

Use of nonvitamin dietary supplements with prescription medications

Examining the patterns

Jennifer Pereira MSc Janine Arkinson MSc Kathy Li

Gardiner P, Graham RE, Legedza AT, Eisenberg DM, Phillips RS. Factors associated with dietary supplement use among prescription medication users. *Arch Intern Med* 2006;166(18):1968-74.

Research question

What are the patterns of nonvitamin dietary supplement (NVDS) use among American adults concurrently taking prescription medication?

Type of article and design

This was a cross-sectional study, using adult data from the 2002 National Health Interview Study (NHIS).

Relevance to family physicians

Patients do not always reveal their NVDS use to their FPs¹; this occurs for various reasons, primarily the erroneous assumption that such natural products are completely safe and therefore do not require disclosure.² However, as NVDS use increases, the potential for harmful interactions with prescription medications becomes a greater concern. In a recent analysis of results from Canada's National Health Population Survey,³ nearly 10% of the 11 424 adults who completed the survey reported use of at least 1 NVDS in the previous 2 days. Additionally, it was found that for 28.4% of users, there was at least 1 potential interaction between their NVDSs and their prescription drugs.

The identification of specific patient characteristics and chronic conditions associated with NVDS use, combined with the knowledge of which NVDSs are most commonly consumed, can help FPs recognize situations in which the potential use of these NVDS products should be questioned.

Overview of study and outcomes

Data were collected from the "Alternative Health/Complementary and Alternative Medicine Supplement" of the 2002 NHIS, and the following study outcomes were examined: prevalence of NVDS use by prescription medication users, disclosure of NVDS use to physicians, prevalence of specific NVDS use, chronic medical conditions associated with the highest NVDS use, and characteristics associated with NVDS use by prescription medication users.

Actual histories of prescription medication use were not collected; however, patients were asked if they had taken a prescription medication in the previous 12 months, or alternatively, prescription medication use was inferred based on the self-reported presence of 1 of 13 chronic conditions (ie, chronic pain, depression or anxiety, asthma, thyroid problems, arthritis, seizure disorder, hyperlipidemia, hypertension, diabetes, stroke, congestive heart failure, coronary artery disease, and myocardial infarction).

The study outcomes were analyzed using descriptive statistics. A χ^2 test and logistic regression were applied to compare characteristics of NVDS users with nonusers who were concomitantly taking prescription medications. Analysis was restricted to the herbs with higher proportions of users and those with documented drug-herb interactions.

Results

There were 31 044 NHIS respondents. Twenty-one percent of respondents used prescription medications and NVDSs in the past 12 months; of these, 69% did not tell their FPs about their NVDS use.

The highest use of NVDSs with prescription medications was reported by patients with chronic, non-life-threatening conditions (menopause [33%], chronic gastrointestinal disorders [28%], and those with severe headaches or migraines [28%]). Lower rates of combined use were found in patients with more severe chronic illnesses, such as diabetes (15%) and coronary artery disease (12%). Compared with respondents who were taking prescription medications without concomitantly using NVDSs, NVDS users were more likely to be female, Hispanic, highly educated, residents of the West, without medical insurance, and to have chronic health problems.

Among the 4202 respondents who reported using prescription medications and NVDSs in the past 12 months, the most commonly used supplements included echinacea (40.6%), ginseng (22.6%), ginkgo (20.5%), garlic (19.4%), and glucosamine chondroitin (16.0%).

Analysis of methodology

This cross-sectional study has some methodologic limitations. First, prescription medication use was derived

from a single question that asked about any prescription medications taken in the past 12 months. If patients reported having a chronic condition, it was only assumed that they were taking the associated prescription medications; therefore, it is conceivable that some of these respondents were not taking prescription drugs (or were taking the prescription drugs only as needed) to treat these chronic conditions, or were perhaps using only NVDSs as treatment.

A second limitation is recall bias. Many patients, particularly the elderly who often take numerous medications concurrently, might not be able to recall every medication they have taken in the past year.^{4,5} Indeed, in this study, only 13% of those older than 65 years reported using both a prescription medication and an NVDS. Without verifying such information through medical records, there is the risk of recall error and under-reporting. This is especially true for NVDSs that might have been taken only as needed in the past year rather than on a daily basis, reinforcing the likelihood that their use could have been forgotten.

Additionally, the inclusion of the term *natural herb* in the NHIS survey might have misled respondents who did not consider the NVDSs they had taken to be natural herbs and therefore did not report NVDS use. Furthermore, the limited list of 35 herbal names included in this survey might have also led to under-reporting. Though the authors did include the most popular NVDSs, there are thousands of these drugs; it is very likely that a sizable subpopulation of respondents did not report the use of NVDSs if they were not listed on the NHIS.

Lastly, this study only addressed the concomitant use of NVDSs with prescription medications, leaving out the substantial portion of the population that take NVDSs with over-the-counter medications. As previous studies indicate that patients often neglect to tell their FPs about using NVDSs and over-the-counter medications,^{1,6-7} including data on this type of medication use would have been very valuable.

Application to clinical practice

This study demonstrated 3 important findings regarding the use of NVDSs. First, of all adult prescription medication users in the past year, more than 1 in 5 individuals concurrently used NVDSs along with prescription drugs. As NVDS use becomes increasingly popular, physicians need to become more aware of potential adverse effects or interactions associated with any prescribed medication and NVDSs.

Second, NVDS use was more pronounced among those who were female, Hispanic, highly educated, residents of the West, without medical insurance, and who had chronic health problems. Although not all of these characteristics will translate directly to Canadian primary care, these results do suggest that particular groups of people might be more prone to use both prescription

BOTTOM LINE

- Analysis of the data from the 2002 American National Health Interview Study showed that more than 1 in 5 respondents reported taking both prescription medications and nonvitamin dietary supplements (NVDSs). Most respondents (69%) did not tell their family physicians about their NVDS use. Use of NVDSs was more common among women and among those with chronic health care problems.
- The American context, reported potential differences between use of NVDSs and actual use, and the underlying assumption that having a chronic condition implies use of prescription medications limits the generalizability of this study.
- Despite these limitations, however, the study indicates that some groups are more prone to use NVDSs and that use is under-reported to FPs. Careful inquiry by FPs of patients' use of NVDSs might decrease the likelihood of prescription drug–NVDS interactions.

POINTS SAILLANTS

- L'analyse des données tirées de l'étude intitulée l'American National Health Interview Study de 2002 a révélé que plus de 1 répondant sur 5 avait signalé prendre à la fois des médicaments d'ordonnance et des suppléments alimentaires non vitaminiques (SANV). La plupart des répondants (69%) n'avaient pas dit à leur médecin de famille qu'ils prenaient des SANV. L'utilisation des SANV était plus fréquente chez les femmes et les personnes ayant des problèmes de santé chroniques.
- Compte tenu du contexte américain, des différences potentielles entre l'utilisation signalée et réelle des SANV, et de l'hypothèse sous-jacente que le fait d'avoir une maladie chronique implique l'utilisation de médicaments d'ordonnance, il est difficile de généraliser les résultats de cette étude.
- En dépit de ces limites, l'étude indique, par ailleurs, que certains groupes sont plus enclins à utiliser les SANV et que cette utilisation n'est pas souvent signalée aux médecins de famille. Si les MF prenaient soin de demander à leurs patients s'ils utilisent des SANV, la probabilité des interactions entre les médicaments d'ordonnance et les SANV pourrait être réduite.

drugs and NVDSs. For example, a recent Canadian study³ found that in the previous 2 days, 5.3% of respondents used a natural health product and prescription medication; several characteristics, including female sex, older age, having a lower level of education, and the presence of diabetes and high blood pressure, were independently associated with increased risk of having at least 1 potential NVDS–prescription medication interaction.

Therefore, physicians should inquire in detail about supplement use and spend more time discussing potential dietary supplement medication interactions with their patients.

Finally, this study showed that most of the NVDS users (7 in 10) did not discuss NVDS use with their health care providers. In a recent Health Canada survey on the use of complementary and alternative medicine, about 12% of Canadians who have ever taken a natural health product (including herbs) reported an unwanted side effect or reaction; yet less than 40% of those who experienced side effects reported the event to someone.⁸ Both the Gardiner et al and Health Canada⁸ studies reinforce the responsibility of FPs to ask and advise patients about the use of NVDSs and prescribed medications, rather than waiting for patients to mention the issue on their own. ❁

Ms Pereira is a doctoral student in the Department of Pharmaceutical Sciences at the University of Toronto in Ontario. **Ms Arkinson** is a master's student in Health Research Methodology at McMaster University in Hamilton, Ont. **Ms Pereira, Ms Arkinson, and Ms Li** are trainees with the Team for Individualizing Pharmacotherapy in Primary Care for Seniors at the Centre for Evaluation of Medicines in Hamilton.

Competing interests

None declared

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Elliptical excision

Minor surgery video series

Charles Czarnowski MD CCFP

David Ponka MD CM CCFP(EM)

Ravi Rughani MD CCFP

Paul Geoffrion MD CCFP

This month, check out the latest minor surgery video—"Elliptical Excision"—from the Élisabeth Bruyère Family Medicine Centre in Ottawa, Ont. The video reviews the equipment, technique, and postoperative care required for this procedure.

The video "Elliptical Excision" is available at www.cfp.ca. Go to this article on-line, then click on **CFPlus** in the menu at the top right-hand side of the page.

Past minor surgery procedure videos can be accessed on-line at www.cfp.ca. On the homepage, click on **Collections** in the left-hand menu, then click on **Video Series**.

Video 3. Elliptical excision



Competing interests

None declared

Drs Czarnowski and Ponka are Assistant Professors in the Department of Family Medicine at the University of Ottawa in Ontario. **Dr Rughani** is a family practitioner at the Geraldton District Hospital in Geraldton, Ont. **Dr Geoffrion** is a family practitioner in Calgary, Alta.



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