

OUR BIODIVERSITY, OUR FOOD, OUR HEALTH

Ana-Maria-Iulia BELIVACĂ

Scientific Coordinator: Assoc. Prof. Biotech. PhD Irina GREBENIȘAN

University of Agronomic Sciences and Veterinary Medicine of Bucharest,
59 Mărăști Blvd, District 1, 011464, Bucharest, Romania,
Phone: +4021.318.25.64, Fax: + 4021.318.25.67

Corresponding author email: iulabelivaca@yahoo.com

Abstract

Most human beings want to use medicinal plants to treat some diseases. This means that we want to return to nature to prevent some diseases and pains. Although diseases are currently being treated more often through medicines of synthetic origin, the use of some medications leads to certain damages to the body. Therefore, the importance of medicinal plants and their products is increasingly recognized and public confidence in their use is constantly strengthened. In my Case Study -, „The Benefits of Using the Medicinal Plants”, I concluded that: it is important to protect some green areas (100% of people agreed with this); it is important to protect the plant species with a risk of extinction (86,3% of people agreed with this); we prefer herbal products (86,3% of people agreed with this); it is important that the medicines be prepared only from medicinal plants (76,5% of people agreed with this); it is important to focus only medicinal plants and their products (63,7% of people agreed with this).

Keywords: green areas, health, medicinal plants, treat, protect.

INTRODUCTION

This year's celebrations of the International Day for Biological Diversity, on 22 May 2019, focus on biodiversity as the foundation for our food and health and a key catalyst to transforming food systems and improving human health. The theme aims to leverage knowledge and spread awareness of the dependency of our food systems, nutrition, and health on biodiversity and healthy ecosystems. The theme also celebrates the diversity provided by our natural systems for human existence and well-being on Earth, while contributing to other Sustainable Development Goals, including climate change mitigation and adaptation, ecosystems restoration, cleaner water and zero hunger, among others.

In the last 100 years, more than 90 percent of crop varieties have disappeared from farmers' fields. Half of the breeds of many domestic animals have been lost, and all of the world's 17 main fishing grounds are now being fished at or above their sustainable limits. Locally-varied food production systems are under threat, including related indigenous, traditional and local knowledge. With this decline, agrobiodiversity is disappearing, and also

essential knowledge of traditional medicine and local foods. The loss of diverse diets is directly linked to diseases or health risk factors, such as diabetes, obesity and malnutrition, and has a direct impact on the availability of traditional medicines. Individuals can mobilize and catalyse action around their concerns on health, nutrition, and food systems, together with awareness raising on how to conserve and sustainably use biodiversity for our well-being. Plants play an important role by providing essential services in ecosystems. Without plants, humans and other living organisms cannot live in a way living should be. Herbals especially medicinal herbs have constantly acted as an overall indicator of ecosystem health. Medicinal plants have undoubtedly been considered by human beings since ancient times. It can be said that before the history and since the early humans recognized and exploited the plants around them for use as fuel, clothing, shelter and food, they became aware of their properties more or less. Medicinal plants have been transformed into one of the oldest sciences in countries such as China, Greece, Egypt and India. In ancient Persia, plants were commonly used as a drug and disinfectant and aromatic agent. In fact, the

use of medicinal plants for the treatment of diseases dates back to the history of human life, that is, since human beings have sought a tool in their environment to recover from a disease, the use of plants was their only choice of treatment.

The World Health Organization (WHO) defines traditional medicinal plants as natural plant materials which are used at least or in the absence industrial processing for the treatment of diseases at a local or regional scale. Traditional herbal medicine has been used in developing and developed countries for thousands of years because it is natural and causes comparatively fewer complications. According to the WHO, more than 80% of the world's population rely more often on traditional drugs, mainly plants, serving as the main source of health care (27). This figure includes not only a large population of China, India and all the developing countries of the world but also many advanced countries. Although diseases are currently being treated more often through medicines of synthetic origin and specifically developed in laboratories, and their definite effects in the treatment of diseases have contributed to the development of their use, the use of some medications leads to certain damages to the body. Therefore, the importance of medicinal plants and their products is increasingly recognized and the public confidence in their use is constantly strengthened. Phytotherapy is widely being used across the world on a constantly growing basis. Therefore, the global trend of synthetic compounds has turned to herbal drugs, which we can refer to it as a return to nature to prevent diseases and pains. Nature has been served as the source of medicinal herbs.

One of the challenges facing medicinal plants is the loss of medicinal plant species due to the non-principled use of these resources. According to the International Union for Conservation of Nature, there are between 50 000 and 80 000 flowering plant species that are used for pharmaceutical purposes around the world. Among these numbers, about 15 000 species are exposed to a risk of extinction due to high harvesting and destruction of habitats and 20% of their wildlife resources are decreasing due to growing human populations

and excessive consumption of plants. Therefore, the environmental code of ethics that preserves biodiversity in the processes of exploiting natural resources to discover natural drugs should be considered. Good agricultural practice (GAP) for medicinal plants are planned to regulate production and ensure quality and facilitate the standardization of herbal drugs. GAP is an approach that uses high-quality, safe and non-contaminated (raw drugs) herbal medicines to help solve various problems. GAP includes comprehensive items such as environmental ecology, production locations, germplasm, cultivation, collection and quality aspects of pesticide detection, macroscopic or microscopic validation, chemical identification of active compounds, and checking of metal elements. Many countries seriously implement and promote the GAP. For example, in China, GAP has promoted the growth of conventional medicinal plants in areas where these plants are traditionally cultivated.

The demand for plant-derived products has increased across the world. In the Middle East, Latin America, Africa and Asia more than 85 percent of the populations predominantly rely on traditional medicine, especially on herbal medicines, for their health care needs. About 100 million people in the European Union and in some countries as high as 90% of the population, still use traditional, complementary or herbal medicines. The herbal medicine has an increasing big market. In 2012, the whole sales of Chinese herbal medicines reached more than US\$83 billion which was 20% more than the market in 2011. It has been suggested that the whole market for all herbal supplements will reach more than US\$115 billion by 2020, which in Asia-Pacific is the fastest and in Europe is the largest growing markets. These demands are predominantly driven by women subjects by growing emphasis on concerns on the adverse effects of synthetic drugs. Jamshidi-Kia F, Lorigooini Z, Amini-Khoei H. Medicinal plants: past history and future perspective. *J Herbm Pharm*. 2018;7(1):1-7. doi: 10.15171/jhp.2018.01.

MATERIALS AND METHODS

DESCRIPTION OF THE APPARATUS USED AND THE DATA PROCESSING SOFTWARE

The creation of the form and the questionnaire with Google Drive

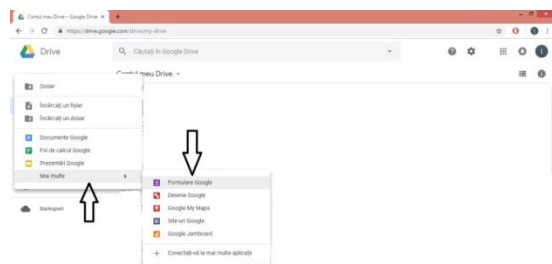
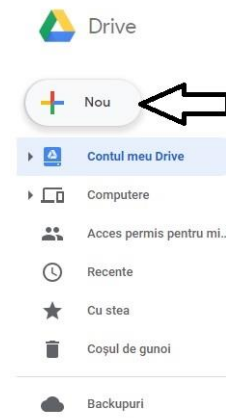
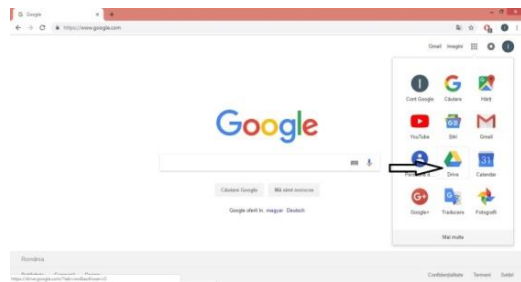
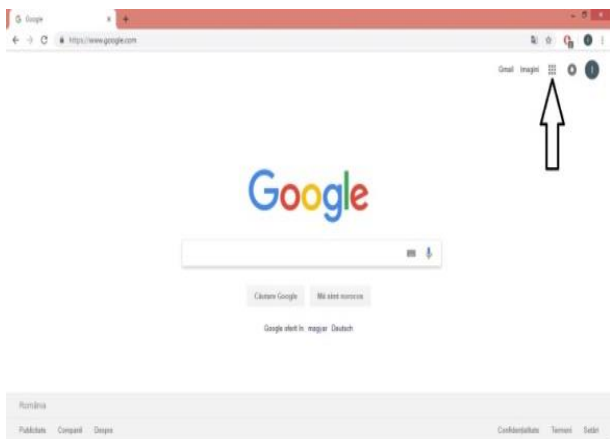
Step 1

We created a user account Google using the browser, I accessed Gmail, and then the "Create an account" to enter the information required for registration as a user of all Google services.



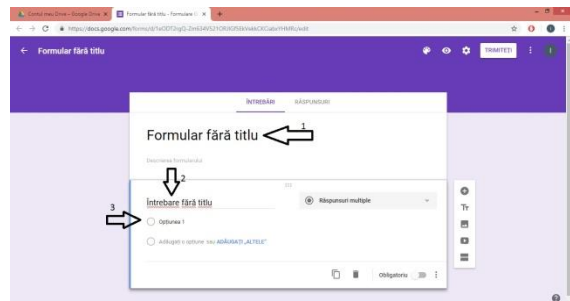
Step 2

I accessed Google Drive and then the window „New” that provides the sub-menus: 'File', 'upload a file', "upload a file", "Google", documents, spreadsheets, Google "Google Presentations", "More". We have chosen window „More" which provides options: „Forms Google", "Drawings Google", "My Google Maps", "Google Sites" and "connect to multiple applications". We came to the window „Forms Google".



Step 3

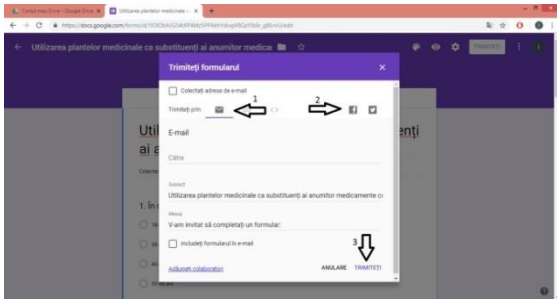
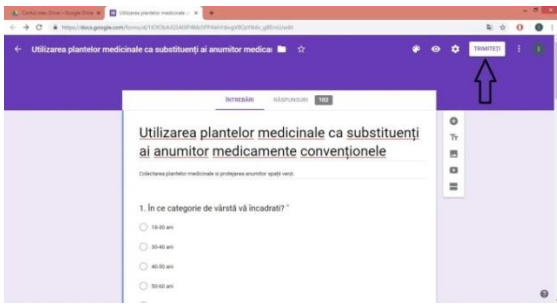
We completed the title of the form, the description of the form and I made the first question with multiple versions of answer. To add another question I accessed the icon in the top right-hand side „Add a question".



Step 4

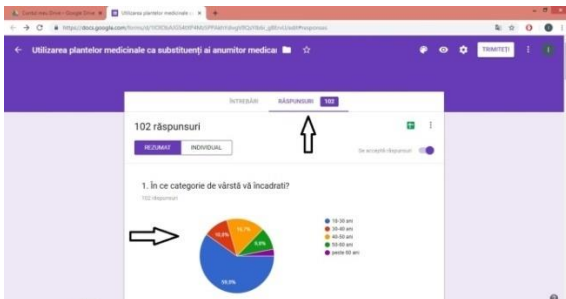
After the completion of the questionnaire I viewed by clicking on the icon, View", which is located in the top right of the bar functions. By clicking on the icon "Send" from the

Toolbar functions, I sent a questionnaire via e-mail and by accessing the link.



Step 5

After completing the form, view the answers is done by clicking on the icon „Answers”.



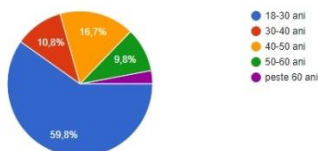
It was the last step completed for the observation of the results and their use for the case study.

The Case Study on the benefits of using medicinal plants

This case study will help us to see if people consider medicinal plants or products on the basis of medicinal plants more beneficial than conventional drugs we closely 102 answers to the questions addressed, they are:

1. În ce categorie de vârstă vă încadrați?

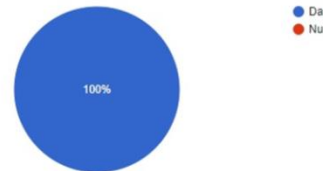
102 răspunsuri



From the first question I found out that the 59.8% (61 people) of those who responded to the questionnaire were aged between 18 and 30 years, 16.7% (17 people) aged between 40-50 years, 10.8% (11 people) aged between 30 and 40 years, 9.8% (10 people) aged between 50-60 years, and the remaining 2,9 % (3 people) aged over 60 years.

2. Este în regulă să protejăm anumite zone verzi?

102 răspunsuri



To this question 100% (102 people) have been agreed with the protection of the green areas.

3. Este important să protejăm speciile pe cale de dispariție a plantelor?

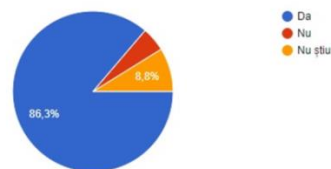
102 răspunsuri



99% (101 people) of platforms which have answered this question have considered that it is important to protect species in danger of extinction of plants, and the remaining 1% (1 person) considers that it is important to protect the plant species in danger of extinction.

4. Vi se par mai benefice medicamentele preparate din plante medicinale față de medicamentele convenționale?

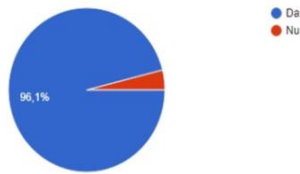
102 răspunsuri



86.3% (88 people) of people who have answered consider herbal products seemed more beneficial. On the basis of medicinal plants, 8.8% (9 people) do not know exactly if they are definitely most beneficial, and 4.9% (5 people) consider conventional medicines most beneficial.

5. Ați utilizat produse din plante medicinale pentru o anumită afecțiune până acum?

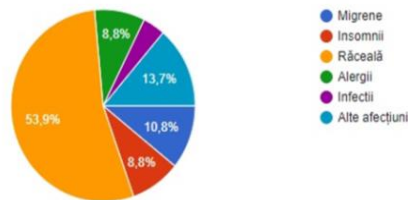
102 răspunsuri



To this question 96.1% (98 people) used products from medicinal plants, and the rest of 4.9% (4 people) have not used products from medicinal plants.

6. Pentru ce afecțiuni ați folosit plante medicinale?

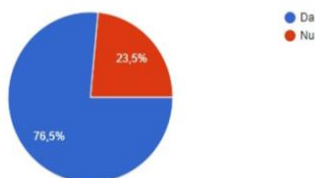
102 răspunsuri



53.9% (55 people) of people who have answered have used medicinal plants for cold, 13.7% (14 people) they used for other diseases, 10.8% (11 people) used for headaches, 8.8% (9 people) used for allergies, 8.8% (9 people) used for insomnia, and 3.9% (4 people) used for some infection.

7. Considerați că este important ca medicamentele să fie preparate doar din plante medicinale?

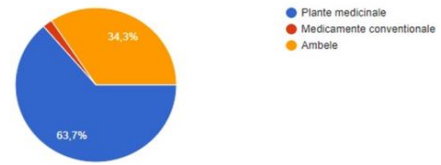
102 răspunsuri



To this question 76.5% (78 people) consider that it is important that the medicines be prepared only from medicinal plants, and 23.5% (24 people) consider that it is not important that medicines be prepared from medicinal plants.

8. Ar trebui să se pună accentul mai mult pe plantele medicinale sau pe medicamentele convenționale?

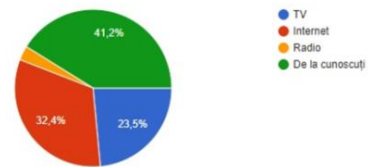
102 răspunsuri



63.7% (65 people) of people who have answered the question consider that it is necessary to focus only on medicinal plants, 34.3% (35 people) consider that we should focus on medicinal plants and on conventional plants, and 2% (2 people) consider that the emphasis should be on conventional medicines.

9. De unde ați aflat de plantele medicinale și de beneficiile acestora?

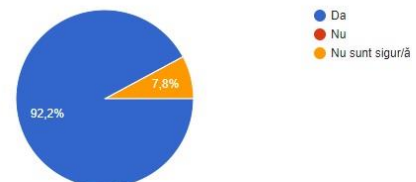
102 răspunsuri



To this question 41.2% (42 people) who replied have found out about the medicinal plants from mates, 32.4% (33 people) have found out of these from the internet, 23.5% (24 people) have found out about the medicinal plants from TV, and 2.9% (3 people) have found out from the radio of medicinal plants.

10. Ați recomanda utilizarea plantelor medicinale cunoscuților?

102 răspunsuri



92.2% (94 people) of people would recommend products from medicinal plants, and 7.8% (8 people) would not recommend to friends.

CONCLUSIONS

Often medicinal plants are recommended as a substitute of conventional drugs, that they do not have adverse effects. Indeed these natural treatments are better tolerated by the organism from the medicines classics, but this does not mean that they have any adverse reactions.

Medicinal plants are still a sort of drugs, even if they have a price less than the face of conventional medicines and natural, even if they are one hundred percent. Medicinal plants treating certain diseases under the following conditions: to be administered in suitable concentration and to be administered in a certain period of time. In the case in which are administered properly they may have adverse effects, as well as traditional medicines. The adverse effects are caused by incorrect tinctures preparation, management of plants in incorrect quantities, the change in frequency of administration compared to the one recommended.

In certain situations medicinal plants are even more efficient than conventional medicines. They act for a range wide enough for the affections. However, they may present a very high risk to cause allergies.

By the interpretation of the questionnaire we noticed that medicinal plants are used for various diseases and in particular for cold (53% of the total number of people who replied to the questionnaire medicinal plants used for cold, and the rest of the use of medicinal plants for diseases such as: headaches, allergies, insomnia, infection or other diseases).

A large part of the people who replied to the questionnaire (86.3%) prefer medicinal plants at the expense of conventional medicines.

A percentage of 63.7% of the total number of people who replied to the questionnaire considers that it should focus on medicinal plants, which are considered by the people who replied to the questions as more beneficial than conventional medicines.

The majority of people who replied to the questionnaire (59.8%) fall in a category of age between 18-30 years, and the lowest percentage, namely 2.9%, is a category of aged over 60 years.

All people who replied to the questionnaire consider that should protect green areas.

A big percentage of people (99%) considers that some plant species in danger of extinction would be protected.

96.1% of the whole number of people have used medicinal plants for various diseases.

It is considered that it is important that the medicines be prepared only from the medicinal plants (76.5%) and the rest of the 23.5% consider that it is not important.

Most people have heard of medicinal plants from known (41.2%), while a few people have heard of medicinal plants from the radio.

A percentage of 92.2% of people who replied to the questions would recommend friends medicinal plants, and the rest of them are not sure if would recommend medicinal plants.

REFERENCES

- <http://pcrai.ro/files/Plan%20Management%20Piatra%20Craiului.pdf>
- <https://romaniasalbatica.ro/ro/parc-national/piatra-craiului>
- <http://zarnesti.net/piatra-craiului/>
- https://ro.wikipedia.org/wiki/Parcul_Na%C8%9Bional_Piatra_Craiului
- http://www.pcr.ai.ro/lang-ro/8/Vizitarea/attractii_turistice-26.html