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Exploring the Challenges Faced by Undergraduate Nursing Students in Online Examination at Peshawar, Pakistan

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ABSTRACT

Background: The COVID-19 pandemic accelerated the shift from traditional classroom-based assessments to online examinations. While digital platforms offer flexibility and accessibility, they also introduce distinct psychological, institutional, and technological challenges, particularly for undergraduate nursing students in resource-limited settings. Objective: To explore the challenges faced by undergraduate nursing students in relation to online examinations. Methods: A qualitative phenomenological design was employed at the Institute of Nursing Sciences, Khyber Medical University, Peshawar. Twelve undergraduate nursing students who had attempted at least one online examination were recruited through purposive sampling. Semi-structured interviews were conducted, audio-recorded, and thematically analyzed following Braun and Clarke's six-step framework. Trustworthiness was ensured through credibility, dependability, confirmability, and transferability strategies. Results: Five major themes emerged: (1) mental and emotional challenges, including anxiety and lack of training; (2) institutional obstacles such as poor connectivity, electricity issues, and inadequate technical support; (3) restrictive exam policies, including rigid sequential answering and limited question skipping; (4) system development needs related to infrastructure readiness, staff capacity, and exam integrity; and (5) preparedness through collective efforts, highlighting the importance of pre-exam training, mock tests, and supportive staff. Conclusion: Online examinations pose multidimensional challenges that threaten fairness, reliability, and student wellbeing. Nursing institutions must adopt student-centered approaches by strengthening digital infrastructure, revising assessment policies, and providing preparatory training and responsive support systems to ensure equitable and effective evaluation in nursing education.

Keywords
Online examination; Nursing students; Challenges; Phenomenology; Qualitative research; Pakistan

INTRODUCTION

Nursing education aims to develop professionals who are not only clinically competent but also ethically grounded and capable of critical thinking and problem solving (1). In recent years, the integration of digital innovations has transformed nursing education, offering new opportunities for teaching, learning, and assessment (2). The abrupt shift to online modalities during the COVID-19 pandemic accelerated this transition, moving classroom-based learning and traditional assessments toward e-learning and electronic examinations (3). While digital platforms facilitated continuity of education, they also exposed substantial gaps in preparedness among both educators and students, particularly in contexts where technological competencies and infrastructure were limited (4).

Online examinations, defined as computer- or internet-based assessments that may include objective or automated evaluation formats, are increasingly used in higher education (5,6). These systems provide several advantages, including flexibility of access, reduced logistical barriers, time efficiency, and immediate feedback for both learners and educators (7,8). For students in remote areas or with health or mobility constraints, online assessment offers opportunities to participate equitably in academic evaluation (9). Furthermore, digital systems reduce the administrative burden of manual grading and enhance exam security through randomization and automated scoring (10,11).

Despite these advantages, online examinations introduce complex challenges that directly affect student performance, assessment integrity, and psychological wellbeing. Reported issues include limited access to stable internet connections, lack of appropriate digital devices, unfamiliarity with online platforms, and heightened opportunities for academic dishonesty (12–14). In addition, students often experience anxiety and uncertainty when confronted with new technological systems, particularly if they lack prior training or practice (15). Research from diverse contexts highlights that technical obstacles, environmental disruptions, and rigid exam structures may further exacerbate these challenges, undermining fairness and reliability of assessments (16,17).

Most of the existing literature focuses on the benefits of online examination systems or their technical implementation, with comparatively less attention given to the lived experiences of undergraduate nursing students, who constitute a critical workforce in healthcare delivery. Limited

research from Pakistan specifically addresses how online examinations affect nursing students in terms of technological, psychological, and institutional challenges. In the local setting of Peshawar, Khyber Pakhtunkhwa, where digital infrastructure remains uneven, these issues are particularly salient (15,16). Therefore, this study explores the challenges faced by undergraduate nursing students in online examinations using a phenomenological approach. By capturing the perspectives of students who have directly experienced these assessments, the study aims to provide evidence-based insights to inform institutional policy, strengthen support systems, and develop culturally and contextually appropriate strategies for online assessment in nursing education.

MATERIALS AND METHODS

Study Design

We conducted a qualitative, exploratory phenomenological study to understand the lived experiences of undergraduate nursing students during online examinations. Phenomenology was chosen to elicit rich, first-person accounts of perceptions, emotions, and meaning structures associated with e-exams, consistent with best practice in qualitative inquiry and interview-based designs (18,21).

Setting and Participants

The study was conducted at the Institute of Nursing Sciences (INS), Khyber Medical University (KMU), Peshawar, Pakistan. Eligible participants were undergraduate nursing students who had completed at least one online examination at INS-KMU. Twelve students (n=12) were included, reflecting variation in gender, age, and semester to enhance informational breadth.

Sampling and Recruitment

Purposive sampling was used to identify information-rich cases with direct experience of the phenomenon. Recruitment notices were disseminated through program coordinators, and interested students contacted the research team. Sampling continued until adequate depth and redundancy of accounts were obtained across the key domains of interest (credibility supported through recurring pattern saturation rather than numerical targets).

Data Collection

Data were collected through individual, semi-structured interviews conducted in a quiet, private setting on campus. Each interview lasted approximately 30–40 minutes and was audio-recorded with permission. Interviews were conducted in English or Urdu according to participant preference, with opportunities to switch languages to maintain nuance and comfort. Field notes captured nonverbal cues, contextual features, and emergent analytic memos to complement the audio data (18).

Interview Guide Development and Pilot

The interview guide was developed from the literature on online assessment and nursing education and structured to move from broad experiences to focused probes (5,10,16,19). Content validity was assessed by two independent subject-matter experts in nursing education and qualitative research, whose feedback informed refinement of question wording, flow, and cultural appropriateness. The guide was piloted with two students to evaluate clarity and interview logistics; pilot interviews were excluded from the final analysis, and minor adjustments were made to improve question prompts and sequencing (20).

Data Analysis

Interviews were transcribed verbatim and, where applicable, translated with attention to semantic equivalence. Thematic analysis followed Braun and Clarke's six-phase framework: familiarization, inductive code generation, theme development, theme review, theme definition/naming, and analytic reporting (21). Coding was conducted iteratively, with constant comparison across cases. An audit trail documented coding decisions, codebook evolution, and theme refinements. To enhance analytic rigor, a senior researcher/supervisor reviewed a subset of transcripts, coding reports, and thematic maps, and differences were resolved through discussion and return-to-data checks (19,21).

Trustworthiness

We addressed Lincoln and Guba's criteria through multiple strategies. Credibility was supported by purposive sampling, prolonged engagement during interviews, and triangulation of audio data with field notes. Dependability was enhanced via a structured protocol, an audit trail of analytic decisions, and peer debriefs with the supervisor. Confirmability was promoted through reflexive memoing, documentation of alternative explanations, and preservation of illustrative quotations linking interpretations to participant accounts. Transferability was supported by detailing the setting, participants, recruitment, and context to allow readers to assess applicability to comparable environments (18,19,21).

Ethical Considerations

Ethical approval was obtained from the Institutional Review Board of KMU prior to data collection (approval details available upon request). All participants received written and verbal information about the study and provided written informed consent. Confidentiality was maintained by de-identifying transcripts, storing digital files on password-protected devices, and restricting access to the research team. Participation was voluntary, and students could withdraw at any time without consequence.

Researcher Reflexivity

The interviewer maintained a reflexive stance throughout, recording positionality statements and analytic memos to surface assumptions related to educational technology, assessment equity, and institutional processes. Reflexive practices were used to minimize bias and to foreground participants' meanings during interpretation (18,19).

RESULTS

The study included 12 undergraduate nursing students, of whom the majority were female (n = 9, 75.0%), while males accounted for 3 (25.0%). Most participants were in the 21–23 years age group (n = 7, 58.3%), followed by 18–20 years (n = 3, 25.0%) and ≥24 years (n = 2, 16.7%), reflecting a typical distribution of early adulthood learners. About academic progression, the largest proportion of students were in their 5th semester (n = 5, 41.7%), while 4 (33.3%) were enrolled in the 3rd semester, and 3 (25.0%) were in the 7th semester, indicating representation across different levels of the undergraduate nursing program. This demographic spread ensured variation in age, gender, and academic exposure within the sample.

Table 1. Participant Demographics (n = 12)

Variable	Category	n (%)
Gender	Female	9 (75.0%)
	Male	3 (25.0%)
Age (years)	18–20	3 (25.0%)
	21–23	7 (58.3%)
	≥24	2 (16.7%)
Semester	3rd	4 (33.3%)
	5th	5 (41.7%)
	7th	3 (25.0%)

The experiences of undergraduate nursing students revealed a predominantly negative perception of online examinations. Thematic analysis generated five major themes: (1) Mental and emotional challenges, (2) Institutional obstacles, (3) Need for exam policy revision, (4) System development requirements, and (5) Preparedness through collective efforts. Each theme is illustrated with participant quotations.

Theme 1: Mental and Emotional Challenges

Students frequently described anxiety, confusion, and lack of preparedness in attempting online examinations for the first time. The unfamiliar format heightened stress and negatively affected their performance.

> *"I was worried about how I would attempt the online examination. This was totally different from physical exams, and I had no idea how to prepare."*

> *"This was my first chance to attempt an online exam. I was very nervous and not trained for it. From my childhood, we always had physical exams, so this was a bad experience for me."*

Most participants emphasized the absence of training or orientation prior to the exams, which they felt would have reduced their anxiety and improved their confidence.

Theme 2: Institutional Obstacles

Technical, infrastructural, and administrative barriers were frequently cited. Students reported electricity failures, computer system crashes, poor internet connectivity, and lack of adequate staff support.

> *"Yes, I faced some technical problems. The computer system hung many times, and I also faced issues with link opening."*

> *"The computer systems sometimes took 10 minutes to restart, but no extra time was given for the lost time."*

> *"Connectivity was poor, and the Wi-Fi kept dropping. The exam hall environment was noisy and distracting whenever issues occurred."*

Rigid institutional practices, such as the lack of compensation for technical delays and insufficient assistance during exams, compounded the stress.

Theme 3: Need for Exam Policy Revision

Students highlighted restrictive policies that limited flexibility during examinations. In particular, they criticized the requirement to answer MCQs sequentially, the inability to revisit questions, and strict rules regarding the maximum number of skipped questions.

"In physical exams, we can choose which questions to attempt first, but in online exams we had to answer all MCQs in sequence."

"In online exams, we could only skip 20 MCQs. This should be increased to at least 35."

"Extra time should be given to students facing technical problems, but we were never compensated."

Participants also expressed concerns about the difficulty level of conceptual and scenario-based MCQs, suggesting that a mix of easier items would provide a fairer assessment.

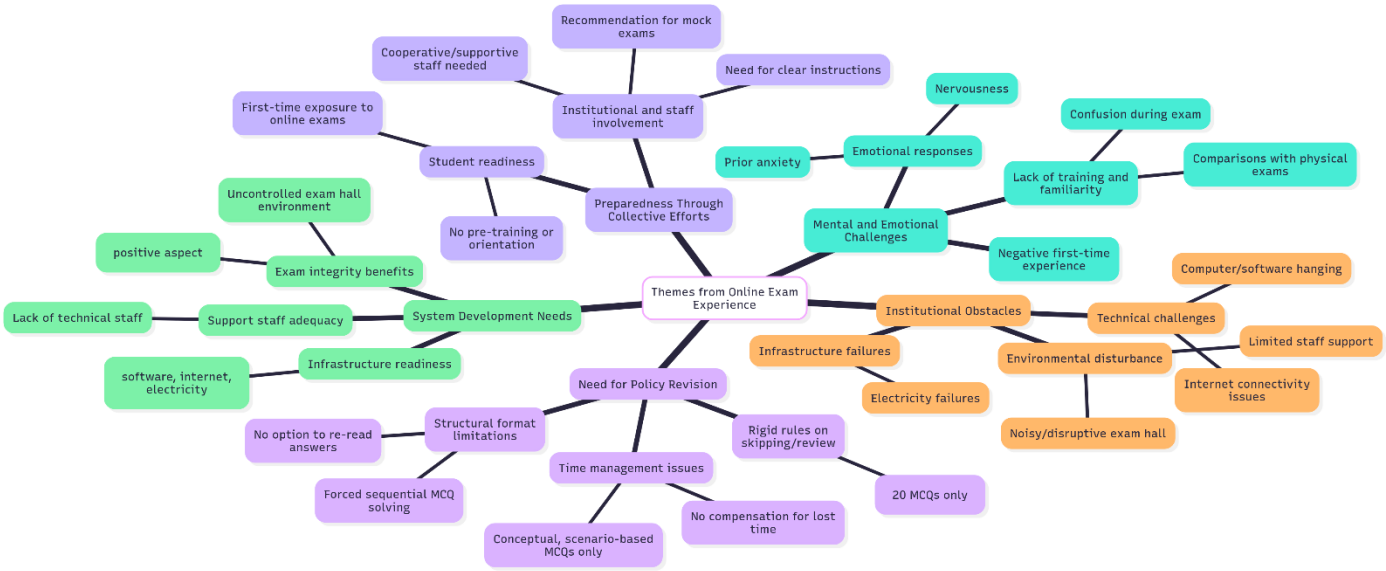

Figure 1 Schematic Presentation of Thematic Analysis

Theme 4: Widespread System Development

Many students described systemic shortcomings that required resolution before online examinations could be considered effective. They stressed the need for stable electricity, reliable internet, functioning software, and more trained staff.
"Technical issues should be resolved before starting the exam. Electricity and connectivity problems were common."
"Helping staff were present but too few. There should be more trained personnel to solve problems quickly."
Interestingly, some students also acknowledged positive aspects, particularly reduced opportunities for academic dishonesty.
"In my opinion, there is no chance of cheating in online exams. It is more effective compared to physical exams."

Theme 5: Preparedness Through Collective Efforts

Students emphasized the importance of preparatory measures such as training sessions, mock exams, and cooperative staff support to reduce exam-related anxiety.

"This was my first online exam, and I was very nervous. No training was arranged beforehand."

"Practice exams should be conducted before the actual exam to make us familiar with the system."

"More cooperative staff are needed to control the environment and solve issues immediately."

They argued that collective efforts from institutions, staff, and students would enhance exam preparedness and fairness.

Table 1. Overview of Themes, Categories, and Illustrative Student Insights

Theme	Categories	Illustrative Quotes
Mental and Emotional Challenges	Anxiety, lack of training, negative first-time experiences	"We had no prior training, and it caused a lot of stress." / "This was my first online exam, and I didn't know how to prepare."
Institutional Obstacles	Technical failures, infrastructure gaps, inadequate support	"The computer hung many times, and no extra time was given." / "Internet kept disconnecting; electricity issues made it difficult to complete the exam."
Need for Policy Revision	Restrictive exam rules, rigid navigation, lack of compensation	"We were forced to answer in order and couldn't review answers." / "Only 20 MCQs could be skipped; it should be increased." / "Even when the system failed, no extra time was provided."
System Development Needs	Infrastructure improvement, staff capacity, exam integrity	"Internet and electricity kept going during the exam." / "Helping staff were too few to manage problems." / "Cheating chances are less in online exams, which is good."
Preparedness Through Collective Efforts	Training sessions, mock exams, supportive environment	"No training was given. We didn't even know how to operate the system." / "Practice exams should be conducted before the actual exam." / "More cooperative staff are needed to solve issues quickly."

DISCUSSION

This study explored the experiences of undergraduate nursing students with online examinations and revealed multiple challenges spanning psychological, institutional, and technological domains. The findings are consistent with regional and international literature, while also offering new insights relevant to resource-constrained contexts such as Pakistan.

Alignment with Prior Literature

Students in this study frequently reported heightened anxiety, stress, and confusion during their first experience with online examinations. Similar observations have been documented by Muthuprasad et al. (25), who found that students without prior exposure to digital platforms often experience difficulty adapting to online assessment. Dhawan (26) likewise emphasized that poorly designed digital examinations can intensify cognitive load, creating barriers to effective performance.

Institutional obstacles such as connectivity issues, electricity shortages, system crashes, and lack of adequate technical support were recurrent concerns. These findings echo those of Ocak and Karakuş (12) and Khatatbeh et al. (3), who identified infrastructural inadequacies as major impediments to equitable online assessment. Furthermore, rigid exam policies—such as forced sequential answering, limited skipping, and lack of compensation for lost time—mirror challenges noted in international contexts, where inflexible digital formats often constrain students' ability to demonstrate competence (9,15). At the same time, participants acknowledged that online examinations reduced opportunities for cheating compared with traditional methods, a benefit also highlighted by Alruwais et al. (22) and Almuhanna (27). This indicates that, despite significant technical limitations, online examinations may enhance academic integrity if implemented effectively.

Unique Findings

A key contribution of this study is its contextual focus on undergraduate nursing students in Pakistan, where digital infrastructure remains uneven and institutional preparedness for e-assessment is limited. Unlike many international reports that emphasize broader student populations, this study highlights the intersection of clinical training needs, cultural expectations, and resource constraints within nursing education. The findings suggest that the abrupt transition to online assessment—without prior training or mock examinations—exacerbated stress and reduced confidence among students. This underscores the importance of orientation and preparatory activities as an overlooked dimension of online assessment.

Implications for Nursing Education

The results highlight several implications for policy and practice. First, nursing institutions should integrate pre-exam training and mock assessments into their curricula to familiarize students with digital platforms and reduce psychological distress. Second, flexibility in exam policy is essential, including allowances for technical disruptions, opportunities to revisit questions, and a balanced mix of item difficulties. Third, institutional investment in infrastructure—stable internet, backup electricity, and adequate technical staff—is critical to ensure fair and reliable assessment. Finally, strengthening support systems and communication during examinations can reduce anxiety and foster student confidence. Together, these measures can help ensure that online assessments not only evaluate knowledge but also support learning in a fair and transparent manner.

Strengths and Limitations

A major strength of this study lies in its qualitative, phenomenological design, which allowed in-depth exploration of students' lived experiences. The use of validated interview guides, triangulation with field notes, and involvement of supervisors in analysis enhanced the rigor and trustworthiness of findings. However, the study is limited by its small sample size (n = 12) from a single institution, which restricts transferability of results to broader nursing populations. In addition, reliance on self-reported experiences may have introduced recall or social desirability bias. Future studies should adopt larger and more diverse samples across multiple institutions and consider mixed-method approaches to validate and expand on these findings.

RECOMMENDATIONS

Based on the findings of this study, several recommendations can be proposed to improve the effectiveness and fairness of online examinations for nursing students. Institutions should prioritize pre-exam preparation by organizing orientation sessions and mock online assessments to familiarize students with digital platforms and reduce anxiety. Greater policy flexibility is also needed, allowing students to review questions, increasing the permissible number of skipped items, and compensating for time lost due to technical difficulties. Investment in infrastructure, including stable internet connectivity, backup electricity systems, and reliable software, is essential to ensure smooth examination processes.

Furthermore, institutions should strengthen support systems by ensuring the availability of adequately trained technical staff and cooperative invigilators to promptly address disruptions. Finally, there is a pressing need for further research with larger and more diverse student populations, as well as comparative studies between traditional and online examinations, to guide the development of sustainable, student-centered assessment practices in nursing education.

CONCLUSION

This study highlights that while online examinations offer opportunities for enhanced accessibility and academic integrity, they also expose undergraduate nursing students to significant psychological, institutional, and technological challenges. Anxiety, lack of training, rigid exam policies, and infrastructural limitations collectively undermined students' confidence and performance. Addressing these issues requires more than technological provision; it demands thoughtful exam design, institutional preparedness, and student-centered support. Nursing schools and universities must invest in reliable digital infrastructure, implement preparatory training and mock assessments, and revise policies to allow flexibility and fairness. By adopting these measures, educational institutions can ensure that online assessments not only evaluate knowledge effectively but also foster equitable learning experiences and uphold the integrity of nursing education in an increasingly digital era.

REFERENCES

1. Khan S, Ud Din Z, Ali M, Ali S, Anees M, Hussain A, et al. Academic Challenges Faced by Undergraduate Students in Nursing Colleges: A Quantitative Analysis. J Asian Dev Stud. 2023;12(3):1038–46.
2. American Association of Colleges of Nursing. The Essentials: Core Competencies for Professional Nursing Education. Washington (DC): AACN; 2021.
3. Khatatbeh H, Amer F, Ali AM, AlBashtawy M, Kurnianto A, Abu-Abbas M, et al. Challenges of Distance Learning Encountering Nursing Students After the COVID-19 Pandemic: A Study From the Middle East. BMC Nurs. 2024;23(1):66.
4. The U, Of S. Android Application for Campus Department of Computer Science & Engineering and Information Technology. Jaypee University of Information Technology. 2019;1(1):1–10.
5. Alsalhi NR, Qusef AD, Al-Qatawneh SS, Eltahir ME. Students' Perspective on Online Assessment During the COVID-19 Pandemic in Higher Education Institutions. Inf Sci Lett. 2022;11(1):37–46.
6. Omran ES, Fathy AT, Elsaiad HSA. Facilitators and Barriers of Employing Electronic Exams as Perceived by Nursing Students and the Relation to Their Satisfaction. Evid Based Nurs Res. 2024;4(4):33–43.
7. Weeden EM. Expanding Online Learning Exam Options With Computer-Based Assessment. Internet Soc Adv Learn Commer Soc. 2004;1:119–30.
8. Askarali KT. Online Examination System. J Interdiscip Multidiscip Res. 2015;2(5):86–7.
9. Wahas YMA, Syed AJA. E-Assessment Challenges During E-Learning in Higher Education: A Case Study. Educ Inf Technol. 2024;29(11):14431–50.
10. Mate K, Weidenhofer J. Considerations and Strategies for Effective Online Assessment With a Focus on the Biomedical Sciences. FASEB Bioadv. 2022;4(1):9–21.
11. Sugilar S. Factors of Students Participating in Online Examination. J Educ Learn. 2016;10(2):119–26.
12. Ocak G, Karakuş G. Undergraduate Students' Views of and Difficulties in Online Exams During the COVID-19 Pandemic. Themes eLearning. 2021;14:13–30.
13. Rashad MZ, Kandil MSA, Hassan A, Zaher M. An Arabic Web-Based Exam Management System. 2010 [cited 2025 Sep 10]. Available from: https://api.semanticscholar.org/CorpusID:14128930
14. Pan A, Wang N. Design and Implementation of an Online Examination System Based on the Java Web. In: Proceedings of the 3rd International Conference on Computer Information and Big Data Applications (CIBDA 2022). 2022. p. 1–4.
15. Shraim K. Online Examination Practices in Higher Education Institutions: Learners' Perspectives. Turk Online J Distance Educ. 2019;20(4):185–96.
16. Shihab AY. Rethinking Online Nursing Education Associated Challenges: A Multi-Domain Evaluation Study. Asian J Nurs Educ Res. 2024;14(1):31–7.
17. Molato BJ, Sehularo LA. Recommendations for Online Learning Challenges in Nursing Education During the COVID-19 Pandemic. Curationis. 2022;45(1):e1–6.
18. DeJonckheere M, Vaughn LM. Semistructured Interviewing in Primary Care Research: A Balance of Relationship and Rigour. Fam Med Community Health. 2019;7(2):e000057.
19. Forbes M. Thematic Analysis: A Practical Guide. Eval J Australas. 2022;22(2):132–5.
20. Abdul Majid MA, Othman M, Mohamad SF, Lim S, Yusof A. Piloting for Interviews in Qualitative Research: Operationalization and Lessons Learnt. Int J Acad Res Bus Soc Sci. 2017;7(4):1073–80.
21. Braun V, Clarke V. Using Thematic Analysis in Psychology. Qual Res Psychol. 2006;3(2):77–101.
22. Alruwais N, Wills G, Wald M. Advantages and Challenges of Using E-Assessment. Int J Inf Educ Technol. 2018;8(1):34–7.
23. Kaur A, Sasikumar M, Nema S, Pawar S. Algorithm for Automatic Evaluation of Single Sentence Descriptive Answer. Int J Comput Appl. 2013;9(6):1–9.
24. Miah M. Digital Inequality: The Digital Divide and Educational Outcomes. ACET J Comput Educ Res. 2023;7(1):1–12.
25. Muthuprasad T, Aiswarya S, Aditya KS, Jha GK. Students' Perception and Preference for Online Education in India During COVID-19 Pandemic. Soc Sci Humanit Open. 2021;3(1):100101.
26. Dhawan S. Online Learning: A Panacea in the Time of COVID-19 Crisis. J Educ Technol Syst. 2020;49(1):5–22.
27. Almuhanna M. Improving E-Assessment Based on University Students' Experiences. Turk Online J Educ Technol. 2023;22(1):130–43.