Miscommunication in Pharmacy: A Prescription for Patient Safety

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Abstract

As human beings, we are prone to mishaps; however, the greatest mistake we often make is neglecting our mistakes. Errors in the field of pharmacy are often characterized by the inaccuracies due to filling the prescription. As professionals in the medical realm, pharmacists are legally obligated to ensure that patients properly and safely take the prescribed medication. The role of the pharmacist is to translate the prescribing physician's directions for the patient and provide consultation for every new prescription, if the patient agrees. The goal for reviewing this literature is to highlight innovative and effective communication practices to address a health literacy problem.

Miscommunication in Pharmacy

Emerging literature suggests patients are responsible for their own health outcomes by being compliant and following the directions instructed by the prescribing physician. Failure to follow dosage instructions could lead to undesired outcomes. Underuse of medication could result in a prolonged treatment period, consequently resulting in delayed recovery. However, if a patient incorrectly interpreted the instructions and took an excessive amount of medication, he/she could suffer from terrible overdose side effects. Every day patients are admitted to the hospital due to complications arising from misuse of prescription drugs. As noted by Terry Davis, Professor of Medicine at Louisiana State University, "Incomplete understanding of labels may be an unrecognized contributor to the estimated 2% to 11% of hospital admissions in the United States caused by misuse of prescription medications" (Davis 850). This "unrecognized contributor" of misuse depends on the patient's health literacy levels. The U.S. Department of Health and Human Services defines health literacy as, "The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions". According to the National Assessment of Adult Literacy (NAAL), 14% of Americans function at a below basic level, 22% are at the basic level, 53% perform at the intermediate level, and only 12% are proficient in health literacy (Kripalani 6). In order for patients to optimize their health outcomes, they must be functioning at the intermediate or proficient level; therefore, 36% of Americans struggle with health literacy. While this problem easily gets lost in the category of non – compliance, there are compelling factors to consider how low literacy levels contribute to miscommunication in the pharmacy.

Misuse of medications can be caused by a variety of issues, including misinterpretation of prescription labels. The transcription of dosage instructions between the physician and the pharmacist is the first source of confusion. Another problem where miscommunication can occur is when patients do not have a clear understanding of what the directions mean. "To err is human: Patient misinterpretations of prescriptions drug label instructions", an article published in Patient Education and Counseling noted that there were several

factors contributing to this problem. The purpose of this experiment is to identify the main cause of miscommunication by examining the patient's approach to reading the labels on the medication bottles. Patients of this study were adults attending outpatient pharmacies in low-income areas. Patients had to be at least 18 years of age; they could not participate if they were blind, deaf, too ill to participate, or didn't speak English. This ruled out many factors that could influence literacy levels; it narrowed the participants down to those who didn't have apparent impairments to reading the prescription label. A research assistant interviewed and assessed 395 participant's comprehension of dosage instructions on medication bottles. Patients were asked to read a set of instructions and how they would take the medicine. A set of doctors was asked to rate the patient's responses based on whether the answers were correct or not. The panel of physicians did not interact with the patients, therefore decreasing the likelihood of partiality. They also examined the patient's attentiveness of the auxiliary warning labels, the colored stickers that indicate precautions. Additionally, patient literacy levels were tested using the Rapid Estimate of Adult Literacy in Medicine (REALM), a common measure of adult health literacy.

Through quantitative data, it was found that, "The prevalence of misunderstanding among patients with adequate, marginal and low literacy was 38%, 51%, and 63%, respectively" (Wolf 296). The study also discovered that 90% of participants comfortably interpreted, "Take one pill in the morning and one pill at 5 p.m." compared to similar instructions that are more common, "Take two tablets by mouth twice daily" (Wolf 298). In general, it was found that miscommunication is a result from a combination of low literacy levels and ambiguity of the instructions. Consequently, the original intentions set by the doctor are not fully met.

A limitation to this study was that it failed to look at the actual drug use by the patients and only focused on the interpretation portion of using medication. Further investigation might look at the use of the drug and whether patients take the medication according to their interpretations or seek help.

Following a similar methodology, The Journal of General Internal Medicine published a study, "Low Literacy Impairs Comprehension of Prescription Drug Warning Labels", that examined the underlying reasons patients didn't comprehend prescription-warning labels. The participants chosen for this study couldn't participate if they had visual or hearing impairments, were ill to participate, or if they didn't speak English. This eliminated any chances that could contribute to inaccurate results. A group of 251 patients at the Louisiana State University Health Sciences Center in Shreveport Primary Care Clinic were interviewed in person by a research assistant. Their comprehension was measured by the amount of correct responses they answered for common warning labels on the prescription bottle. This experiment also conducted the REALM exam to test the patient's health literacy levels. In addition to the REALM exam, this group used the Lexile Analyzer, which provides a score for each response from the patient. These scores are in turn converted to reading grade levels.

A team of three physicians, a clinical psychologist, and a pharmacist analyzed the answers. By choosing this team to grade the responses, it enhanced the credibility of the results. The REALM exam and the Lexile Analyzer demonstrated that 29.5% of the participants were at or below a 6th grade reading level and 31.1% had 7th to 8th grade reading skills. Patients with low literacy levels were 3.4 times less likely to comprehend the labels correctly.

Although this study did conclude that limited literacy levels contribute to mis-

interpretation of the prescription-warning label, they also recognized that "people across all literacy levels found it challenging to fully comprehend unfamiliar and complex, multistep health instruction written at high school level" (Davis 850). This result proved that part of the problem is in the ambiguity of the prescription labels themselves. The group conducting the study suggests that there needs to be an improvement in the quality of warning labels.

Another advocator for the quality improvement of warning labels is Kathleen Orrico, author of "Caring for Visually Impaired Patients". She proposes that patients with low vision need special assistant in pharmacy care. Their experiment was designed on "evidence – based practices". "The American Community Survey (2010) showed that 21.5 million American adults (7% of the population) reported blindness and serious visual difficulties that were uncorrected by glasses or contacts" (Orrico 81). It was noted that special font sizes and fonts should be used. In July 2012, the Prescription Accessible Drug Labeling Promotion Act of 2012 was put into act, which required pharmacists to make information more accessible to patients with impaired vision. In conclusion, we must confide in the government to help provide better legislations for patients to safely take medication.

This article accounts for those who were not allowed to be in multiple studies due to their impairments. While other studies focused on health literacy, this article features the miscommunication that occurs with impaired patients. The needs of both these groups are significantly different, yet similar methods can be used to treat the problem.

One way pharmacists can decrease miscommunication is by identifying patients that need extra assistance comprehending the directions. Jessica Praksa published, "Identifying and Assisting Low-Literacy Patients with Medication Use: A Survey of Community Pharmacies" in The Annals of Pharmacotherapy. The goal of this study was to observe whether or not pharmacies require their pharmacists to provide special attention to their patients with limited literacy. The survey was taken over the phone and questions were based on the attempts the pharmacist made to identify and improve the adherence of patients with low literacy levels along with the strategies that were implemented to improve overall comprehension.

As a result, only two out of the 30 pharmacies interviewed claimed to identify patients who needed more assistance. Although others didn't identify these patients, they provided extra help that patients could take advantage. It was reported that 73% of the pharmacies offered verbal and written counseling and 17% offered refill services. Their efforts didn't stop there: 27% of the pharmacies provided packaging and organizing aids and 13% gave their patients graphical aids.

A major limitation of this study is that only 30 pharmacies were surveyed, making it hard to generalize the conclusions. Additionally, there is a difference in whether the pharmacy implements rules for pharmacists to follow or whether the pharmacist decides to seek these patients on his/her own terms. In response to this, the researchers "attempted to minimize this limitation by asking the pharmacist to comment on the pharmacy's practices rather than his or her own" (Praska 1444). By separating the pharmacist from the pharmacy, the results were objective to the principles established by the organization.

This study defines the role of the pharmacist and questions the future of the field of pharmacy. As recognized in the study, "More research is needed on ways to improve the recognition of low-literacy patients by pharmacists, as well as the effect of different adherence tools, such as graphics and reminders, on understanding of and

adherence to drug therapy in low-literacy patients" (Praska 1444). There are many research studies dedicated to observing the patient's comprehension levels, but not observing the pharmacist's actions in this situation.

In general, the misuse of prescription medication is an ongoing problem that has many contributing components. Although the duties of a pharmacist include the proper administration of medicine, there are many aspects that don't have clear guidelines. Legally speaking, a pharmacist can be questioned for dispensing medication if a patient's misuse causes adverse health outcomes. However, this doesn't account for the probability that the overdose or under dose could have been caused by the patient's inability to understand the warning labels and/or directions. In order to avoid this situation, Sunil Kripalani and Kara Jacobson, authors of "Strategies to Improve Communication Between Pharmacy Staff and Patients: A Training Program for Pharmacy Staff" provide a training curriculum for the U.S. Department of Health and Human Services on how to improve communication between patients and the pharmacist. An effective suggestion that they insist is to ask the patient to explain the directions in their own words. Another strategy is to avoid asking questions that can only be answered by yes or no. Instead, they recommend asking open-ended questions. Although the labels might take time to change due to government regulations, there are many actions a pharmacist can take to prevent poor health outcomes.

However, the ambiguity of textual information is not only applicable to the pharmacy, but also the larger world of science. In the "Science of Scientific Writing," George Gopen describes good writing as, "We cannot succeed in making even a single sentence mean one and only one thing; we can only increase the odds that a large majority of readers will tend to interpret our discourse according to our intentions" (Gopen 3). Just as writing in science can be ambiguous, the pharmacist can only hope that his/her patients will interpret the instructions in accordance to the original intentions of the prescribing doctor. Therefore, full responsibility of this issue shouldn't be put on the pharmacist because writing in the sciences is challenging. Nevertheless, patient's health outcomes shouldn't be affected by the vague discourse of the sciences and the duties of health professionals should be mitigated to reflect the needs of their patients.

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