

Using a Clinical Pharmacology Elective to vertically Integrate Basic Pharmacology Content Beyond the Pre-clerkship Phase

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Purpose: A recent trend in the evolving landscape of medical education involves expanding the clerkship phase. There is concern, however, that a condensed pre-clerkship phase may compromise the acquisition of basic science knowledge, which is critical for safe and effective medical practice. Therefore, the current study aims to evaluate how a clinical pharmacology elective integrates basic pharmacology and principles of medication safety into the post-clerkship curriculum.

Method: Clinical Pharmacology and Medication Safety is a four-week virtual elective offered to fourth-year medical students. The course integrates a review of basic pharmacology with relevant clinical pharmacology topics, such as safe prescribing practices, via weekly case-based learning sessions facilitated by a clinical pharmacist and physicians. To evaluate the effectiveness of the course, students completed a pre-elective and post-elective questionnaire. Differences between pre- and post-elective responses were analyzed using the Mann-Whitney U test.

Results: When asked to describe why they chose to enroll in the elective, students cite a desire to review pharmacology (56%), develop knowledge of medication safety (56%), and prepare for residency (50%). Before starting the course, 12.5% of students felt that they understood what was required to safely prescribe and manage common pharmacotherapies compared to 80% of students who understood these concepts upon completion of the course ($p < 0.001$). Nearly 87% of students agreed or strongly agreed that the concepts presented in the elective will help them safely prescribe and manage common medications upon starting residency.

Conclusion: This clinical pharmacology elective was well-received by students. Further, students reported significant improvements in their comprehension of basic and clinical pharmacology and readiness for residency. Therefore, this clinical pharmacology elective represents an example of how to use the elective phase as an opportunity to vertically integrate basic science content throughout the medical curriculum in the context of a condensed preclerkship phase.