Effect of Geriatric-Specific Mini-CEX education management program on Nursing Students' Clinical Reasoning in Clinical Practice: A Quasi-Experimental Study

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Background: Clinical reasoning is a fundamental requirement in geriatric management nursing, integrating knowledge, technical skills, attitudes, and reflective abilities. Internship programs help students transition from theory to practice, yet conventional training often lacks structured simulation. The Geriatric Mini-Clinical Evaluation Exercise management education offers a reliable tool to educate and evaluate students' clinical reasoning in real practice. However, little is known about the effectiveness of Nursing-Specific Mini-CEX education management program on clinical reasoning development. This study aimed to examine the impact of Geriatric-Specific Mini-CEX education management program on nursing students' clinical reasoning in practice using the G-Specific Mini-CEX.

Methods: A quasi-experimental pretest–posttest design was implemented with 160 final-year nursing students from two schools under Mashhad University of Medical Sciences, Iran, in 2020. Students were divided into an intervention group (n=80) and a control group (n=80). The intervention group participated in a Geriatric-Specific Mini-CEX education management program comprising workshops, multiple –station mini-CEX, clinical practice case studies, and structured feedback, while the control group followed routine clinical training with traditional education management program. Clinical Reasoning was measured at baseline, post-intervention, and follow-up using the G-Specific Mini-CEX. Data analysis employed SPSS v.22 with Generalized Estimating Equations, adjusting for age.

Results: No significant differences in baseline clinical reasoning were observed between groups except for age. After the intervention, the experimental group showed significantly greater improvements in overall clinical reasoning and across all domains—communication, physical examination, clinical judgment, health education, professionalism, and organizational efficacy—compared with the control group ($p< 0.05$). On average, the intervention group scored 2.4 points higher than controls in overall clinical reasoning at post-test($p< 0.001$), with gains maintained at follow-up.

Conclusions: The Geriatric-Specific Mini-CEX education management program, assessed with the G-Specific Mini-CEX, effectively enhanced nursing students' clinical reasoning in clinical practice. Integrating such multiple –station mini-CEX approaches into nursing management curricula is recommended to better prepare students for caring of elderly patients in real clinical practice.