في جاهزية الطلبة للممارسة السريرية. وتخلص الدراسة إلى أنه على الرغم من أن طلبة التمريض أظهروا مستوى متوسطاً من الجاهزية للممارسة السريرية، فإن هناك جوانب مهمة لا تزال بحاجة إلى التطوير. وتوصي الدراسة بتعزيز التدريب السريري، وتكثيف الإشراف الأكاديمي والسريري، وتوسيع فرص التعلم القائم على الخبرة العملية، بما يساهم في رفع مستوى استعداد الطلبة لممارسة مهنة التمريض بكفاءة وفاعلية.

الكلمات المفتاحية: طلبة التمريض، الجاهزية السريرية، المنهج المختلط، التعليم السريري، الشرق الأوسط.