

KNOWLEDGE AND AWARENESS OF NUTRITIONAL SUPPLEMENTS AND DRUG INTERACTIONS AND THE ROLE OF PHARMACIST IN THE PREVENTION

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Abstract:

Millions of people today use nutritional supplements along with prescription and non prescription medications. Although many consumers believe that nutritional supplements are safe, the adverse drug reactions which derive from them, especially from their interactions with drugs, are not always widely understood or known by patients. **Objectives:** 1. To evaluate the knowledge regarding the common drug- nutritional supplements interactions among the patients 2. To evaluate the role of pharmacists in preventing these interactions.

Materials and Methods:

The survey included randomly selected 200 patients who visited different community pharmacies located in the city of Tirana, Albania between December 2013 and May 2014.

Results:

Among 71 % of the patients who used nutritional supplements, 39.5 % were aware that nutritional supplements can interact with medications. Patients who were more informed for these interactions, were mainly 18-25 and 26-40 years old. About 23.86 % of patients claimed that pharmacists always asked them about medications or nutritional supplements administered simultaneously, while approximately 28% of pharmacists affirmed that they always informed their patients about interactions nutritional supplements- medicaments.

Conclusions:

Nutritional supplements are often considered safe and natural and people are unaware of possible adverse effects associated to their use, especially when they are combined with drugs. The role of the pharmacist in preventing adverse effects resulting by the interactions drugs-nutritional supplements is essential in preserving the patient's life.

Key words: interactions nutritional supplements - drugs, pharmacist, prevention, questionnaire

INTRODUCTION

Nutritional supplements use has increased substantially in the past 2 decades in a number of countries and it is becoming of increasing importance from a public health nutrition perspective (1,2).

Belief that nutritional supplements are not harmful as medicaments and safe, is wrong. Dietary supplements have been reported to be associated with mild-to-severe adverse effects such as heart problems, chest pain, abdominal pain and headache (3,4,5). Since the moment we use these supplements it should be also considered the fact that they possess a pharmaco-toxicological profile and can interact with medicaments, administered with them simultaneously, changing the pharmacotherapeutic response or compromises a patient's nutritional status.(6,7)

Although many patients believe that dietary supplements are safe (8), the adverse drug reactions which derive from them, especially from their interactions with drugs, are not always widely understood or known (9) not only by patients but even by health care professionals (7).

Numerous surveys have found that many people take multiple nutritional supplements and drugs together, which can produce adverse clinical effects and events. (10,11). It is estimated that > 50% of patients with chronic diseases or cancers ever use nutritional supplements (12), and nearly one-fifth of them take dietary supplements along with prescription medications (13,14). Despite their widespread use, the majority of consumers often fail to disclose that they have taken nutritional supplements to their healthcare providers. Some studies report that nearly 70% of patients taking prescription drugs do not inform their primary health care provider about their use of nutritional supplements and as a result the risk of occurrence of ADR is high. (15). The occurrence of interactions happens not only because of the fault of patients who do not report, but also health care

professionals play an indispensable role in preventing these ADR by asking patients about the supplements they are using along with prescription and non prescription medications. Prior to recommending any nutritional supplements or a new medication, health care professionals must evaluate a patient's medical history and medication profile to screen for potential drug-supplement nutritional interactions or contraindications. It is also crucial that patients be made aware of these potential interactions as well as understand the importance of notifying their primary health care provider of all supplements that they are taking, including alternative and complementary products. The need to augment awareness about drug-supplement interactions is critical to patient safety, preventing potential interactions and ensuring optimal therapeutic effects, for this reason health care professionals should encourage patients to maintain a comprehensive list of all medications they use, including supplements.

The present paper is a survey of knowledge and awareness of nutritional supplements and drug interactions among patients in Albania.

The principal objectives of this paper were to assess:

- 1) The prevalence of use of nutritional supplements among patients
- 2) The knowledge of patients concerning effects deriving from interactions between nutritional supplements and drugs
- 3) The level of communication about the use of nutritional supplements simultaneously with drugs to the pharmacists
- 4) The role of pharmacists in preventing these interactions by taking informations about patient's medical history.

MATERIALS AND METHODS

The study included data from 200 patients (84 men/116 women), who visited different community pharmacies located in the city of Tirana, between December 2013 and May 2014.

The patients are asked to fulfill a questionnaire which recorded general information on patients like: age, gender, educational background and consisted of specific questions regarding use of nutritional supplements, the knowledge about interactions between supplements and drugs, the importance of these interactions etc. To evaluate the role of pharmacists in preventing interactions, patients were also asked whether their pharmacists asked them about drugs or nutritional supplements administered at the same time.

RESULTS

General data of patients who participated in the study

The general data of patients are reported in Table 1.

Table 1. General data of the patients

General information		Percentage of patients
Gender	Men	42 %
	Woman	58%
Age group	18-24	35%
	25-39	29%
	40-59	36%
Education	Primary school degree	4.5%
	Secondary school degree	13,5 %
	High school degree	82 %

The use of nutritional supplements was reported by 142 participants (71 %). 83 individuals (41.5%) were female and 59 (29.5 %) were male. The use of supplements was more pronounced in age group 40-60 years (Table 2).

Table 2. Nutritional supplements use

		Gender		Age		
		M	F	18-24	25-39	40-60
Do you use nutritional supplements?	Answered: Yes	29.5 %	41.5 %	15 %	27 %	29 %

The knowledge about nutritional supplements- drug interactions

Among 71 % of the patients who used nutritional supplements, 39.5 % were aware that nutritional supplements can interact with medications. Patients who were more informed for the existence of these interactions, were mainly 25-39 years old (18.5 %).

On the tables below are submitted the knowledge about nutritional supplements-drug interactions possessed by patients.

Table 3. Knowledge on the effects that may occur when nutritional supplements and drugs are taken together.

Effects that may occur when supplement and drug are taken together	%
The effects of both supplement and drug can be increased	5
The effects of both supplement and drug can be decreased	4
The effects of one can be increased by the other	9
The effects of one can be decreased by the other	8
The effects of both supplement and drug can be cancelled	1
The effects of one can be cancelled by the other	3
It depends on the interaction	50
Don't know	20

The majority of patients (50 %) think that effects that may occur when supplements and drugs are taken together depend on the interactions between them (Table 3) and on various factors like drug dosage, person's age and health status (respectively 77 % ,61 % and 53 %) (Table 4)

Table 4. Knowledge on the factors affecting the interactions nutritional supplements- drugs

Do you think that supplements and drug interactions depends on various factors like:	Answered 'Yes' %	Answered 'No' %	Answered 'Don't know' %
Drug dosage	77	6	17
Person's age	61	18	21
Health status	53	29	18

Sources of knowledge of nutritional supplements -drugs interactions

When patients were asked to give the sources from where they have obtained knowledge of supplements- drug interactions they claimed that they were more informed by their pharmacist and internet.

17 % of patients have not been informed ever about this interactions (Table 5).

Table 5. Sources of knowledge of nutritional supplements -drugs interactions

Sources of knowledge about nutritional supplements -drug interaction	%
Pharmacist	23
Doctor	20
Internet	21.5
From friends and relatives who had used before the supplement or drug	18.5
I have not been informed ever	17

The importance of recognition of interactions

90 % of patients think that being informed about interactions supplements- drugs is very important, but despite this 81% of them think that the sources of informations about this interactions are insufficient.

The role of pharmacist in the prevention of interactions

The pharmacist play a vital role in advising patients regarding supplements to avoid when taking certain drugs. From patients responses was observed that only 24 % of pharmacists ask them always about the medications/ supplements that they are taking simultaneously with medications/ supplements that they are buying at a certain moment in their pharmacy. 18 % of pharmacist never asked patients about use of nutritional supplements along with prescription and non prescription medications.(Table. 6)

Table 6. The role of pharmacist in the prevention of interactions

When you buy drugs in the pharmacy, your pharmacist ask you if you are taking other medications or supplements, except those you buy at that moment in pharmacy?	%
He always asks me	24
He asks me sometimes	42
He rarely asks me	16
He never asks me	18

The same question was ask to 70 pharmacists and the majority of them (40 %) answer that they ask the patients sometimes if they are taking other drugs or supplements, except those that they are buying in their pharmacy. Only 17 % of pharmacists answer they never ask the patients. (Table 7)

Table 7. The role of pharmacist in the prevention of interactions

Do you ask the patients if they are taking other drugs or supplements, except those that they are buying in your pharmacy, in order to inform them about the interactions supplements-drugs?	%
I always ask them	28
I ask them sometimes	40
I rarely ask them	15
I never ask them	17

DISCUSSIONS AND CONCLUSIONS

Nutritional supplements are often considered safe and natural and people are unaware of possible adverse effects associated to their use, especially where they are combined with drugs. The role of the pharmacist as a competent authority in informing patients about the adverse reactions as a result of interactions medications - nutritional supplements is crucial nowadays. Pharmacists in every practice setting need to be vigilant in monitoring the possible interactions nutritional supplements - medications by asking the patients about the nutritional supplements and drugs they take at once and advising them regarding nutritional supplements to avoid when taking certain medications. It is necessary for pharmacists to be update and to be informed about new medications and nutritional supplements focusing not only on adverse reactions deriving from them but also on the types of interactions between them.

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