College of Pharmacy

The development and evaluation of an activity-based Pharmacy Informatics and Medication Safety Course

Jameshia Below, PharmD, Heather Savage, PharmD, BCPS, Alexis Horace, PharmD, BCACP

University of Louisiana Monroe College of Pharmacy; Monroe, Louisiana

BACKGROUND

- Although the Institute of Medicine considers informatics a core competency for all health professionals, a consistent and coordinated approach to teaching pharmacy informatics is still lacking.
- Accreditation Council for Pharmacy Education (ACPE) 2016 Standards aim for students to develop a comprehensive knowledge-base of foundational informatics to be considered practice ready.
- With only one-third of pharmacy schools including informatics courses in their curricula, limited literature is available on the design and implementation of health information and informatics training in pharmacy curriculum.
- To our knowledge, little information is available on developing an activity-based informatics and medication safety (IMS) required course.

OBJECTIVE

- To evaluate the impact of developing an activity-based pharmacy IMS course for third-year pharmacy students.
- Assess students' knowledge and perceptions of health informatics and the pharmacists' role within informatics

METHODS

- This institutional review board approved study was conducted from January 2024 to March 2024 at the University of Louisiana Monroe College of Pharmacy.
- A required informatics and medication safety (IMS) course was developed for third-year pharmacy students, incorporating team-based and active learning strategies.
- Fourteen weekly classes covered topics such as fundamentals of informatics, healthcare data management, the medication use process, and medication safety.
- Activities included TikTok®, games, individual and team-readiness assurance tests, case studies, and real-world examples.

Data Collection

- Demographics
- Students baseline knowledge and attitudes regarding IMS assessed through a pre- and post-course questionnaire. (See QR Code for survey details)

Data Analysis

- Data was analyzed using SPSS, employing descriptive statistics, Wilcoxon signed-rank tests, or McNemar tests as appropriate.

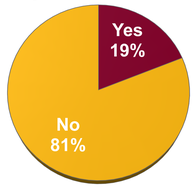
Active learning incorporated into the informatics and medication safety course ***increased student knowledge*** including the ability to **define health informatics** and its **role in health system pharmacy**

RESULTS

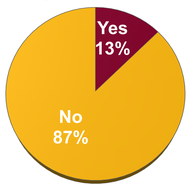
Demographics of pharmacy student respondents		
Age (mean ± SD)		24 ± 2.37
Year of Study (%)	Third year Third year modified	70 (89.7) 8 (10.3)
Taken an informatics class before (%)	Yes No	4 (5.1) 74 (94.9)
Made a TikTok Video before (%)	Yes No	30 (38.5) 48 (61.5)

Assessment Results			
Student is able to...	Pre-	Post-	P-value
Accurately describe health informatics	8%	85%	**<0.001**
Explain how health informatics improves patient care	14%	74%	**<0.001**
Define role of informatics pharmacists	17%	65%	**<0.001**
Define role of medication safety officer	29%	63%	**<0.001**
Identify that informatics is important to their success as a pharmacist	69%	79%	0.070
Identify an example of a medication related outcome used in informatics	52%	92%	**<0.001**

Consider Pharmacy Informatics as a career option after course



Consider Medication Safety Officer as a career option after course



- After taking this activity-based informatics course, 63% of students felt more knowledgeable about the topic of informatics.
- Students' perceptions increased from 67% to 82% in favor of thinking that informatics is extremely or somewhat important to your success as a pharmacist.

DISCUSSION

- Our research introduced an activity-based learning model that contrasts with traditional lecture-based methods. This approach involves interactive, hands-on activities that enhance student engagement and practical understanding of informatics concepts.
- Overall, third year pharmacy students demonstrated a significant increase in the ability to correctly describe health informatics and how health informatics improves patient care.
- Students showed improvement in correctly defining the role of informatic pharmacists and medication safety officers in the hospital setting.
- Students provided positive feedback on course activities and the instruction style.
- Limitations to course implementation include lack of up-to-date instructional material, access to active EMR, technology knowledge deficits, limited resources available.