Drug interactions in ER's common but preventable, study finds

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In a recent Rutgers study, 38 percent of patients discharged from the emergency department had at least one drug interaction resulting from a newly prescribed medicine.

The study, which was published in the *American Journal of Emergency Medicine*, identified the most common prescription drug combinations that may result in a negative interaction.

"If a new prescription given in an emergency department has a negative interaction with a medication that a patient is taking, the provider should consider an alternative," said co-lead author Patrick Bridgeman, a clinical assistant professor of pharmacy practice and administration at Rutgers Ernesto Mario School of Pharmacy. "For example, if a patient is taking a lisinopril—a diuretic to treat high blood pressure—at home, the doctor would want to re-consider prescribing that patient ibuprofen because there could be an interaction that may be harmful to the patients' health."

Pain medications (oxycodone/acetaminophen, such as Percocet) were most commonly found to cause an interaction—a reflection of the overall increase in opioid use over the past several years—followed by ibuprofen, antibiotics and steroids.

Examples of these interactions included:

- Oxycodone/acetaminophen and fluoroquinolones (another

antibiotic used for respiratory and urinary tract infections) has been associated with neurologic disorders such as seizures, delusions, and hallucinations.
- Oxycodone/acetaminophen and hydrochlorothiazide (a diuretic) may decrease the effectiveness of the diuretic and cause significant drops in blood pressure or sodium levels, which could lead to an increased risk of falls.
- Lisinopril (a blood pressure/heart failure medication) and ibuprofen can cause increased rates of kidney damage.

"Most times, negative interactions can be avoided with thorough monitoring and a complete change in therapy is not needed. However, patients often may not know what medications they are taking at home, and emergency departments do not have standard procedures to identify medication interactions," said Bridgeman.

He suggests physicians weigh the benefits and risks of all medications before prescribing a new one, as well as monitor therapy after the patient leaves the hospital. If patients have a complex medication list, the physician may wish to consult an emergency department pharmacist to verify if there is a major interaction with any of the patients' home medications. Further, emergency providers may communicate with the patients' primary care physician, and patients should be educated about interactions so they can ask their primary care doctor if they have any questions.

"By educating physicians, we can promote selecting the best medication with the most benefit and least risk," Bridgeman said. "We can also help to ensure providers are monitoring patients after they return home. Patients can help to be aware of potential interactions by keeping and bringing updated medication lists whenever they see a doctor, especially one that is not their primary provider, and by making and keeping follow-up appointments after they are discharged."

More information: Tara Jawaro et al, Descriptive study of drug-drug interactions attributed to prescriptions written upon discharge from the emergency department, *The American Journal of Emergency Medicine* (2019). DOI: 10.1016/j.ajem.2019.01.049

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