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Pharmacovigilance education for medical students

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In 2006, the Institute of Medicine reported in *Preventing Medication Errors* that at least 1.5 million preventable adverse drug events occur each year in the USA. A related concern may be whether there is an increase in poor patient outcomes in July, when newly trained medical residents enter practice. Although most such reports are anecdotal, e.g., there are also peer-reviewed studies. For example, the highest risk myocardial infarction patients suffer increased mortality in July in hospitals that are categorized as teaching intensive. Most pharmacology education in US medical schools occurs in the early years of the medical school curriculum through introduction to basic principles of pharmacodynamics and pharmacokinetics and then system-specific drug coverage that is often integrated into system-based pathophysiology units. Clinical pharmacology coverage in later years of the US curriculum is rarely required but more often offered as an elective, whereas a recent study shows that compulsory clinical pharmacology education may be more prevalent in the EU. To provide a consistent and universal introduction to the topics of adverse drug events and pharmacovigilance, we instituted a multi-part module in the year-2 of medical student curriculum. We first provide a concise self-study packet of principles and then have faculty facilitation for case-based, small group discussion sessions, with the adverse event cases specifically designed to integrate material across systems. We assess knowledge through multiple-choice questions in the regular course examinations. Student and faculty evaluation of these sessions has been very positive. The pharmacovigilance curriculum has become a key component of our longitudinal curricular theme on patient safety and quality improvement.

Recent Publications

1. Roehr B (2006) Institute of Medicine report strives to reduce medication errors. *British Medical Journal* 333:220.
2. Jena A B, Sun E C and Romley J A (2013) Mortality among high-risk patients with acute myocardial infarction admitted to US teaching-intensive hospitals in July: a retrospective observational study. *Circulation* 128:2754-2763.
3. Korth-Bradley J M (2018) The education of prescribers for safe and effective use of medications. *Clinical Pharmacology & Therapeutics* DOI: 10.1002/cpt.1003.

Biography

Raymond R Mattingly is a Professor and Chair of Pharmacology at Wayne State University, which has the largest single campus medical school in the USA. He was a course director for medical pharmacology and therapeutics for the medical students from 2007-2015. He is a Member of the Academy of Pharmacology Educators of the American Society for Pharmacology and Experimental Therapeutics (ASPET).

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