Journal of the American Pharmacists Association 58 (2018) 13–20

Contents lists available at ScienceDirect

Journal of the American Pharmacists Association

journal homepage: www.japha.org

RESEARCH

Patient attitudes and experiences that predict medication discontinuation in the Veterans Health Administration

Amy Linsky*, Steven R. Simon, Kelly Stolzmann, Mark Meterko

ARTICLE INFO

Article history:
Received 22 May 2017
Accepted 20 October 2017

ABSTRACT

Objectives: Polypharmacy is associated with adverse medication effects. One potential solution is deprescribing, which is the intentional, proactive, rational discontinuation of a medication that is no longer indicated or for which the potential harms outweigh the potential benefits. We identified patient characteristics, attitudes, and health care experiences associated with medication discontinuation.

Design, setting, and participants: We conducted a national mail survey, with the use of the Patient Perceptions of Discontinuation (PPoD) instrument, of 1600 veterans receiving primary care at Veterans Affairs (VA) medical centers and prescribed 5 or more concurrent medications.

Main outcome measures: The primary outcome was the response to: "Have you ever stopped taking a medicine (with or without your doctor's knowledge)?" The primary predictors of interest were 8 validated attitudinal scales. Other predictors included demographics, health status, and health care experiences.

Results: Respondents (n = 803; adjusted response rate 52%) were predominantly male (85%); non-Hispanic white (68%), 65 years of age or older (60%), and with poor (16%) or fair (45%) health. Participant attitudes toward medications and their providers were generally favorable. One in 3 patients (34%) reported having stopped a medicine in the past. In a multivariable logistic regression model ($P < 0.001$; pseudo-$R^2 = 0.31$; c-statistic = 0.82), factors associated with discontinuation included being told or asking to stop a medicine, greater interest in deprescribing and shared decision making, and higher education. Factors associated with decreased discontinuation were more prescriptions, higher trust in provider, and seeing a VA clinical pharmacist.

Conclusion: More highly educated patients with interest in deprescribing and shared decision making may be more receptive to discontinuation discussions. Future research evaluating how to incorporate this survey and these findings into clinical workflow through the design of clinical interventions may help to promote safe and rational medication use.

Published by Elsevier Inc. on behalf of the American Pharmacists Association.

Medication use is increasingly prevalent, escalating risks of adverse medication effects for patients and negative impacts on the health care system in general, such as increased hospitalizations and costs.[1-5] Although polypharmacy, frequently defined as concurrent use of 5 or more medications,[6] has been targeted in the past for improvement efforts, many interventions now have the more focused aim of reducing inappropriate prescribing. One such method is deprescribing.[7-10] Deprescribing is the intentional, proactive, rational discontinuation of a medication that is no longer indicated or whose potential harms outweigh potential benefits.[11,12] Of import, this decision-making process ideally includes patient preferences, thus also representing patient-centered care.[13,14]

Disclosure: The authors report no conflicts of interest, including relevant financial interests, activities, relationships, and affiliations.

Funding: Veterans Affairs Health Services Research and Development (CDA 12-166), which had no role in the study's design and conduct; the collection, management, analysis, and interpretation of the data; the preparation, review, or approval of the manuscript; or the decision to submit the manuscript for publication.

Previous presentation: Poster at the Society for General Internal Medicine Annual Meeting, Washington, DC, April 19, 2017, and the Academy Health Annual Research Meeting, New Orleans, LA, June 26, 2017; oral presentation at the Lown Institute Conference, Boston, MA, May 5, 2017.

* **Correspondence:** Amy Linsky, MD, MSc, General Internal Medicine (152G), VA Boston Healthcare System, 150 S. Huntington Ave., Boston, MA 02130.

E-mail address: amy.linsky@va.gov (A. Linsky).

https://doi.org/10.1016/j.japh.2017.10.012
1544-3191/Published by Elsevier Inc. on behalf of the American Pharmacists Association.

Key Points

Background:

- Polypharmacy is associated with adverse drug events.
- Deprescribing, or proactive, intentional discontinuation of medications, may reduce polypharmacy.

Findings:

- The strongest predictors of patient-reported medication discontinuation were provider recommendations or requests to discontinue medication, highlighting the importance of communication.
- Additional patient factors associated with discontinuation included interest in deprescribing and shared decision making, suggesting that such patients may be more amenable to recommendations to stop medications.

Patients generally prefer fewer medicines and would welcome a reduction in prescriptions.[15-18] However, this preference does not necessarily translate into actual discontinuation, owing to both patient- and provider-related barriers to deprescribing.[19-21] Patients may generally prefer to take fewer medications, but they may express reluctance to stopping a specific medication.[22] Some providers may have concerns that patients will feel abandoned or upset as a result of deprescribing; others may worry that patients will perceive their efforts to reduce medication solely as a cost-cutting or rationing measure.[23] Clinicians also report time constraints and limited communication with other providers as system-level factors reducing their ability to deprescribe.[24]

Additional difficulties implementing deprescribing may derive from the sometimes contradictory perceptions of patients and providers about the frequency with which discontinuation occurs. For example, clinicians have reported discontinuing medications more often than patients recalled.[22,24]

Objectives

Ultimately, identifying patient characteristics and clinical experiences associated with discontinuation will facilitate the development of interventions to promote appropriate deprescribing; greater understanding of these patient-related factors will enable tailored interventions to optimize effectiveness. To that end, we undertook this survey study to characterize which patients are more or less likely to report discontinuing medications.

Methods

Study design, setting, and population

We conducted a national mail survey of veterans receiving primary care through the U.S. Department of Veterans Affairs (VA). To identify a sampling frame of patients with polypharmacy, we queried the VA Corporate Data Warehouse to find all VA patients with 5 or more concurrent prescriptions (each with a minimum duration of 28 d) for 90 days (December 17, 2014, to March 16, 2015), at least 1 primary care visit during that same time frame, and at least 1 additional visit in the preceding year. We identified 448,155 patients and randomly sampled 1600 participants. Women constituted 5.7% of the population sampling frame but were oversampled to constitute 15% of the mail-out sample to ensure adequate representation and enable comparisons by sex. The study was approved by the VA Boston Healthcare System Institutional Review Board.

Survey instrument

The Patient Perceptions of Discontinuation (PPoD) instrument is a psychometrically validated survey that consists of 43 items related specifically to medication discontinuation and 14 demographic and background items (Appendix 1).[25] It includes 3 previously established multi-item scales: Beliefs About Medications Questionnaire (BMQ)—Overuse, a 4-item scale addressing perceptions about overreliance on medicines; Trust-Provider, a 5-item scale about belief that providers do what is best for patients; and CollaboRATE, a 3-item measure of shared decision making.[26-28] Five additional PPoD scales consist of a combination of new items and selected items from preexisting scales[29,30]: Medication Concerns is a 6-item scale about short- and long-term medication effects; Provider Knowledge consists of 3 statements about the medical acumen of the primary care provider (PCP); Interest in Stopping Medicines has 3 questions assessing current level of interest in discontinuation; Patient Involvement in Decision Making contains 3 items about the patient's interest in participating in planning his or her medical care; and Unimportance of Medicines is a 3-item measure of patients' perceptions of the potential harms or low benefit of 1 or more of their current medicines.

We modified CollaboRATE responses to use a 1–5 scale to maintain consistency with other scales: from 1 = “no effort” to 5 = “every effort.” All other PPoD scales use a 5-point response scale where 1 = “strongly disagree” and 5 = “strongly agree,” with a neutral midpoint. The internal consistency reliability (Cronbach alpha) in this sample for the established scales was 0.77 for BMQ, 0.57 for Trust-Provider, and 0.93 for CollaboRATE, and for the new scales it was as follows: Medication Concerns, 0.82; Provider Knowledge, 0.86; Interest in Stopping Medicines, 0.77; Patient Involvement in Decision Making, 0.61; and Unimportance of Medicines, 0.70. Ten items address actual and hypothetical deprescribing experiences. Background items in PPoD include self-report of overall physical health, physical and mental health conditions, number of prescription and nonprescription medications taken daily, frequency of health care visits in the past year, and whether the respondent receives assistance managing medications. Demographics included age, race, ethnicity, marital status, and education.

Survey administration

We mailed participants a letter introducing the survey and announcing its upcoming arrival. One week later, we mailed