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Communication study

A cross-sectional study of provider and patient characteristics associated with outpatient disclosures of dietary supplement use

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ABSTRACT

Objective: Explore patterns in patients' disclosures of supplement use and identify provider and patient characteristics associated with disclosures.
Methods: Cross-sectional study of 61 outpatient primary care, integrative medicine, and complementary medicine providers, and 603 of their patients. Primary outcomes were supplement disclosures (based on audio recorded office visits, post-visit patient surveys and medical record abstractions for the day of the visits).
Results: Seventy-nine percent of 603 patients reported on a post-visit survey that they took a total of 2107 dietary supplements. Of those taking supplements, 232 patients (48.6%) discussed at least one supplement with their provider on the day of their office visit. However, patients disclosed only 714 (33.9%) of the 2107 supplements they were taking. Patients more frequently disclosed supplement use when they saw providers who attributed greater importance to asking about supplements. Patient characteristics such as patient activation, number of medical conditions, and use of prescription medications were not associated with disclosure of supplement use.
Conclusions: Provider rating of the importance of asking about supplements is a major factor prompting patients' disclosures of supplement use.
Practice implications: Provider-targeted interventions to encourage provider awareness about potential supplement–drug interactions are needed to increase disclosures about dietary supplement use.

1. Introduction

Americans spend more than $32 billion each year on dietary supplements [1], and increasingly take dietary supplements concomitantly with prescription medications. In the 2002 National Health Interview Survey (NHIS), 21% of patients taking prescription medications also reported taking a non-vitamin dietary supplement in the past 12 months [2]. A 2005–2006 study showed that 52% of older adults taking prescription medications reported taking dietary supplements [3].

Patients typically believe herbs and dietary supplements are safe because they are sold over-the-counter and are natural. But there are concerns about supplement–drug interactions [4–7], efficacy [8], and safety [1,6,8–11]. More than 15 million adults might be at risk for interactions between prescription medications and herbal supplements or high-dose vitamins [12,13]. In addition, problems with toxicity, contamination, adulteration, standardization, and labeling have been reported [6,8–10,14]. Because of

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these potential adverse effects, the U.S. Food and Drug Administration (FDA) recommends that all patients consult a health professional before starting a dietary supplement [15].

Studies have examined patient disclosure of CAM use [12,16], but only a few have specifically examined disclosures of dietary supplement use. The 2002 and 2007 NHIS surveys showed that 33% and 43%, respectively, of patients taking dietary supplements in the past 12 months disclosed their supplement use to a conventional healthcare provider [17–19]. These studies were based on patient report though, and are subject to the limitations of patient recall and their willingness to admit non-disclosure.

To enhance patient disclosures of supplement use, it is important to understand the factors influencing patient disclosures. Existing studies have predominantly focused on relationships between patient characteristics and disclosure, but have not examined the provider's role in facilitating conversations. Therefore, the objectives of this study were: (1) to describe patterns of dietary supplement use disclosure among patients of primary care, integrative medicine and complementary medicine providers, and (2) to investigate provider and patient characteristics associated with disclosure.

2. Methods

2.1. Setting and provider recruitment

This cross-sectional study of provider–patient interactions was carried out in primary care, integrative medicine, and complementary medicine offices in the greater Los Angeles metropolitan area. Practicing primary care physicians (PCPs) were recruited from community clinics associated with LA Net (a practice-based research network), the University of California-Los Angeles (UCLA) Medical Group (an academic medical setting), and Kaiser Permanente, a group model HMO community setting. Integrative medicine physicians, who self-identified as combining mainstream medical treatments with complementary and alternative therapies, were solicited from an academic medical center and from local private practices. Complementary medicine providers (naturopaths, acupuncturists and chiropractors) also were recruited from private practices. We purposively sampled providers so that half were primary care, one-fourth were integrative medicine, and one-fourth were complementary medicine providers. Providers received $250 for participating in the study.

2.2. Patient recruitment

From November 2011 to May 2013, a research assistant approached patients in the waiting rooms of participating providers. Eligible patients were 18 years of age or older, spoke English or Spanish, and were willing to participate in a 30-min semi-structured interview within 1 week of their office visit (not analyzed for this study). Patients were excluded if a research assistant deemed they were too ill to participate. For each participating provider, a maximum of 10 patients was recruited. Of 1512 patients approached in waiting rooms, 603 provided usable study data, 803 refused participation, 23 were ineligible, 28 agreed to participate but could not due to logistical issues, 3 withdrew from the study, and 52 could not be assessed for eligibility. The net response rate was 39.9% and the study completion rate among eligible patients was 40.1%. We believe that our recruitment rates reflect the inability of many patients to follow-up by telephone within 1 week of their office visit. Patients received $25 for study participation on the day of the office visit. All subjects were initially told that the study was about provider–patient communication so that they would not be primed to talk about supplements during office visits. Patients were informed about the study's focus on supplements after they completed post-visit surveys, and providers were informed once they completed their audio-recorded patient visits.

2.3. Data collection

The UCLA and Kaiser Permanente Institutional Review Boards (in accordance with The Code of Ethics of the Declaration of Helsinki) approved the study protocol. All subjects provided written informed consent prior to participating in the study. Provider–patient office visits were audio-recorded, and providers filled out one self-administered survey following the completion of their audio-recorded patient visits. Patients completed a structured survey on the day of their office visit, and a research assistant abstracted data from medical records for that visit.

2.4. Survey contents

Patient surveys assessed age, gender, race/ethnicity, education, and hospitalizations in the past 12 months. Patients were asked whether the provider they saw was "the one you usually see if you need a check-up, want advice about a health problem, or get sick or hurt." They also were asked whether they were currently taking any prescription medications or over-the-counter medications; whether their doctor prescribed a new medication during the office visit; and whether they spent more money on supplements than on prescription medications in the past 12 months. They also were asked if they had taken any vitamins, minerals or herbal supplements in the past 30 days. Those responding affirmatively were asked to list each of these vitamins, minerals or supplements. Patient activation, a measure of the knowledge, skills and confidence essential to managing health and healthcare, was assessed using the 3-item Patient Activation Measure (PAM) [20]. The PAM categorizes patient activation into four levels, from lowest (Level 1) to highest (Level 4).

Provider surveys assessed age, gender, race/ethnicity, number of years in practice, and whether they had personally taken supplements in the past 12 months. Providers also were asked, "How much knowledge do you have about dietary supplements?" and "How important is it to ask patients about dietary supplement use?" Response options were based on 5-point Likert scales, with 5 indicating "excellent knowledge/very important" and 1 indicating "poor knowledge/unimportant."

2.5. Medical record abstraction

Medical records for the day of the audio-recorded office visit were abstracted by trained research assistants for any documentation of the supplements patients reported taking. Patient medical conditions were assessed by abstracting charts for the 19 medical conditions comprising the Charlson Comorbidity Index [21,22]. To calculate comorbidity index scores, conditions are assigned weights ranging from 1 to 6, with total scores ranging from 0 to 37. One point is added for each decade of life over the age of 50.

2.6. Patient disclosure of dietary supplement use

Patient disclosure of dietary supplement use on the day of their office visit (the primary outcome variable) was generated by combining data from: (1) patient surveys, which asked whether each supplement patients reported taking was "mentioned during today's doctor's visit;" (2) audio-recorded office visits, which were analyzed for disclosure of supplement use; and (3) medical record abstractions of documentation for the day of the office visit. Trained research assistants analyzed the audio recorded office visits for mentions of dietary supplements. A medical linguist

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