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Pharmacy Column

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Deprescribing is not rocket science, but it is challenging

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Mark Beers was a gentleman and a lover of opera. He also understood what is probably the most important mantra in geriatric drug therapy: *The benefits of drug therapy must be greater than the risks of that therapy*. Of course, this mantra applies to anyone receiving a medication but, due to the potential for greater impact of adverse drug effects as we age, it is even more important in the older population.

Dr. Beers understood that, while increasing attention was being paid to inappropriate medication use in nursing homes, there was a lack of uniform and readily available criteria for defining the appropriate or potentially inappropriate use of medications used in in that setting.

To achieve this end, Dr. Beers used a two-round, written survey, based on Delphi methods which involved enlisting of a panel of experts in geriatric drug therapy. Panelists were asked to respond to 43 questions that were derived from the literature in the first survey round. After the second-round, survey responses were analyzed and consensus was reached which became the first Beers criteria, commonly referred to as "The Beers List."[1] The Delphi method is not evidence-based. Rather, it is based on the opinion of experts which certainly has some validity though not as rigorous as an evidence-based approach. The technique is associated with particular inherent bias depending on the participants because it is essentially opinion-based which of course reflects a number of factors including the panelists experience and expertise. The Delphi method has been jokingly referred to as "GOBSAT" which is an initialism for "Good Old Boys Sitting Around Talking." In fact, twelve of the 13 panelists were male.

In the first iteration of the Beers criteria the authors noted that "the method used to establish these criteria can be used to update and expand the guidelines in the future" which indeed has occurred although the criteria are now developed through an evidence-based approach. While the term "deprescribing" was not included in the first Beers publication, the development of the recommendations was an early method which would later steer clinicians towards a more formal process of deprescribing which can be defined as: "The systemic process of identifying and discontinuing drugs in instances in which existing or potential harms outweigh existing or potential benefits within the context of an individual patient's care goals, current level of functioning, life expectancy, value and preferences."[2]

The STOPP-START method took the Beers criteria one step further. Like Beers, it identified a number of medications that were potentially inappropriate when used in the elderly (STOPP drugs) but this physiological systems-based method went further by identifying certain medications that should be added in particular situations (START drugs).[3] Drugs on the STOPP list include the use of thiazide diuretics in persons with a history of gout (thiazides may exacerbate gout), the use of calcium channel blockers (CCBs) with chronic constipation (CCBs can cause or exacerbate constipation) and the use of anticholinergic drugs in persons with dementia (risk of increased confusion, agitation). The START list includes the use of an anticoagulant in persons with atrial fibrillation and the use of an angiotensin converting enzyme inhibitor in persons with chronic heart failure.

Other approaches to identifying potentially inappropriate medications have been published including "quality indicators for medication use in vulnerable elders",[4] the Medication Appropriateness Index,[5] the Individualized Medication Assessment and Planning (iMAP) Tool,[6] and the Improved Prescribing in the Elderly Tool (IPET)[7]

The first Beers publication was ground breaking in that it pointed out that many commonly used medications should be considered

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potentially inappropriate in elderly nursing home residents. Subsequent iterations addressed all elderly, regardless of where they resided. Recommendations included avoiding all use of the best-selling drugs propoxyphene (Darvon) and flurazepam (Dalmane). At the time, these were initially some rather profound recommendations and some took longer to be adopted than others but most have generally become accepted guidelines of geriatric drug therapy. Now, with the recent release of the 2019 Beers Criteria, we see that these and similar recommendations are still included in the criteria.[8] The 2019 Beers criteria includes numerous recommendations that are almost too obvious such as avoiding the use of the long-acting barbiturates secobarbital and pentobarbital. While the use of these agents was standard care in the 1980's, today such use would likely result in a law suit.

I don't mean to minimize the importance of the Beers criteria, the STOPP/START method or any other approaches to deprescribing but am simply pointing out that most of the recommendations made are based on very basic pharmacology. If someone is constipated, don't give them a drug that will worsen the constipation. If someone has gout, don't give them a drug that will precipitate a gouty attack, etc. These principles are so basic that it is unfortunate that they are necessary. . .. but they are.

This is where the term "rocket science" comes in to the discussion. Of course, this is a colloquial term that refers to something of extreme technical complexity requiring a high degree of intellect to understand. When discussing various approaches to deprescribing, I frequently remind my Doctor of Pharmacy students not to be intimidated by deprescribing because the approaches are largely based on common sense, basic pharmacology and available knowledge to the point that applying the principles of deprescribing in the clinical setting is "not rocket science." I point out to them that deprescribing is simply a reflection of the previously mentioned mantra that in drug therapy potential benefits must exceed potential risk. Stated otherwise, deprescribing is simply an initiative to do what is right with drug therapy and don't do what is wrong with drug therapy.

Yet, my rocket science analogy may not always hold up because research studies and case observations continue to report inappropriate medication use in the elderly in spite of available deprescribing methods. Another drug therapy mantra makes deprescribing a challenge*: it is a lot easier to start a drug than it is to stop a drug.* No, the principles of deprescribing are not rocket science but operationalizing a deprescribing initiative is challenging. It requires an ongoing input of the interdisciplinary team and requires an evidence-base, tested approach. Importantly, if a patient-specific deprescribing attempt is not successful, an assessment and re-evaluation is required.

Deprescribing has come a long way since Dr. Beers' first publication. In my opinion, the current state-of-the art approach to deprescribing has been researched and developed in Canada by the Bruyère Research Institute and the Ontario Pharmacy Evidence Network, through an NHMRC-ARC Dementia Research Fellowship. Their web site "Deprescribing.org" is rich in content including information for patients and caregivers, background information, educational pamphlets and an animation explaining clearly describing what deprescribing is. The web site features a series of evidenced-based deprescribing guidelines for antihyperglycemics, antipsychotics, benzodiazepine receptor agonists, cholinesterase inhibitors and proton pump inhibitors. These algorithms guide the user in a well-presented step-by-step approach that, in my opinion, goes far beyond all previous approaches to deprescribing. I encourage the reader to take a look at this website.

Deprescribing has come of age. With our better understanding of the importance and impact of deprescribing and, using new approaches and methods, the interdisciplinary team can move forward in our continuing efforts to optimize drug therapy in the individuals we serve.

Disclosure

Dr. Simonson alone is responsible for the content and accuracy of this column.

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