



Understanding the Patient's Perspective in Medication Non-Adherence

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Introduction

- Sullivan University College of Pharmacy (SUCOP) is a 3-year accelerated program in Louisville, KY.
- A Medication Safety course is taught during the second quarter of the first year. This course includes discussion of medication non-adherence and its impact on medication-related morbidity and mortality.
- As part of the Medication Safety course, students participate in a patient simulation experience designed to help them to increase their understanding of challenges patients experience in adhering to complex medication regimens. Students journal their reflections and new insights gained during the 2-week case study.
- Pharmacy students are generally young, healthy individuals. Few take more than one or two long-term prescription medications.
- In class discussions, first year students frequently admit to having minimal understanding of, and sometimes low tolerance for, patients who do not adhere to their prescribed medication regimens.
- Understanding patients' perspectives helps future pharmacists be more effective clinicians.

Background

- Medication non-adherence is defined as the extent to which individuals fail to take their medications as prescribed by their physician. Non-adherence includes such deviations from therapy instructions as:
 - Failure to initially fill a prescription or to refill it on schedule
 - Failure to take medications at prescribed intervals
 - Taking more or less than the prescribed amount of medication
 - Discontinuing medication prior to completion of the prescribed therapy
 - Taking medication prescribed for someone else
 - Taking medication with inappropriate liquids, foods, or other medications
- Over 30 million Americans take three or more medications daily. Elderly patients with chronic illnesses frequently take as many as 10-12 medications on a regular basis.
- Approximately 59% of patients take their medication improperly and nearly 30% of patients discontinue their medication prior to completing therapy as prescribed.
- More than 50% of US patients with chronic illnesses are non-adherent with their medications
- Nearly 23% of all extended care facility admissions are due to medication non-adherence with 10% of older-patient hospital admissions attributed to medication non-adherence.
- Medication non-adherence results in an estimated 125,000 deaths in the U.S. annually and results in nearly \$100 billion in cost each year.

Methods

- Each student was given empty gelatin capsules in 3 different colors. One set was labeled as "take one capsule once daily", the second was "take one capsule two times daily" and the third was labeled "take one capsule 3 times daily". The supply of capsules was sufficient for a 2-week course of therapy.
- The capsules were distributed during the normal class period during which students were given instructions for the case study project. They were provided an opportunity to ask questions about the "medications" as if they were a patient receiving a new medication at a community pharmacy.
- Students were instructed to simulate being patients for a period of 2 weeks during which they would take the 3 "medications". Students were not required to actually swallow the capsules if they did not wish to do so.
- Students were instructed that they could contact the pharmacy (their professor) if they had questions during the course of the study, much the same as patients are given the community pharmacy's phone number for questions.
- Students tracked their experiences during project. They were required to write a reflection about their experiences at the end of the project, including any new insights on medication non-adherence.
- At the end of the project, class time was devoted to discussing the project and summarizing the reflections. Students were asked whether or not they recommended that the project be repeated with students in future classes.
- Project cost was less than \$100 in supplies for 74 students.

Results

- Only two students asked questions of the pharmacist at the time the capsules were distributed. These questions were asked during class so all students could hear and were as follows:
 - Is the three times daily medication every 8 hours?* They were instructed to take them every 8 hours. Note: Two students commented in their reflections that they didn't know when to take the three times/day med.
 - Could the daily and twice daily medications be taken together?* Answer was YES.
- No additional questions were asked of the pharmacist during the course of the 2-week exercise.
- All students submitted reflections at the end of the 2-week exercise.
- No student was successful in completing the study without missing capsules.
- Six students (7%) admitted to non-adherence with dosing schedules beginning the first day.
- 68% of students remarked that they had previously thought patients who were late on their refills to be lazy, unconcerned about their health, or even stupid. All of these students commented that they now had a clearer understanding of barriers to medication adherence.

Results Continued

Comments from the 74 students varied widely, but several comments appeared frequently as outlined in the following table:

Comments from student reflections (similar themes combined)	# making comment
I thought this would be easy – I was wrong	56 (76%)
I missed doses because I was busy and/or activities distracted me	31 (42%)
I previously thought non-adherent patients were unconcerned about their health care (lazy, stupid, etc) – I think differently now	50 (67%)
If a pharmacy student can't handle 3 meds, how can elderly patients on 10-12 drugs keep up?	52 (70%)
I could have remembered better if I'd felt sick, but must remember that many chronically ill patients don't feel sick!	6 (8%)
The three times a day dose was difficult and I forgot doses	27 (36%)
I previously lectured patients who were non-adherent. I'm now going to assist, encourage, etc.	29 (39%)
Organizing meds is important – I will try to assist patients more with this in the future	49 (66%)
How do elderly people do it (keep track of so many meds)?	38 (51%)
I will change my approach to patients in the future – more encouragement and assistance.	53 (72%)

Classic comment from a student reflection:

"Given that I am a pharmacy student in a rigorous program that dictates a rigorous studying regime, I honestly thought this would be easy. I was wrong."

"Anyone who has ever worked in a pharmacy only sees one side of the story. Patients are always telling me that they missed a dose and want to know what to do. I always want to say, well don't miss a dose and you wouldn't have to worry about it. Well, I should have been preaching to myself."

"This project has given me more respect for people who are on multiple medications. Through this project I think I will take more time and counsel my patients on how to take, and when to take their medications, and how to fit it into their lifestyles."

Conclusion

All 74 of the students who started the project completed it on schedule. Although a few students focused their reflections upon the details of how many doses were missed during the two-week exercise, most said they had learned some lessons they had not anticipated. Many reflected that the experience would have lasting impact on their clinical practice.

Students were polled on whether this project should be repeated for future classes. All (100%) of students voted YES. The project will be repeated next year.