

PharmWeb: Catching Student Interest with Interactive Online Modules

Peggy Y. Kim¹, Christine Gosen¹, Amy L. Wilson-Delfosse²

¹Case Western Reserve University School of Medicine

²Department of Pharmacology, Case Western Reserve University School of Medicine



Introduction/Statement of Problem

Unique Challenges: Teaching Pharmacology in Problem-Based Learning (PBL) Curricula

- Fundamental principles of pharmacology and therapeutic agents interspersed throughout first year
- Presented in many different formats

Concerns about Student Learning

- Not recognizing pharmacology-related learning objectives (LOs)
- Giving pharmacology a lower priority in their learning
- Uncomfortable approaching the learning of pharmacology; don't know where to turn for resources (lack of self-efficacy)

Proposed Intervention: 1st Year Medical Students

- Create a "home base" for pharmacology learning - consolidating resources in one place
 - Self-paced online learning modules
 - Lists of relevant/important drugs for each organ system
 - Practice problems
 - Highlight pharmacology-related LOs

Outcomes

- Increase students' pharmacology knowledge
- Increase student time spent working on pharmacology
- Increase students' self-efficacy in learning pharmacology

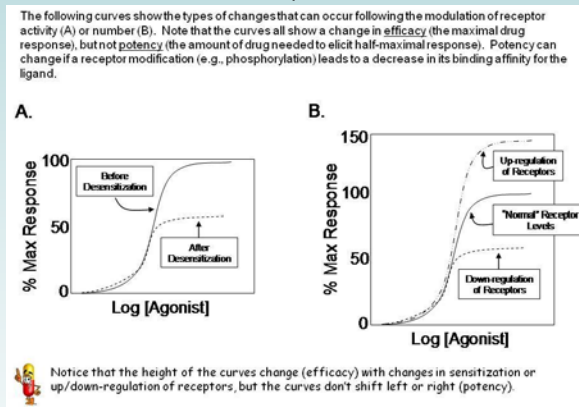
Objectives

1. Supplement the curriculum with online, self-paced modules that align with topics that students are currently studying throughout the course
2. Increase student pharmacology knowledge
3. Increase amount of time students spend on learning pharmacology (increase student engagement)
4. Improve student self-efficacy so that students feel they have the tools to learn pharmacology on their own

Description of Intervention

PharmWeb: 8 optional web-based modules

- Complement curriculum topics in endocrine, reproduction, molecular biology, cancer, genetics, development
- Written by pharmacology faculty and students
- Brief topic introduction, reading assignment, self-assessment quiz



Pharmacology knowledge assessed by:

- Pre- and post-tests for course
- End-of-block pharmacology NBME multiple choice questions

Engagement and self-efficacy assessed by:

- Beginning and End of Block optional surveys
 - Number of events spent learning pharmacology
 - Amount of time spent studying/discussing pharmacology
- Numbers of times PharmWeb modules were accessed
- Number of within-module quiz completions
- Completion of pre- and post-tests

Comparison groups for surveys

- Current 1st years who did not do modules
- 2nd year students (retrospective survey)

Findings to Date

First-year student data

- ~66% utilized the online modules during the first half of the course
- 33 students completed the post-test for the course
- 53 students completed the end-of-block survey

Second-year comparison group

- 83 responses to the corresponding retrospective survey

Student feedback suggests a high level of satisfaction with the modules.

Key Lessons Learned

Students will use a voluntary pharmacology supplement to the curriculum

- Keeping modules & readings brief is important
- Increase "official" efforts to increase awareness
- Key pharmacology concepts can be introduced much earlier

Creation of modules

- Very time consuming—additional faculty will be recruited
- Will seek more support and integration into curriculum

Obtaining organizational approval and buy-in from stakeholders

- Very time consuming
- Necessary for continued success

Questions

How did students decide to use PharmWeb or not?

- Was it a matter of awareness?
- Were there aspects they found that did not suit their needs?
- What was attractive about PharmWeb to those who did use it?

How can faculty become more involved with PharmWeb and expand its use and knowledge base to complement the curriculum?