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Less Is More

Prescription Drug Use and Self-prescription Among Training Physicians

Although guidelines suggest physicians should not treat themselves, the self-prescription of medications is common.[1] Self-prescription among physicians in training is of particular concern, given their limited clinical experience and high levels of work stress.[2,3] In the only large multicenter study conducted to date, to our knowledge, Christie et al[4] found that self-prescribing is widespread, with 52% of residents self-prescribing medications during their training. Importantly, the most common sources of self-prescribed medications were sample cabinets (42%) and pharmaceutical representatives (11%). In the 13 years since the publication of this study there has been substantial change in the relationship between residency programs and pharmaceutical companies. Thus, it is important to reassess the rates of self-prescription among physicians in training.

Methods. Interns entering internal medicine, general surgery, pediatrics, obstetrics/gynecology, emergency medicine, and psychiatry residency programs during the 2009-2010 and 2010-2011 academic years at 16 US medical centers were invited to take part in the study before the start of the academic year. Interns completed online surveys at 3-month intervals throughout internship year assessing whether prescription medications were used, the class of medications used, and how they were obtained. To allow a direct comparison to previous results, we used the item language developed by Christie et al.[4] All surveys were conducted through a secure Web site designed to maintain confidentiality, with subjects identified only by numbers.

Results. Of 2660 subjects, 1555 (58.5%) agreed to take part in the study. Of these 1555 interns, 1267 (81.5%) completed at least 1 follow-up survey during internship year, 140 (11%) of whom reported using at least 1 prescription medication during internship year. Five interns received medications from multiple sources. Of 145 medications, 73 (50.3%) and 35 (24.1%) were obtained through a personal physician or colleague, respectively, and 11 (7.6%) were self-prescribed. Of the self-prescribed medications, only 2 (18%) were obtained from a sample cabinet. No intern reported obtaining a medication from a pharmaceutical representative. There were no significant differences in age, sex, marital status, specialty, or institution among interns who used prescription medications or self-prescribed medications compared with interns who did not use or self-prescribed medications. The **Table** reports self-prescription rates among the most common classes of medications.

Comment. Our findings suggest that a small proportion of interns use prescription medications during internship, and a small fraction of interns who used medications, self-prescribed them. Encouragingly, the majority of physicians in training are receiving medications through a personal physician or colleague. These findings are in stark contrast to the previously largest study of self-prescribing practices among medical trainees, conducted in 1998, that reported that a majority of medical residents self-prescribed medications.[4] Furthermore, while the earlier study found that sample closets and pharmaceutical representatives were common sources of medications, these sources were rarely used by the subjects in our study. These results suggest that the rate of self-medication has decreased substantially among residents over the past 13 years and that this decrease is largely explained by a decreased use of medications obtained directly from pharmaceutical companies. The increased awareness of industry influence on medical practice and the reduced interaction between medical trainees and pharmaceutical companies may have played a role in this shift. Other changes in graduate

Table. Prescription Drug Use by Class in Present Study and 1998 Study by Christie et al[4]

Medication Class	Self-Prescriptions Rates: Self-Prescriptions/Total Prescriptions (%)		Examples of Medications (Present Study)
	Present Study	Christie et al[4]	
Cardiovascular medications	1/13 (7.7)	4/17 (23.5)	Metoprolol succinate, hydrochlorothiazide, lisinopril
All psychotropic medications	4/72 (5.5)	7/25 (28)	
Antidepressants	4/57 (7.0)	NA	Citalopram hydrobromide, escitalopram oxalate, bupropion hydrochloride, duloxetine hydrochloride
Mood stabilizers	0/2	NA	Lamotrigine
Antipsychotics	0/1	NA	Not reported
Stimulants	0/12	NA	Lisdexamfetamine dimesylate
Allergy and asthma medications	1/47 (2.1)	84/150 (56)	Albuterol, fexofenadine hydrochloride
Antibiotics	0/53	128/232 (55.2)	Ciprofloxacin, doxycycline, rifampin, amoxicillin sodium/clavulanate potassium, metronidazole
Prescription analgesics	0/6	21/38 (55.3)	Not reported
Sedative hypnotics	0/22	NA	Zolpidem tartrate
Other	5/63 (7.9)	8/34 (23.5)	Pantoprazole, esomeprazole magnesium, levothyroxine sodium, clobetasol propionate, ketoconazole, oral contraceptive pills

Abbreviation: NA, data not available.

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medical education, such as work hour reform, may have created increased time for physicians in training to attend regular clinic appointments.

In addition to the graduate medical education changes that have taken place in the years between the study by Christie et al[4] and our study, there are other differences between the studies that may have contributed to differing results. First, the study by Christie et al included first-, second-, and third-year residents, while our study only included first-year residents. Compared with more advanced residents, the intern subjects in the study by Christie et al reported slightly lower rates of medication use (69%) and self-prescribing behavior (39%). However, the rates among interns in the study by Christie et al are still dramatically higher than the rates reported by interns in our study. Second, while the present study included residents from multiple specialties, Christie et al included only internal medicine residents. We do not find a significant difference in the rates of medication use or self-prescription between internal medicine and non–internal medicine subjects in our study, suggesting that the inclusion of multiple specialties did not account for the differing results. Finally, while the questions administered in the 2 studies were similar, studies differed in how self-report questionnaires were completed (online vs postal mail). However, subjects in the present study have reported high levels of potentially sensitive information (eg, depression, suicidality, medical errors), indicating that it is unlikely that interns were inhibited from admitting self-prescribing behavior through our survey format.[5,6]

This study suggests that there has been a dramatic shift among physicians in training away from self-prescription and use of medications from sample cabinets and pharmaceutical representatives. Further research should assess if this shift persists as physicians move out of the training environment and into independent practice, where a physician's personal use of sample medications is common[7] and interactions between physicians and pharmaceutical representatives are frequent.[8]

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COMMENTS AND OPINIONS

Rhetorical Techniques in Contexts Other Than Cardiac Resynchronization Therapy

Rhetorical techniques that emphasize benefits of cardiac resynchronization therapy to the exclusion of acknowledgment of its complications[1] have their counterpart in the way laparoscopic cholecystectomy has evolved and become a standard procedure, notwithstanding the fact that, compared with "open" cholecystectomy, the former is a technique with far greater risk of damage to the common bile duct.[2] Furthermore, despite the fact that in 1996 a prospective randomized comparison between laparoscopic and small-incision cholecystectomy showed that laparoscopic cholecystectomy took significantly ($P < .001$) longer to perform than small-incision cholecystectomy and that the laparoscopic procedure did not have any significant advantages in terms of hospital stay or postoperative recovery,[3] it rapidly "upstaged" open cholecystectomy and became the standard procedure, being especially promoted on a day-case basis. Arguably, as a result of early discharge of day-case patients and suboptimal monitor-

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