

Mobile Microlearning for Emergency Severity Index Triage: Effects on Nursing Students' Knowledge, Self-Directed Learning Readiness, and Academic Engagement

Reza Chegeni¹, Shirin Hasanvand^{2*}, Rasoul Mohammadi³, Asghar Mohammadi⁴

1. MSc Student in Emergency Nursing, Lorestan University of Medical Sciences, Khorramabad, Iran.
2. Professor, Department of Medical-Surgical Nursing, Social Determinants of Health Research Center, Lorestan University of Medical Sciences, Khorramabad, Iran.
3. Assistant Professor, Department of Biostatistics, Lorestan University of Medical Sciences, Khorramabad, Iran.
4. Instructor, Department of Nursing, Lorestan University of Medical Sciences, Poldokhtar, Iran.

* Corresponding author: Prof. Shirin Hasanvand, Department of Medical-Surgical Nursing, Social Determinants of Health Research Center, Lorestan University of Medical Sciences, Khorramabad, Iran.hasanvand.sh1390@gmail.com.

1) <https://orcid.org/0009-0009-7985-6875>

2) <https://orcid.org/0000-0002-0243-9696>

3) <https://orcid.org/0000-0002-4507-5079>

4) <https://orcid.org/0000-0001-8817-3130>

Abstract

Introduction: Despite the critical role of triage in emergency care, nursing students lack sufficient knowledge and confidence to use the Emergency Severity Index (ESI). Traditional methods may not be highly effective, but mobile-based microlearning is a promising approach. Therefore, this study examines the effect of this method on the knowledge, self-directed learning readiness, and academic engagement of nursing students during emergency internships.

Methods: This single-group pretest-posttest quasi-experimental study included 22 final-year nursing students from a school affiliated with Lorestan University of Medical Sciences. Participants were selected via whole enumeration sampling and divided into three groups of 6–8. The internship took place in emergency departments over six weeks (three days on week). Each week, students received one micro video via a social media. Knowledge was assessed with a scenario-based multiple-choice questionnaire. Self-directed learning readiness was assessed with Self-directed learning readiness scale in nursing student education and academic engagement were measured with Academic engagement scale. The variables were measured on the first day of the internship as a pre-test and on the last day of the internship as a post-test, using study tools. Data were analyzed using SPSS 25 with descriptive statistics, paired t-tests, independent t-tests, and ANCOVA.

Commented [n1]: این صفحه عنوانه لیش دست نرنید عنوان فارسی معادل این عنوان باشه

Commented [n2]: برای چکیده فارسی دقیقاً همه اسامی و وابستگی سازمانها به فارسی نوشته بشه

Commented [n3]: بهتره از جملات چکیده نهایی پایان نامه برای ابسترکت استفاده بشه

Results: Students' mean knowledge scores significantly increased from 7.40 (SD = 2.17) to 10.72 (SD = 2.16) after the intervention ($p < 0.001$). No significant changes were found in total self-directed learning readiness or its subscales of desire and self-control, though the self-management subscale improved significantly ($p < 0.001$). The increase in academic engagement scores was not significant.

Conclusion: Mobile-based microlearning for Emergency Severity Index triage training significantly boosted nursing students' knowledge and conceptual understanding. While it didn't dramatically increase academic engagement or self-directed learning readiness, it did enhance students' confidence in managing their learning. The study concludes that mobile microlearning is effective for knowledge transfer and flexibility in nursing education, but deeper impacts require integration with interactive elements like group work, feedback, and practical application.

Keywords: Microlearning; Mobile Learning; Nursing Students; Knowledge; Self-Directed Learning Readiness; Academic Engagement