



Review article

Use and safety of dietary and herbal supplements among hospitalized patients: What have we learned and what can be learned?—A narrative review



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ABSTRACT

Introduction: The use of Dietary and Herbal Supplements (DHS) is on the rise. It has important safety ramifications, especially among inpatients. We aimed at summarizing the major findings on DHS use among inpatients and identifying areas for future research in the field.

Methods: A literature search for combinations of keywords related to “DHS” and “hospitalization” was conducted for English, French, Spanish and Hebrew papers in Medline, Embase, CISCOR, Cochrane Library, Clinical Key and Google Scholar with no restrictions in term of country of study.

Results: We identified 472 articles, 42 of which met our criteria. Narrative analysis of these articles revealed several findings: DHS use is common worldwide among inpatients from various socio-economic and medical backgrounds. DHS are consumed mostly by women, older and educated patients with the goal of relieving medical conditions. Patients tend not to disclose DHS use to primary care and hospital medical staff and physicians generally do not document their use in hospital files. Risks from DHS include side effects, potential and actual interactions with prescription drugs and substitution for medications.

Conclusions: Gaps in knowledge regarding DHS include their use by hospitalized patients in developing countries; specific association between comorbidities and DHS use; assessment of actual side effects from DHS; barriers to physician inquiry on DHS use; and DHS documentation. DHS use by inpatients is extensive and involves safety as well as medicolegal considerations. Although much has been learned on this topic, further research is needed on the conduct of both patients and physicians regarding DHS.

1. Introduction

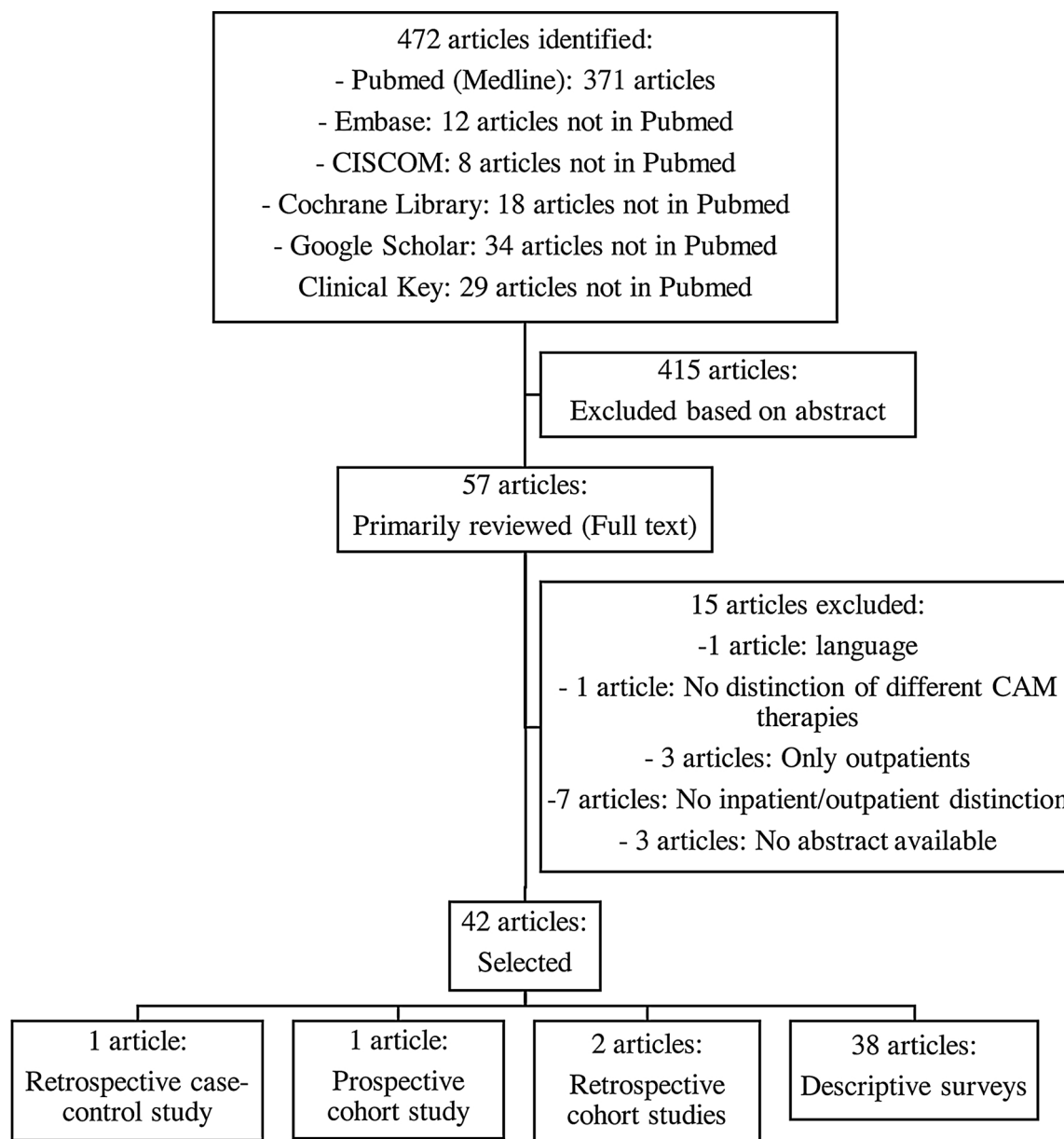
In 1994, the Dietary Supplements Health and Education Act (DSHEA) defined dietary and herbal supplements (DHS) as products intended to supplement the diet, containing one or more dietary ingredients (vitamins, minerals, herbs or other botanicals, amino acids, and certain other substances) or their constituents, taken by mouth and labelled as being dietary supplements [1]. In ambulatory care and outpatient settings, DHS use has been increasing in the last few years [2] and was recently estimated at more than 50% of the general United States (US) population, particularly older educated white women [3]. People generally use DHS for their believed health benefits. A telephone survey conducted in 1999 in the US found that 53% of DHS users

believed that DHS “rarely or never caused harm” due to their natural properties [4]. This is one of the reasons that most DHS users do not mention DHS consumption to their physicians [4]. Despite this common belief, DHS are not without risks. They may be subject to potential side effects and interactions with prescription drugs, which may lead to potentially fatal adverse events. This is especially true for herbal medicines which are apparently more risky than nutritional supplements. For instance, a study conducted in 2002–2003 at the Mayo Clinic found that 34% of DHS users were subject to potential herb-drug interactions [5]. Another study recently found that 28% of patients consuming St John's Wort were exposed to at least one potentially dangerous interaction with a concomitantly used prescription medication [6]. For all these reasons, DHS use might be particularly risky in

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CAM: Complementary and Alternative Medicine

Fig. 1. Selection of articles for narrative review.

poly-medicated patients with various medical conditions as are most hospitalized patients. In this population, mentioning DHS use to primary care and hospital medical staff is essential in order to evaluate and treat patients' acute and chronic conditions, as well as for safety reasons. Until now, no systematic or narrative review has been conducted on DHS use among hospitalized patients. In order to summarize previous findings and identify areas of uncertainty requiring future studies on DHS use in hospitalization, we reviewed and narratively synthesized the medical literature regarding the general consumption of DHS by inpatients without focusing on any specific supplement.

2. Methods

Databases from Medline (Pubmed), Embase, CISCOT, Cochrane Library, Clinical Key and Google Scholar were searched without date

limitations. The search terms included different associations between the keywords inpatients, hospitalization or hospital and: herb, nutritional supplement, herbal, plant, tea, dietary supplements, vitamins, minerals, complementary medicine, traditional medicine, integrative medicine or alternative medicine.

Of the 472 articles resulting from the search, 415 were found to be irrelevant and were eliminated after reading the abstracts. The full text of 57 articles were reviewed and after applying the inclusion and exclusion criteria 42 articles remained for review (Fig. 1).

Inclusion criteria were based on the PICOS and included:

- Patients and Population: Hospitalized patients
- Intervention, Prognostic Factor or Exposure: General DHS use
- Comparison or Intervention: irrelevant
- Outcomes: Prevalence of DHS use, DHS using habits, DHS-related

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