

NATURAL SUPPLEMENTS CONSUMPTION AMONG MEDICAL STUDENTS

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ABSTRACT

THE CATEGORY OF NATURAL SUPPLEMENTS INCLUDE A WIDE RANGE OF PRODUCTS FROM SIMPLE VITAMINS, MINERALS, VITAMIN AND MINERAL COMPLEXES TO COMPLEX FORMULAS OF SUBSTANCES WITH NUTRITIONAL OR PHYSICAL EFFECT.

RELATIVELY RECENTLY INTRODUCED, THE „NATURAL SUPPLEMENT” CONCEPT BEGAN TO GROW EXPANSIVELY IN RECENT YEARS, ON THE ONE SIDE BECAUSE OF THE MEDIA DIRECTLY INVOLVED IN PROMOTING THESE PRODUCTS AND ON THE OTHER SIDE BECAUSE OF THE INCREASINGLY POLLUTING ENVIRONMENT THAT CAN INDUCE A MORE PRECARIOUS STATE OF HEALTH AND A LIFE-STYLE WITH THE SPECIFIC DAILY STRESS SINCE THE END OF THE TWENTIETH CENTURY INVOLVED IN THE INCREASED PREVALENCE OF MANY DISEASES.

IN 2017, THE RENOWNED PERSISTENCE RESEARCH MARKET (PMR) ANNOUNCED A MARKET SURVEY SHOWING THAT IN 2016 THE GLOBAL NATURAL HEALTH SUPPLEMENTS MARKET VALUE WAS ABOUT 37 BILLION US DOLLARS AND BY THE END OF 2024 THE FIGURE IS EXPECTED TO REACH ABOUT 70 BILLION US DOLLARS.⁷

KEYWORDS: NATURAL SUPPLEMENTS, NUTRITION, HEALTH, MEDIA

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⁷ Persistence Market Research, “Global Market Study on Natural Health Supplements: Marine Segment by Source Expected to Remain Dominant in Terms of Value During 2016-2024”, report published on April 2017

INTRODUCTION

In recent years, as in other EU countries, there has been a significant increase in the consumption of natural supplements by different population groups, in the face of an increasingly alert lifestyle and the desire of improving or maintaining an optimal health condition, all of this given that the attention paid to a sanogenic diet has increasingly reduced.¹

Increasing use of natural supplements is closely correlated with self-management of common health problems, which only very little, unfortunately, involves the advice or recommendation of specialized healthcare professionals.

The spectacular evolution of the natural supplements market (according to Cegedim data, sales of vitamins and natural supplements had a market share of 21.1% of all non-prescription medicines in the last three months of 2017²) are largely due to aggressive promotion of the benefits of using this type of product on most of communication channels (TV advertisements, press editorial, teleshopping for food supplements, extensive internet promotion, etc.).

Essentially, however, dietary supplements are products designed to provide a supply that is closest to the human body's needs of some nutritional deficiencies in the current unbalanced diet; under no circumstances may their use be more than just a "damage" measure in certain specific situations, and not a substitute for a sufficient and varied diet.

The main regulation in force regarding food supplements in the legislation in Romania is represented by the Order of the Ministry of Health no. 1069/2007 approving the Norms on Food Supplements, Order transposing the EU Directive no. 2002/46 / EC.

However, the risks of long-term administration of dietary supplements have to be taken into consideration, namely that it can be correlated with the accumulation of biochemical compounds that may cause liver or kidney toxicity. Also, it should not be minimized the possible interaction of compounds in natural supplements with other drugs.

MAIN TEXT

I. THE AIM OF THE STUDY

In the context of the above, the present study aims to identify the behavior of medical students of University of Medicine and Pharmacy of Craiova in relation to natural supplements, the ways of choosing a food supplement and the conditions in which they are consumed. Also, in the course of this study it has not been minimized the investigation of students' medical knowledge regarding the different groups of nutrients and the applicability of accumulated knowledge in the educational process in substantiating recommendations for the use of natural supplements by their future patients.

II. MATERIAL AND METHOD

The conducted study was a retrospective descriptive study based on an individual anonymous questionnaire of 213 fourth year students from the University of Medicine and Pharmacy of Craiova; the study was conducted between October 2017 and May 2018.

¹ Ministry of Health – Public Health National Institute „Natural Supplements - guide”– Garban G., Florescu N., Bucharest 2013

² Cegedim Romania, “Pharma & Hospital Report Study”, published on 8th of February 2018

The individual questionnaire was structured into two segments of information: the first of these segments, containing a total of 9 questions, was centered on students' attitudes towards the personal use of the natural supplements, and the second segment brought together nine other questions the possibility of undesirable and / or unpleasant effects of dietary supplements, and the general considerations of recommending their use to patients.

III. RESULTS AND DISCUSSIONS

The results of the study as shown in *Table 1*, show that more than half of the respondents (68.54%, 146 people) used dietary supplements; the gender distribution of consumers of such products shows a greater agglomeration of female users (92 female users, accounting for 70.76% of female participants in the study, respectively 63% of the total number of consumers). By comparison, only 54 male users (representing 65.06% of male participants in the study, respectively 37% of the total number of consumers) used such products. (*Figure 1*).

Question	Possible responses	Responders	(%)
Did you use natural supplements ?	Yes	146	68,54%
	No	70	31.46%
For how long did you use natural supplements?	<i>Less than one month</i>		
	<i>Between 1and 3 months</i>	38	26,00%
	<i>More than 3 months</i>	52	35.61%
What type of dietary supplements did you use?	<i>Vitamins</i>	56	38.39%
	<i>Minerals(</i>		
	<i>Complexes of vitamins and mnerals</i>	34	23,28%
		26	17,81%
		86	58.90%

Did you noticed any significant improvement of physical or intellectual performance?	Yes	114	78,08%
	No	32	21,91%
Did you interrupt the administration of dietary supplements because of some unwanted side effects?	Yes	6	4,11%
	No	140	95,89%
The use of natural supplements took place during exhausting periods?	No	16	10,97%
	Yes, during intense intellectual efforts periods	23	15,75%
	Yes, during intense physical efforts periods	107	73,28%
Did you noticed any adjustments regarding diet and food intake during the period you consumed natural supplements?	No	122	83,56%
	Yes, I reduced the food intake	11	7,53%
	Yes, I supplemented the food intake	13	8,91%

Did natural supplements intake had any effects on your weight?	No	100	68,49%
	Yes, I had weight gain	26	17,80%
	Yes, I had weight loss	20	13,71%

Table 1. The results of the self-administered questionnaire – first segment

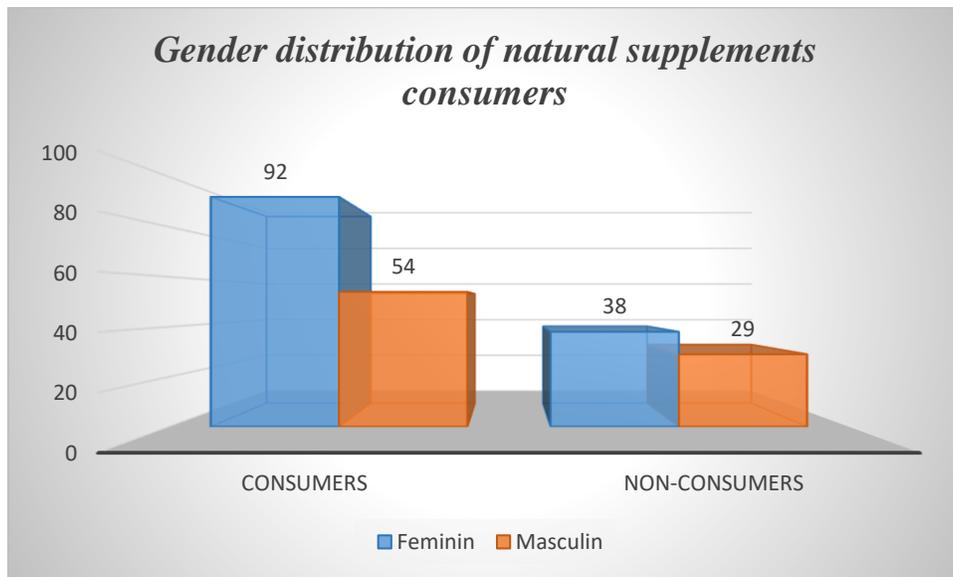


Figure 1. Gender distribution of natural supplements consumers

Regarding the duration of the self-administration of natural supplements, the majority of respondents (61.64%, 90) used such products for a period of less than one month, while a much lower proportion (23.28%, 34) used supplements for more than three months.

The first segment of the questionnaire underlying the present study also brings important data regarding the type of natural supplements used by the respondents: the first place in their preferences was taken by the complexes of vitamins and minerals (58.90%, 86) while the preparations made exclusively from vitamins or minerals only reach 22.38%, (34 people) of preferences for vitamin products and 17.81% respectively, 26 for those made up of different types of mineral elements. (*Figure 2*).

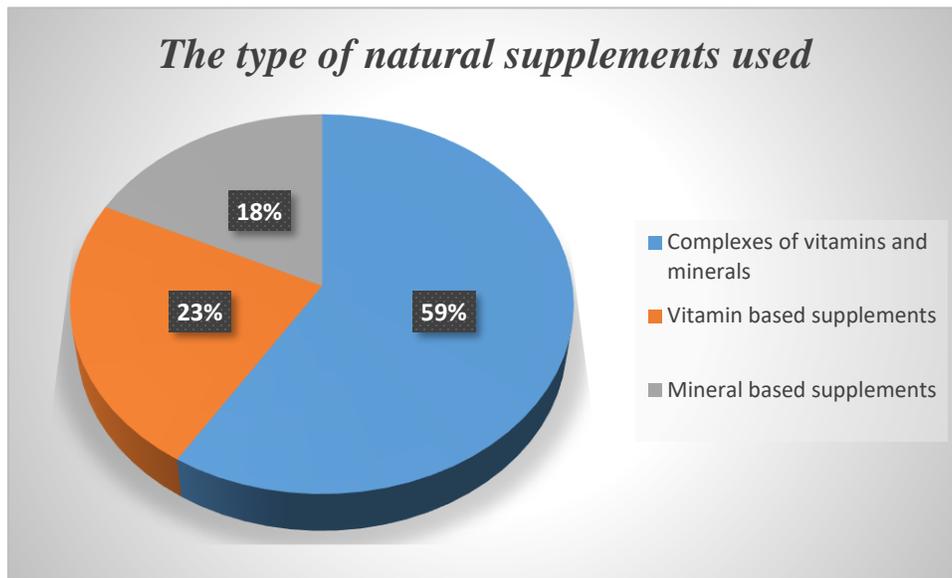


Figure. 2. The type of natural supplements used

Compliance with administration as well as the self-assessment on the effect of natural supplements administration on human health and / or on the physical and intellectual performance of the respondents show that, for the most part (78.08% 114), they found a substantial improvement of physical or intellectual performance compared to only 21.91% (32 people) of respondents who did not notice any significant changes on these parameters (*Figure 3*). The use of natural supplements, according to the answers from the processed questionnaires, seems to be free from interference / negative influences leading to the discontinuation of their administration, a very high proportion (95.89% and 140 of the 146 participants) had no reason to renounce on these products for the during the treatment period.

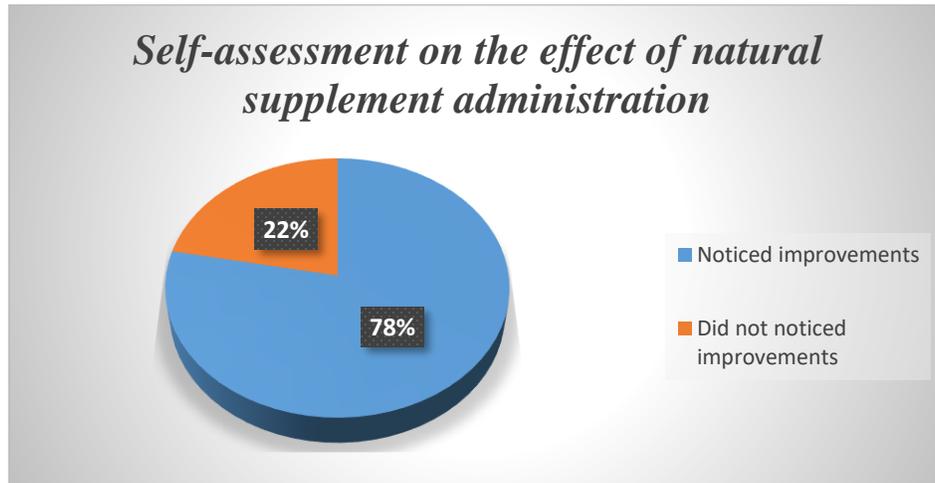


Figure 3. Self-assessment on the effect of natural supplement administration

An important aspect emerging from the thorough analysis of the answers from the first segment of the questionnaire used in this study is that the decision to self-administer natural supplements, regardless of their basic constituents (vitamins, minerals, vitamin complexes and minerals) was often dictated by going through some exhausting periods of physical (43.83%, 64) or intellectual (45.20%, 66) efforts.

The attention of respondents using natural supplements regarding the diet and food intake adjustment over the periods when natural supplements were administered did not in most cases (83.56%, 122) lead to a change in diet; only in small proportions, the consumption of dietary supplements led to a negative (7.53%, 11) or positive (8.91%, 13) adjustment of food intake (Figure 4). However, although most participants in the study (68.49%, 100) found no direct link between the consumption of natural supplements and the weight changes that occurred during the same period, in some cases, the respondents observed weight gain (17,80%, 26) or a weight loss (13,71%, 20) (Figure 5).

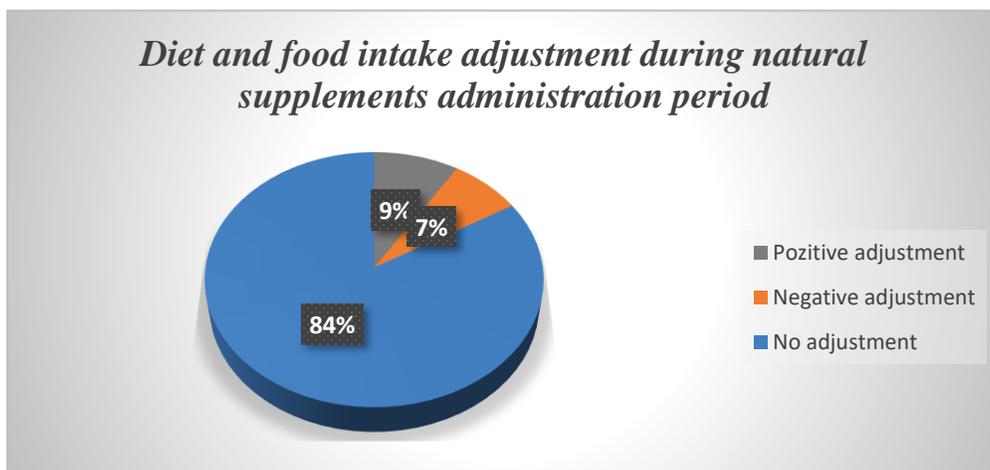


Figure 4. Diet and food intake adjustment during natural supplements administration period

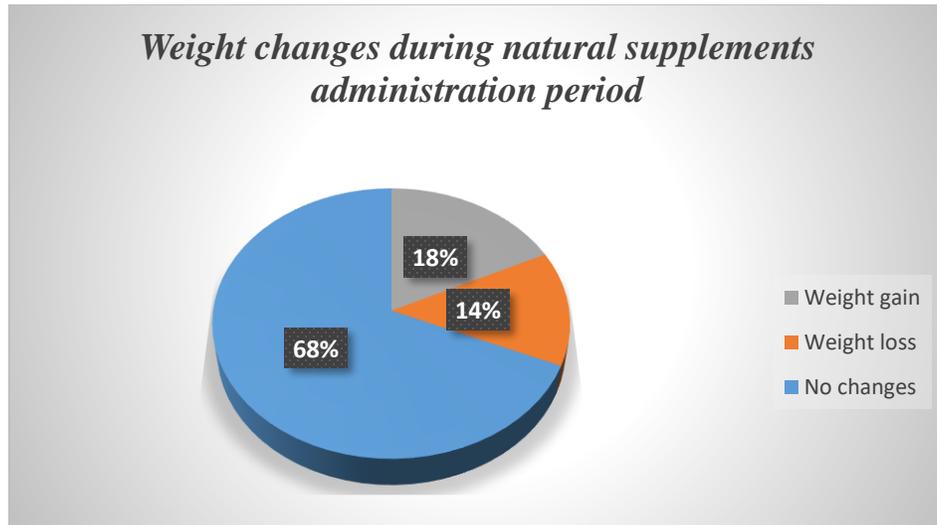


Figure. 5. Weight changes during natural supplements administration period

Corroborating the information outlined above regarding the intention of users to increase or decrease food intake on the one hand with the informations on weight gain or weight loss during the period of dietary supplements administration on the other hand indicates a concern for respondents in terms of optimal weight maintenance.

The second section of the questionnaire used in the present study provides eloquent information upon the degree of awareness of possibility of unwanted / unpleasant effects in case of natural supplements administration, as well as information on the behavior and attitude of future physicians towards recommending these pharmaceuticals to patients. All the information obtained in this second part of the questionnaire required direct links in the elaboration of the responses between the respondents experience regarding the use of natural supplements and the need to approach a future therapeutic course in medical activity (*Table 2*).

Questions	Possible answers	Respondents	(%)
Do you consider the use of natural supplements as a benefit for human health?	Yes	196	92,00%
	No	17	8.00%
Would you recomend natural supplements to your future patients?	Yes	168	78,88%
	No	45	21,12%
In case you would recomend dietary supplements to your patients, would you follow up their health status?	No	200	90,62%
	Yes	13	9,38%
May natural supplements use by your patients influence your future therapeutic approach?	Yes	96	45,07%
	No	79	37,08%
	I do not know	38	17,85%
Do you have knowledge of any interractions between dietary supplements and other drugs	Yes	116	54,46%
	No	97	45,54%

Would you consider a diet adjustment for your future patients in case they use natural supplements?	<i>Yes</i>	188	88,26%
	<i>No</i>	25	11,74%
Did you use natural supplements that were recommended by a medical field qualified person? Or by a nutritionist/dietician?	<i>No</i>	128	87,67%
	<i>Yes, medical personnel</i>	12	8,21%
	<i>Yes, a nutritionist/dietician</i>	6	4,12%
Where did you purchased natural supplements from?	<i>Drogstore/ Pharmacies</i>	119	81,50%
	<i>On-line</i>	26	17,80%
	<i>Other</i>	1	0,68%
Chosing a specific type of supplement was determined by :	<i>Price</i>	78	53,42%
		43	29,45%

	Marketing (commercials)	25	17,13%
	Accesibility		

Table 2 Self- administered questioannaire results – IInd segment

Thus, more than 90% of the people involved in the study (92.00%, 196) consider that the consumption of dietary supplements as being benefic for human health and consequently an equally high proportion (78.88% 168) states that they will recommend to their patients the use of these products (*Figure 6*).

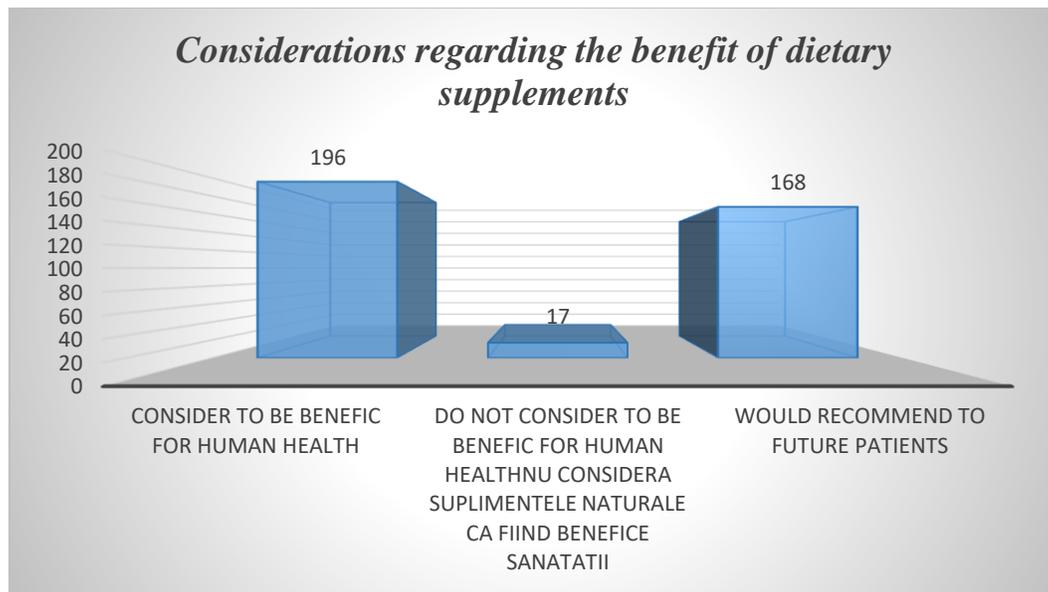


Figure. 6. Considerations regarding the benefit of dietary supplements

The ongoing professional medical training, which does not yet provide them with all the necessary information for the in-depth knowledge of the possible interactions between the pharmacological preparations used in the therapy of various diseases and the constituents of the dietary supplements³, determines similar percentages of positive responses (54,46%, 116)

³ Vlaicu B., 1994, Dynamics of Physical Development and Behavioral Issues in Schools, Signata Ed..

respectively negative (45,54%, 97) when questioning the participants about the incidents that may occur when combining both types – drugs and natural supplements (*Figure 7*).

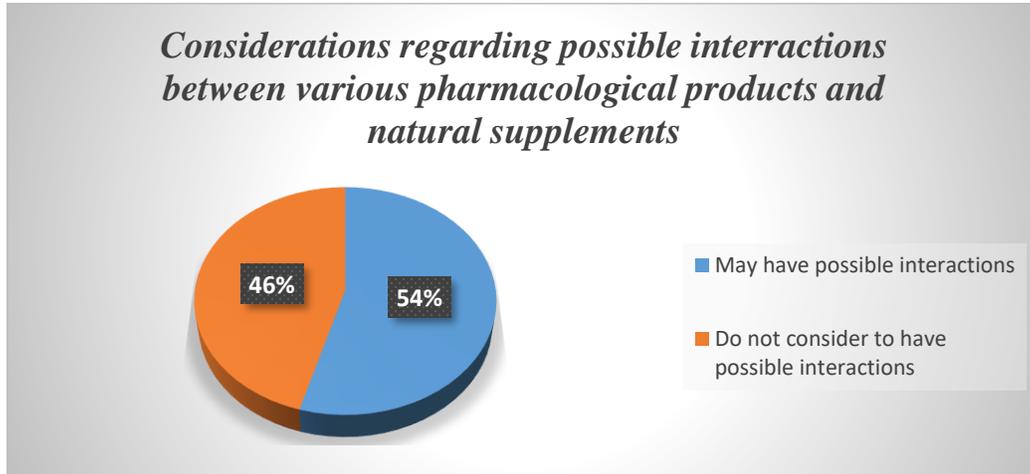


Fig. 7. Considerations regarding possible interactions between various pharmacological products and natural supplements

At the same time, however, it is important to note that the same medical training induces respondents the responsibility of adjusting the daily diet in patients receiving natural supplements (88.26%, 188); however, careful monitoring of the overall therapeutic response in these patients seems not to be a priority for the study participants, less than half (45.07%, 96) considering it necessary to closely monitor the association of simultaneous administration of pharmacological products and natural supplements.

Important in the context of the present study are also the starting points for dietary supplements administration, the access to their purchase and the determinations that have been the basis for choosing a certain type of dietary supplement; the majority of the respondents initiated the use of natural supplements by their own decision (87.67%, 128), without the recommendation or opinion of specialized staff, very little opinion from the medical staff - doctors (8, 21%, 12) or a dietitian (4.12%, 6) (*Figure 8*).

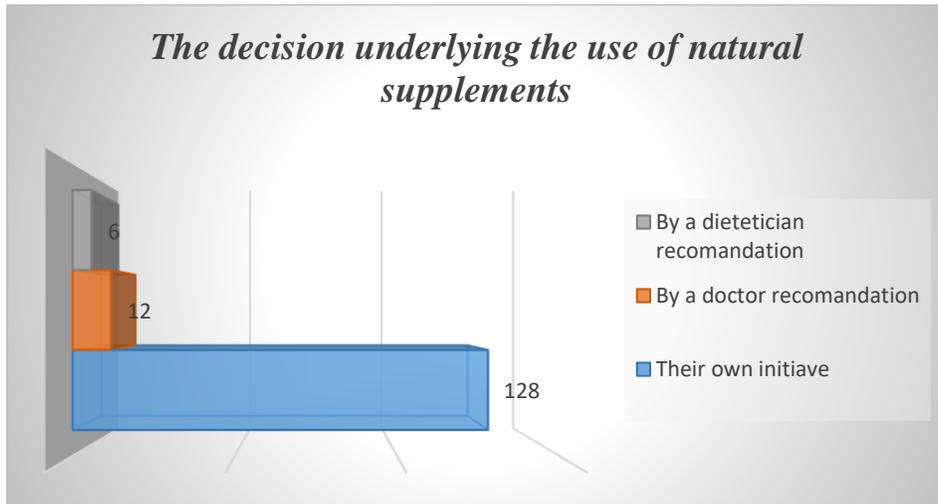


Figure 8. The decision underlying the use of natural supplements

The most used acquisition channel for purchasing natural supplements was represented by pharmacies / drugstores (80.82%, 118); the purchase of natural supplements from the on-line environment was used in a much smaller proportion (19.17%, 28), other purchase methods being insignificant (*Figure 9*).

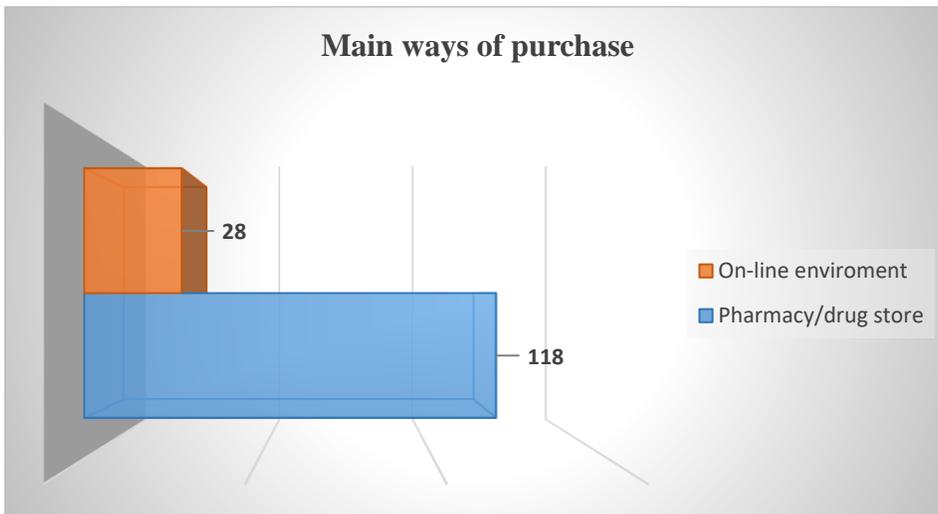


Figure 9. Main ways of purchase

Regarding the criteria underlying the choice of a particular type / brand of dietary supplement, the study participants highlighted cost price (56.16%, 82) as a matter of great importance, followed secondly by actions to promote this type of supplement (TV advertisements, promotions, etc.) (Figure.10).

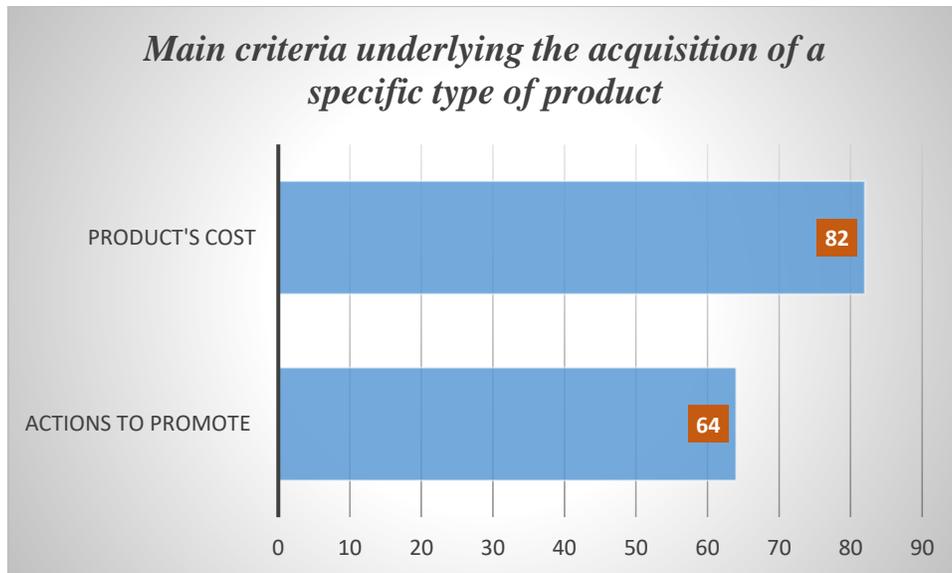


Fig.10. Main criteria underlying the acquisition of a specific type of product

CONCLUSIONS

For the investigated group of respondents we found, on the one hand, the development of a favorable attitude towards the consumption of dietary supplements – based on the belief of their benefit for human health, and on the other hand, a greater attention paid to the deepening the knowledge about these products in the context of future medical practice and the complexity of the medical act.

Although at the time of the study, the consumption of natural supplements of the participants had, in most cases, rather intuitive fundamentals regarding their role in maintaining and improving the health status and the factors that determined the choice of a particular type of supplement were financial related, the willingness of the respondents to deepen the knowledge related to this subject and, together with it, to improve the decision-making process of recommending their consumption by the patients can not be disputed.

Finding an improvement in overall health status determines, in the case of participants in this study, a greater confidence in the management of natural supplements, a confidence that, due to limited knowledge, is not affected at this time by the awareness of all accidents and incidents that may occur as a result of the combination of a drug treatment with the uncontrolled intake of nutritional supplements.

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