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Patient Medication Use: Interpreting the Results of a Patient Medication Safety Survey by Phase I Immersion Pharmacy Students

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Patient medication use: Interpreting the results of a patient medication safety survey by Phase I immersion pharmacy students

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Abstract

A medication safety survey was created during our first year pharmacy rotations in order to assess and gain insight to how safe patients are with their medications at home. The patient population was from the nursing units and emergency department of Moses Cone Hospital in Greensboro, NC. The survey questions covered the topics including how the patients take their medications, medication storage, medication disposal, as well as medication adherence.

Introduction

Medications are intended to help patients manage and treat their health conditions when used properly. As patients deviate from their prescribed directions, the health risks of taking medications increase. According to the CDC, adverse drug event cases contribute to approximately 700,000 emergency department visits and 120,000 hospitalizations annually². A study conducted by the Institute of Medicine found that \$3.5 billion dollars of extra medical spending resulted from treating adverse drug events. The institute also concluded that an estimated 40% of non-hospital setting adverse drug events were preventable¹. It can be said that patients take most of their medications when they are at home. Thus it is important to gain insight into how they are actually using their medications at home. By doing so, we can identify the common mistakes patients make and ultimately try to implement measures to minimize those mistakes.

As of now, most available medication safety surveys are geared towards health professionals, rather than patients. As students at the University Of North Carolina Eshelman School Of Pharmacy, we had the opportunity to be placed in a health system setting for our first rotations under the new immersion curriculum. We wanted to create a medication safety survey to see how safe patients are with their medications while at home. The survey population was taken from consenting patients in the emergency department and nursing units at Moses H. Cone Memorial Hospital. The survey was comprised of seven questions that covered the topics of storage, disposal, physical limitations, side effects, adherence, and knowledge of drug indications.

A total of 89 patients participated in the survey. Of the 89 patients, 57 were at least 60 years of age. Females accounted for 55 patients while males accounted for 34 patients.

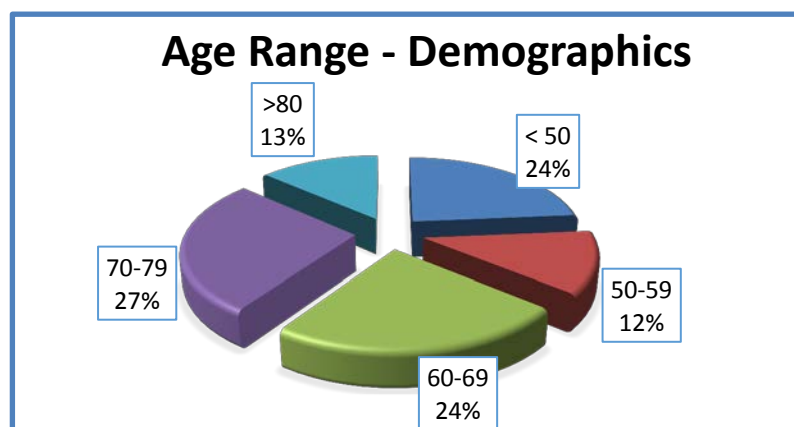


Figure 1. Age demographics of survey

The first medication safety topic explored in the survey was medication storage. Most manufacturers recommended that patients store their medications away from heat, air, light, and moisture because all of these factors have the potential to damage their medications. The survey found that 59.5% of patients stored their medications in the bedroom, most

commonly in a nightstand or dresser. Approximately 22.4% of patients stored their meds in a bathroom cabinet. This data suggest that a majority of patients are storing their meds in a cool, dry place. However, about 20% of patients are storing their medications in the bathroom where the heat and moisture from the shower, bath, and sink can degrade

medication effectiveness. The second topic the survey looked at was the disposal of medications. Overall, 48.3% of patients either threw away their medications in the trash or flushed them down the toilet. About 16.8% of patients took their medications back to the pharmacy for disposal, and 11.1% of patients kept expired medications in storage around the house. The FDA recommends that expired, unwanted, or unused medications be transferred to authorized collectors for disposal.⁴ Collectors can include local law enforcement agencies or pharmacies that participate in drug take-back programs. Patients can also contact local waste management authorities to explore other disposal options.

It is important for patients to know what their meds are actually used for in order to minimize the likelihood of adverse drug events. In this survey population, most patients knew all of their medications' indications. Specifically, 70.7% of patients reported that they knew what all their medications were used for, and 29.3% stated that they only knew some or none of the indications. While 70% is a large percentage, about 30% of patients don't really know what their meds are for. This is rather alarming given about 48.7% of Americans or roughly 150 million Americans are using at least one prescription drug³. If patients don't know what their meds are for, there is a higher chance for them to confuse one drug with another resulting in poor adherence, which can cause potentially harmful effects.

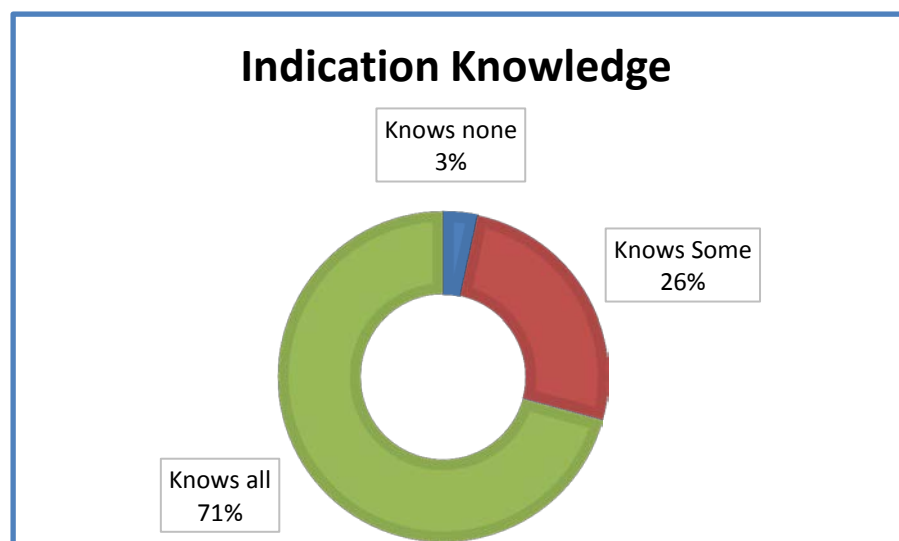


Figure 2. Patient knowledge of indications

A majority of the patients, 74%, also stated that they follow the prescribed directions for all of their medications versus 26% who changed the way they take their medications from the way they were prescribed for at least 1 medication. Approximately 63% of patients have not stopped any medications on their own compared to 37% of patients who stopped at least one medication, with 8% stopping three to four of their medications. From this data, it can be concluded that ongoing improvement in the education we provide to our patients is needed to move them toward complete understanding of indications and the importance of taking medication as prescribed.

Often times, patients have physical disabilities that can hinder their medication use in various ways such as vision

impairment, limited mobility, and hand shakiness or stiffness. More than half of the patients in this survey were at least 60 years of age, and we must not lose sight of the fact that physical limitation becomes a pertinent factor when discussing medication safety. About 28% of patients reported that they have at least 1 physical limitation that affect their medication use, and 72% reported no physical limitations. Out of the 28% of patients who reported having at least 1 physical limitation, impaired vision was the most common. Patients with bad eyesight are prone to mixing up pills and taking the wrong one by accident. Limited mobility was the second most common disability patients reported. This can make it difficult for patients to get to their medications. Lastly, the survey explored what patients did when they experienced side effects from taking their medications.

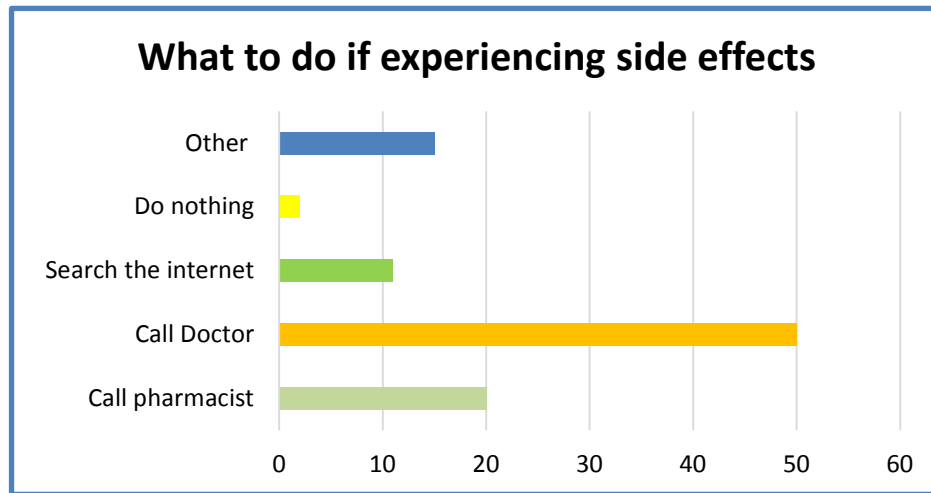


Figure 3. What patients do when they experience side effects

Out of all the patients, 56% reported that they contacted their doctors, and 22% of them talked to their pharmacists. Roughly 11% of the patients reported that they tend to search the internet when they experience side effects rather than consult health professionals when they experience side effects.

Conclusion

In recent years, medicine has become more advanced and better at treating health conditions. In turn, this has resulted in an increased use of medications. However, the increased usage of medications has brought along higher risk of adverse drug events and other hazards. Therefore improving medication safety has become an important topic of discussion. By improving medication safety, not only will patients be safer, health care costs can also be reduced dramatically. While most patients in this study were properly storing their medications, knew indications for their medications and took them as prescribed, there exists a small, but significant population of patients that do not engage in safe practice and are at an increased risk for poor outcomes. Through this immersion experience, we were able to gain valuable insight and information regarding how patients use and manage their medications at home. Being able to complete this survey and analyze the results has helped enhance our understanding of the need to provide our patients with additional information regarding safe medication usage at home.

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