

Take 3 – Practical Practice Pointers[©] March 4, 2019 Edition

Deprescribing Meds, Benzodiazepine Use, E-cigarettes

From the Literature - Editorial

1) Reducing Polypharmacy - Deprescribing Medications

Nearly one-half of older adults take five or more medications, and as many as one in five of these prescriptions is potentially inappropriate. Older adults prescribed more medications are more likely to be hospitalized for an adverse drug reaction. Moreover, adverse drug reactions account for more morbidity and mortality than most chronic diseases, with death rates higher than many common cancers.

Polypharmacy (variable definitions but generally defined as taking ≥ 5 chronic medications) is a clinical challenge because the health care system is geared toward starting medications, not reducing or stopping them, and guidelines typically include recommendations for initiating medications, but not stopping them. Although any medication may offer potential benefit, each also has potential harm. **Deprescribing** is the process of intentionally stopping a medication or reducing its dose to improve the person's health or reduce the risk of adverse side effects

The authors of this editorial provide 5 steps to individualize deprescribing practices:

- 1) Identify potentially inappropriate medications
- 2) Determine if the dosage can be reduced or the medication stopped
- 3) Plan the tapering process
- 4) Monitor for symptoms and provide support
- 5) Document outcomes

Some simple approaches might include:

- Routinely ask if medications are causing any problems
- Look for a particular adverse effect across medications (ie: anti-cholinergic SE)
- Look for “legacy prescribing” (see the February 25, 2019 Take 3)
- Choose a few patients in each clinic session to start this deprescribing process

Examples of phrases to introduce this conversation include the following:

- “You are on a number of medications now. I would like to regularly review these to make sure each of them is still benefiting you, as well as check for side effects.”
- “Medication side effects can add up. I’m worried that these particular medications might all contribute to memory problems.”
- “As we get older, medications that once worked well may no longer have the same benefit or may have additional side effects. In particular, I’m thinking that this medication may no longer be needed.”
- “From your point of view, what matters most to you? How do you feel about these options? Is this something you would consider?”

My Comment:

This thoughtful editorial provides some guidance for considering how to begin to incorporate the skill of deprescribing into clinical practice. Given the high prevalence of polypharmacy, I thought it provided a nice structure for thinking about a deliberate,

explicit process to implement that which for many may still be relatively new concept. The link below to the Canadian Deprescribing Network provides some helpful algorithms for deprescribing some common medications, including PPIs and benzodiazepines (see Pointer 2 for more on this).

Reference:

Farrell B and Mangin D. Deprescribing Is an Essential Part of Good Prescribing Am Fam Physician. 2019 Jan 1;99(1):7-9. [Editorial](#)
Canadian Deprescribing Network – Deprescribing algorithms: [Link](#)

From the Literature

2) Increasing Trend of Benzodiazepine (BZD) Use and Misuse

Two recent studies were published regarding benzodiazepine use in the US. In the first, the goal was to determine the prevalence of BZD use (as prescribed and misuse), characterize misuse, and examine variation by age. In the second, by the same lead author, the goal was to determine county and provider characteristics that predict high-intensity BZD prescribing by primary care physicians to Medicare beneficiaries.

The first study performed a cross-sectional analysis of 2015 and 2016 National Survey on Drug Use and Health data limited to adults ≥ 18 and looked specifically at those respondents reporting BZD use. Measurements included past-year prescription BZD use and misuse (“any way a doctor did not direct”), substance use disorders, mental illness, and demographic characteristics.

A total of 30.6 million adults (13%) reported past-year BZD use, with misuse accounting for almost 20% of overall use. Adults ages 50–64 had the highest prescribed use. Being female, an older age, having more education, and being non-Hispanic white were all associated with increased odds of use. Those ages 18–25 had the highest misuse, and those ages ≥ 65 had the lowest. Misuse and abuse of or dependence on prescription opioids or stimulants were strongly associated with BZD misuse. The most common type of misuse was use without a prescription, and a friend or relative was the most common source. The most common BZD misused was alprazolam (Xanax), which was the source of misuse in 75% of respondents.

In the second study, the authors performed a cross-sectional analysis of the 2015 Medicare Part D Public Use Files (PUF). Subjects were 122,054 PCPs. Primary outcome was intensity of BZD prescribing (days prescribed/total medication days) at the county- and physician levels.

Short-acting BZDs were prescribed for 91.1% of BZD days, with alprazolam accounting for 38% of all BZD days, followed by lorazepam (24%) and clonazepam (18%). States that had the highest county-level prescribing were all located in the South. The five states with the highest county-level prescribing were Louisiana, Florida, West Virginia, Tennessee, and Alabama. High-intensity counties were more likely to be rural and have fewer primary care providers per 100,000 population. Socioeconomic status was lower in high-intensity counties and residents had lower results for every health status indicator except binge alcohol use.

BZD prescribing rates were more than three-fold higher in the top quartile counties versus the lowest and shared an overlap with high-opioid prescribing counties. The strongest link to high-intensity BZD prescribing was being a high-intensity opioid prescriber ($p < 0.001$). Being a high-intensity prescriber of any type was also associated with high-volume BZD prescribing.

The authors concluded that where a patient lives and "nonpatient characteristics" such as those of their primary care provider (PCP) are significantly associated with the intensity of BZD prescribing to Medicare beneficiaries, even after adjusting for the availability of mental health treatment resources. Further work is needed to understand how such non-clinical factors drive variation.

My Comment:

This data was not surprising to me, but it was humbling. As we slowly reign in the epidemic of opioid use/misuse, there are other challenges around the variation in prescribing of controlled substances that await to be addressed. Note the BZD deprescribing algorithm in the references below.

The authors noted that their findings are consistent with previous suggestions that BZD prescribing increases "in response to distress in socioeconomically disadvantaged counties." Sadly, a pill will not address all that surrounds these socioeconomic challenges and disparities due to social determinants of health, though in the case of BZDs (and other substances of abuse such as opioids, alcohol, meth, and nicotine), they appear to help those who are experiencing them somehow better cope. And that, my colleagues, is a very sad commentary

References:

- Maust D, et al. Benzodiazepine Use and Misuse Among Adults in the United States. Psychiatric Services. Published Online:17 Dec 2018. [Article](#)
- Maust D, et al. County and Physician Variation in Benzodiazepine Prescribing to Medicare Beneficiaries by Primary Care Physicians in the USA. J Gen IM. December 2018, 33(12):2180–2188. [Abstract](#)
- Canadian Deprescribing Network Benzodiazepine Deprescribing Algorithm - [Link](#)

From the Literature

3) E-Cigarettes versus Nicotine-Replacement for Smoking Cessation

It has been postulated that switching completely from cigarette smoking to e-cigarette use would be expected to reduce risks to health. While there are questions about risks and benefits of use of e-cigarettes for different purposes, an important clinical issue is whether e-cigarette use in a quit attempt facilitates success, particularly as compared with the use of nicotine-replacement therapy.

A Cochrane review has shown that e-cigarettes with nicotine were more effective for smoking cessation than nicotine-free e-cigarettes. This new trial evaluated the 1-year efficacy of refillable e-cigarettes as compared with nicotine replacement when provided to adults seeking help to quit smoking and combined with face-to-face behavioral support. The researchers randomized 886 participants to either nicotine-replacement products of their choice or an e-cigarette starter pack. Treatment included weekly behavioral support for at least 4 weeks.

In the nicotine replacement group, participants were encouraged to use combinations of products, typically the patch and a faster-acting oral product. Participants were also free to switch products. Supplies were provided for up to 3 months, as per standard practice.

In the e-cigarette group, a starter pack was provided to facilitate initial use and teach participants how to use refillable e-cigarette products, along with one bottle of e-liquid. Participants were asked to purchase their future e-liquid online or from local vape shops and to buy a different e-cigarette device if the one supplied did not meet their needs. They were encouraged to experiment with e-liquids of different strengths and flavors.

The primary outcome was sustained abstinence at 1 year, which was validated biochemically at the final visit. Participants who were lost to follow-up or did not provide biochemical validation were considered to not be abstinent. The authors found that the 1 year abstinence rate was 18% in the e-cigarette group, as compared with 10% in the nicotine-replacement group ($P < 0.001$). Among participants with 1-year abstinence, 80% of those in the e-cigarette group were using e-cigarettes at 52 weeks vs. 9% of those using nicotine replacement still using a nicotine replacement (non-e-cig) product.

My Comment:

This study presents an interesting quandary. On the one hand, it appears to be a well-designed study and shows that e-cigarettes combined with a 4 week counseling intervention provides a 1 year quit rate that is comparable to if not superior to presently accepted therapies (varenicline/Chantix – 14%, bupropion/Zyban – 6%: NOTE that shorter term studies of these products and combinations, particularly varenicline and nicotine replacement, have shown even higher quit rates).

On the other hand, the long-term safety and incredible variability of e-cigarette products with very little regulation continue to raise ongoing concerns. Additionally, present research indicates that when users stop e-cigarettes, they do so to start smoking again, not to quit all inhaled products.

So essentially e-cigarettes appear to be substituting one nicotine addiction for another, with the hope that somehow this one (based on essentially no safety data) is safer. So you might consider this approach to be a very unstructured, unregulated medication assistance therapy (MAT) for nicotine addiction and a grand social experiment being driven by a new “disruptive technology.” I remain at a bit of a loss as to how to guide my patients, other than informing them of the pros/cons based on present information.

Reference:

- Hajek P et al. A Randomized Trial of E-Cigarettes versus Nicotine-Replacement Therapy. N Engl J Med. 2019 Feb 14, 2019; 380:629-637. [Article](#)
- Benli, A et al. A comparison of the efficacy of varenicline and bupropion and an evaluation of the effect of the medications in the context of the smoking cessation programme. Tob Induc Dis. Feb 1, 2017; 15: 10. [Article](#)

Feel free to forward Take 3 to your colleagues. Glad to add them to the distribution list.

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