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Dietary supplements and the anesthesiologist: Research results and state of the art[☆]



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ABSTRACT

Background: There is a growing worldwide trend towards the consumption of nutritional supplements. Patients scheduled for surgery who are users of dietary supplements run the risk of interactions between these substances and drugs used in the perioperative period. **Objectives:** To conduct a socio-demographic characterization, and determine the prevalence of nutritional supplement use in people taken to surgery; to offer a reference guideline for use during pre-anesthetic consultation.

Methods: The research team conducted an observational descriptive and cross-sectional study of patients presenting to the pre-anesthetic consultation in thirteen cities; 1130 patients were asked about the use of these substances.

Results: The prevalence of use was 20.7%, higher among females at 62.8%, compared to males; consumption in people over 41 years was 63.2%; self-medication in 72.8%; increased consumption with age; in middle and high socioeconomic brackets, consumption was 63%; the higher the education, the higher the consumption; 36.6% plan to continue consumption despite the surgical procedure.

Conclusions: The high rate of consumption of nutritional supplements in patients about to undergo surgery, possible drug interactions, and adverse effects of perioperative consumption of some herbs should trigger an alarm in the anesthesiologist performing the pre-anesthetic consultation; it is necessary to include this in the interview and act accordingly. We recommend always asking to see product packaging.

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Los suplementos dietéticos y el anestesiólogo: resultados de investigación y estado del arte

R E S U M E N

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Introducción: Hay una creciente tendencia mundial hacia el consumo de suplementos nutricionales. Los pacientes que consumen dichas sustancias y que van a ser llevados a cirugía tienen un riesgo potencial de presentar interacciones medicamentosas entre estas sustancias y los medicamentos del período perioperatorio.

Objetivos: Realizar una caracterización sociodemográfica y determinar la prevalencia del consumo de suplementos nutricionales en personas que van a ser llevadas a cirugía; además, servir como guía de consulta para tomar conductas en la consulta preanestésica.

Metodología: Se llevó a cabo un estudio observacional descriptivo de corte transversal, con pacientes que se presentaban a la consulta preanestésica, en 13 ciudades del país. A 1.130 pacientes se les interrogó acerca del consumo de estas sustancias.

Resultados: La prevalencia de consumo fue de un 20,7%, siendo mayor en el sexo femenino, con un 62,8%, frente al sexo masculino; el consumo en personas mayores de 41 años fue del 63,2%; se automedicaron un 72,8%; a mayor edad, mayor consumo; entre los estratos medio y alto el consumo fue del 63%; a mayor nivel educativo, más consumo; el 36,6% piensan seguir consumiendo a pesar del procedimiento.

Conclusiones: El alto índice de consumo de suplementos nutricionales en pacientes que van a someterse a una cirugía, las posibles interacciones con los medicamentos del perioperatorio y los efectos adversos de algunas hierbas medicinales deben poner en alerta al anestesiólogo que realiza la consulta preanestésica; es necesario incluir este tema en el interrogatorio y tomar conductas al respecto. Es aconsejable solicitar los empaques de los productos que consume.

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Introduction

Technological developments in medicine at the present time occur at dizzying speed and research brings about amazing breakthroughs year after year regarding new therapies for a broad range of diseases.

Notwithstanding, a growing number of people resort to alternative, non-conventional practices such as acupuncture, homeopathy, herbal therapies and dietary supplements used as nutritional add-ons to their normal diets.¹

This has come about because people want to have better control over their health. In contrast with medications, dietary supplements are not subject to rigorous evaluations before they reach the market.² One out of every six patients takes some type of dietary supplement concomitantly with medications prescribed by their physicians. All kinds of supplements are found in drugstores, supermarkets, local stores, etc., and patients are now able to find abundant information on the web. However, most of them fail to mention the use of these substances to their physicians, placing their life at risk as a result of potential interactions. It is estimated that 70% of patients fail to inform their physician³ and many of them even take mixes of drugs and nutritional supplements containing substances with unknown side effects that might interact with perioperative medications and result in adverse events.⁴

Many companies promote herbal medications as dietary supplements. It is estimated that this is a 19 billion-dollar industry and that almost half of the Americans take daily

supplements, only some of which have proven efficacy.⁵ According to a report published in 2009 in the United States regarding consumer trust in dietary supplements, 84% of people trust the quality, safety and efficacy claims of these products.⁶ Table 1 shows the common uses of various substances.

In 1994, the US Congress passed a law defining dietary supplements as substances mainly for oral intake containing, as their main characteristic, a "dietary ingredient" designed to supplement the diet. Some examples of dietary supplements are vitamins, minerals, herbs (alone or in a mix), aminoacids, and food components such as enzymes and gland extracts. They come in different presentations including tablets, soft gels, liquids and powders. They are not presented as food substitutes or as meal replacements, and they are labeled as dietary supplements.⁷ On the other hand, nutraceuticals are dietary supplements containing a concentrated form of a bioactive substance originally derived from a food source but now present in a non-food matrix, used as health enhancers at higher doses than those found in normal foods.⁸

Tsen et al.⁹ showed that up to 32% of patients assessed during the pre-operative phase used dietary supplements, herbal products, or both. Effects associated with plant-derived products include pharmacokinetic alterations (alteration of absorption, distribution, metabolism, and clearance of conventional medications; pharmacodynamic alterations; and direct interactions with drugs.¹⁰

Dickinson et al.³ surveyed cardiologist, dermatologists and orthopedic surgeons in order to determine if they used dietary supplements and recommended them to their patients. They

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