

Original Article

Research Concerning the Use of Medicinal Plants. A Case Study: Bistrița Năsăud

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Abstract

The profile of today's consumer is increasingly building on a healthy lifestyle, as he seeks to acquire products which contain natural substances beneficial to human body that come from different sources, both of animal and vegetable origin. These sources also include medicinal plants. The purpose of this research is to analyze the consumer's perception on the consumption of medicinal plants and the consumer's preferences regarding their acquisition purposes for using them. In order to achieve the proposed objectives, a survey based on a questionnaire was carried out, thus being collected the answers from a sample of 100 people located in Bistrița Năsăud. The questionnaire was structured into two parts, the first one containing questions about the knowledge and consumption degree of medicinal herbs, while the second one contained questions regarding the respondents profile. The information obtained based on the 20 questions provided in the questionnaire was processed and rendered into graphics by using the Excel application and analyzed by using IBM SPSS Statistics v.22, depending on the complexity of the questions. The obtained results revealed specific particularities regarding the consumption and perception of locals from Bistrița Năsăud on medicinal plants.

Keywords: *medicinal plants, consumers, perception.*

1. Introduction

The medicinal and aromatic plants are known for their special properties since antiquity, being used as a cure for various diseases and illnesses, for the special flavor they give to dishes, but also for their beautiful smell [3]. Until the middle of the nineteenth century, medicinal plants ranked first in medicine, being used as treatment for diseases by all social categories [1]. They can be used in many forms, as tea, powders, fresh juice, decoction, syrup, tinctures, etc. [4].

Over the years, due to the therapeutic experiences of previous generations as well as the development of sciences (chemistry, microbiology, medicine, etc.), the pharmaceutical industry has developed, especially the production of medications based on medicinal plants [6]. The use of medicines based on medicinal plants rests today's main practice for providing health care for a large part of the world's population, especially in less developed countries (such as India, Ethiopia, Burkina Faso or even South Africa), due to the fact that a large part of the inhabitants of these states live in isolated communities where they don't have access to medical infrastructure [2]. In Europe, following a study conducted in the Trás-os-Montes region from northern Portugal, with the aim of preserving

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ancestral knowledge, was found that 88 plants from 42 botanical families are being used as treatment for diseases. The research was conducted in an area where the majority of the plants that are being used are part of the wild. According to the 46 people that were interviewed, the most commonly used plants were part of the *Lamiaceae* family, and regarding the parts of the plant, leaves were frequently used. After conducting this study a report was elaborated in which were mentioned the scientific and folk names of the plants, their medicinal properties and last but not least, their uses [5].

2. Material and Method

The objectives of the research: The purpose of this research is to analyze the consumer's perception on the consumption of medicinal plants and their preferences regarding the acquisition and usage of this kind of plants.

The studied material is represented by the city of Bistrita, the residence of Bistrita Nasaud County (Fig. 1), located in the northeastern part of the Transylvanian Plateau. According to inssse.ro, in 2016 the population of Bistrita recorded 93,415 inhabitants, of which 48,173 representing 52.90% were of female gender, and 47.09% of the total 45.242 inhabitants were of male gender.



Figure 1. The position of Bistrita within the county

The research method: In order to achieve the proposed objectives, a survey based on a questionnaire was carried out, thus collecting the answers from a sample of 100 people from Bistrita city. The questionnaire was structured into two parts, the first part containing questions about the knowledge and consumption of products based on medicinal plants while the last part contained questions regarding the respondent's profile. In this present investigation the applied questionnaire was formulated by taking into account the cone technique. Thus, the first part of the questionnaire consisted in general questions, and the second part in precise questions. We also divided the questions into: identification questions, relative questions to the consumer's intentions, opinion and attitude questions, open, precoded questions, close dichotomy questions, close multidichotomic questions with multiple answers and questions with classification.

The data analyze. The process consisted in the introduction of preliminary data in Excel and afterwards in SPSS Statistics v.22 for further analysis and statistical interpretations. The sample consists in 64% female consumers, and 36 % male consumers. More than 50% of the respondents are over 40 years old, the majority graduated the high-school (46 %), and gain between 1000 to 2000 RON per month (Table1).

Table 1. Socio-demographic characteristics of the respondents

Variables	%
Gender	
Female	64
Male	36
Age	
25-40	18
41-60	54
>60	28
Education	
Illiterate	0
High school	46
University	35
Post University	19
Income	
No answer	24
Under 1000 RON	11
Between 1000 to 2000 RON	39
Over 2000 RON	26

3. Results and Discussions

Results concerning the knowledge and consumption of medicinal plants

The present research concerning the use of medicinal plants in Bistrita Nasaud city has revealed specific particularities, generally on the usage of medicinal plants locally, their accessibility and also the knowledge degree of this type of consumers. The investigation also revealed informations on the frequency on which medicinal plants are used by locals from Bistrita Nasaud the purpose for which they are used and the sources for purchasing medicinal plants. The locals involved in this investigation were also asked to described medicinal plants by their characteristics, in this case multiple answers could be validated. When asking if they are using medicinal plants, 88% of respondents answered favorable, and only 12% of respondents declined using them. This shows that the vast majority of respondents have access to medicinal plants, believe in their proprieties and use them for different purposes (Fig. 2).

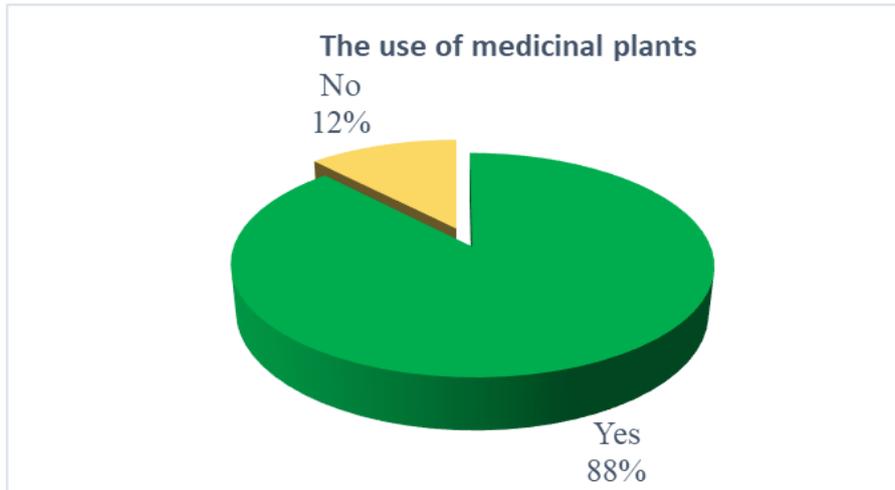


Figure 2. The use of medicinal plants

When respondents were questioned about the frequency they are using medicinal plants, the answer was not very favorable, as the highest percentage (39%) was given by people who use medicinal plants only several times a year, followed by those who use them monthly (25%). At the same time, 15 % of the

respondents use medicinal plants on weekly or daily basis and only 6% of the respondents do not use any medicinal plants at all. The reason why most people use medicinal plants only a few times a year can be due to the vast variety of medicines or supplements available on the market (Fig. 3).

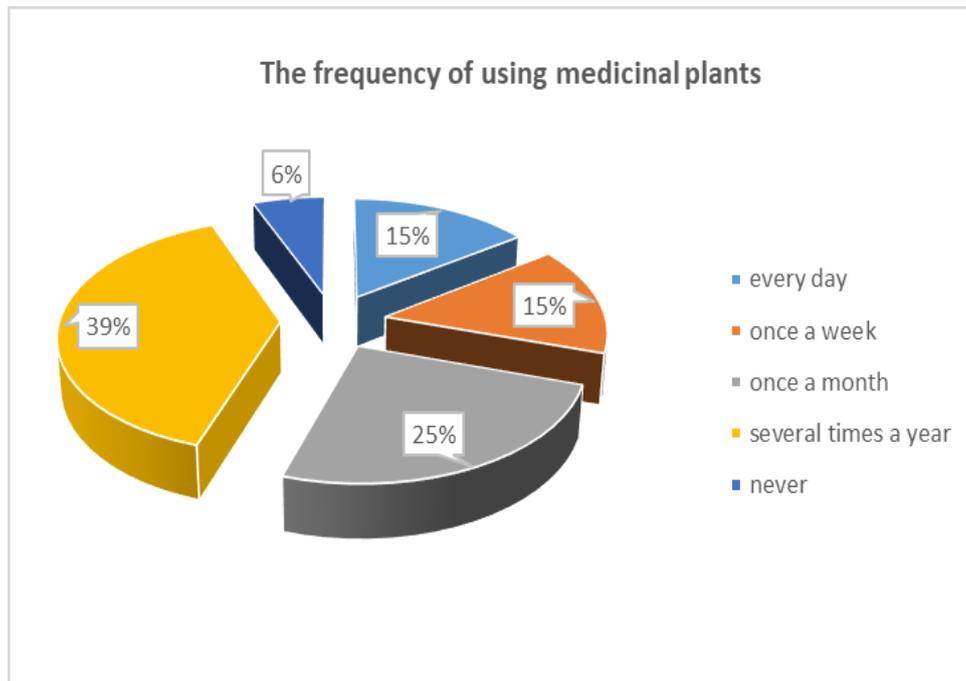


Figure 3. The frequency of using medicinal plants

Considering the sources for purchasing medicinal plants, the majority of the respondents (45%) call to specialized stores to purchase medicinal plants, while 29% of them go to supermarkets. Only 3% of respondents appeal directly to producers, and

8% of them search medicinal plants in agro-food markets.

Online stores remain an accessible solution, as 15% of respondents use them to purchase medicinal plants (Fig. 4).

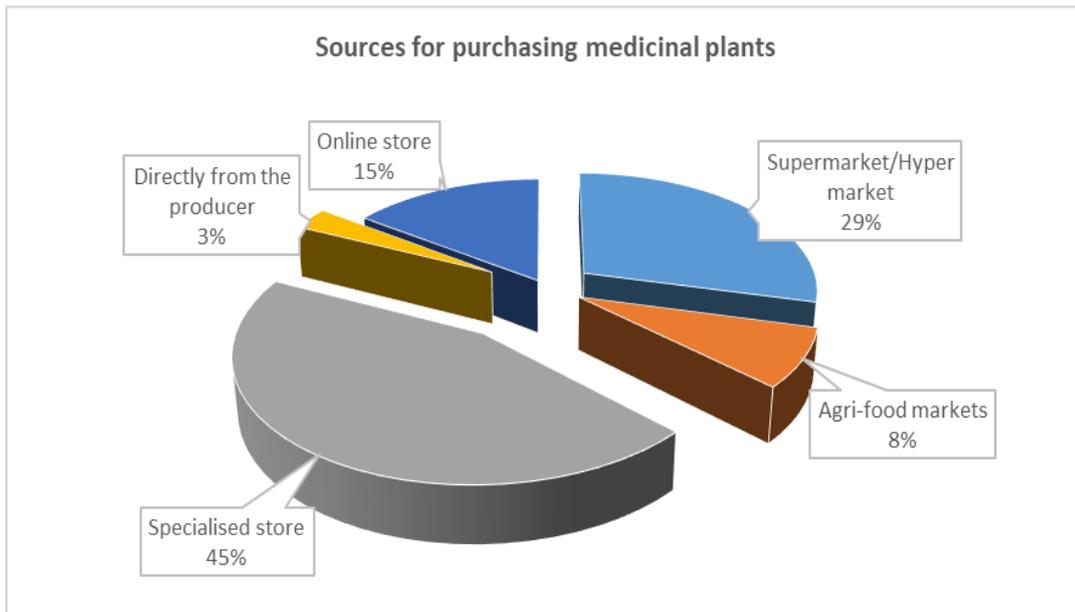


Figure 4. Sources for purchasing medicinal plants

In order to highlight the reasons that make consumers use medicinal plants, variables like the purpose for using medicinal plants and the characteristics of medicinal plants were taken into account. Thus, when asking the respondents the purpose for using medicinal plants, the vast majorit

of them take into consideration their therapeutic capacity (61%) while the minority consider that medicinal plants have other purposes. 18% of the respondents use medicinal plants for culinary purposes while 12% of them consider medicinal plants as a condiment (Figure 5).

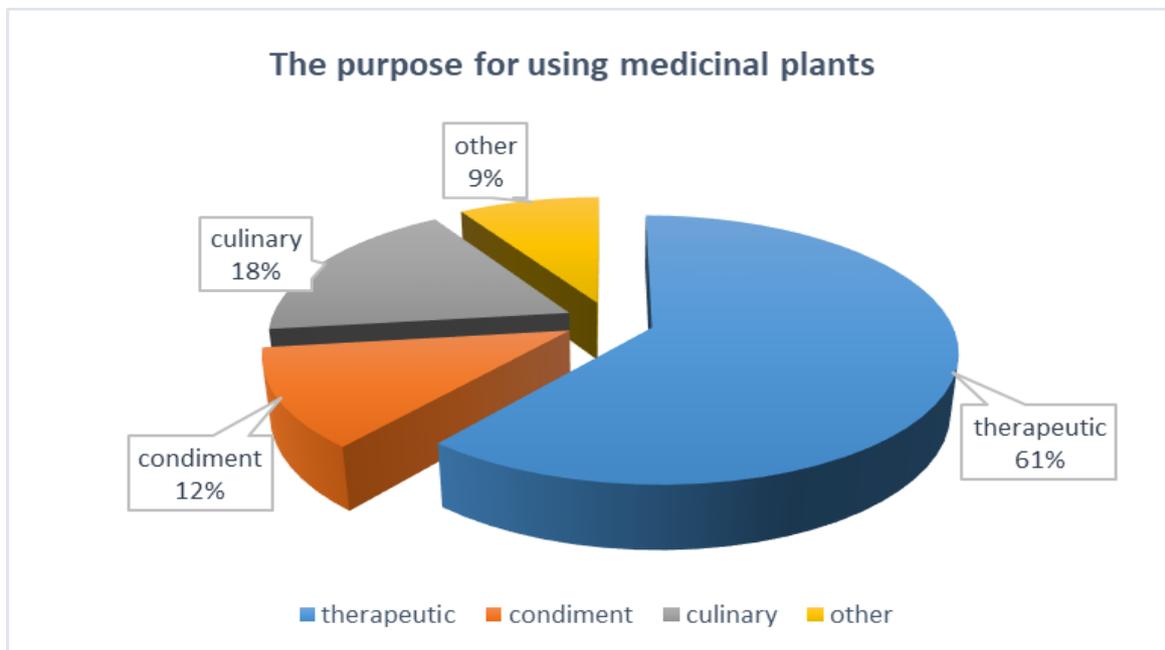


Figure 5. The purpose for using medicinal plants

When asked to define the characteristics of medicinal plants, respondents were offered the possibility to use several characteristics. Thus, from

100 respondents questioned about the characteristics of medicinal plants, 75 of them (24%) considered that the therapeutic propriety was the most revealing for

medicinal plants, flowed be healthiness - chosen by 65 respondents (20.8%), and authenticity and usefulness, placed on the same scale by 38 respondents (12.1%).

On the opposite side, 2 only 2 respondents (0.6%) considered medicinal plants to be unique,

while 3 of them (1%) defined medicinal plants as being natural. A number of 16 respondents from those interviewed (5.1%), described medicinal plants as advantageous, while 27 respondents (8.6%) used the term „accessibility” to characterize medicinal plants (Table 2).

Table 2. Characteristics of medicinal plants - Frequencies

Characteristics of medicinal plants ^a		Responses		Percent of Cases
		N	Percent	
Characteristics of medicinal plants ^a	Healthy	65	20.8%	86,7%
	Therapeutic	75	24.0%	100,0%
	Authenticity	38	12.1%	50,7%
	I don't know	5	1.6%	6,7%
	Tasty	28	8.9%	37,3%
	Natural	3	1.0%	4,0%
	Useful	38	12.1%	50,7%
	Accessibility	27	8.6%	36,0%
	Other	16	5.1%	21,3%
	Advantageous	16	5.1%	21,3%
	Uniqueness	2	0.6%	2,7%
Total		313	100,0%	417.3%

^aDichotomy group tabulated at value 1

Results regarding the profile of the respondents

Regarding the gender structure of the respondents participating at this sociological query, it can be observed that it respects the typology of the city of Bistrita, where the majority of inhabitants are of female gender.

The factors influencing the consumers perception and consumption of products based on medicinal plants can be divided in age, education and income. Age can be an important factor in using products based on medicinal plants, as older groups tend to use more frequently medicinal plants than younger ones. A person's education level can have a considerable influence on their lifestyle perceptions.

Therefore (Table 1), the largest group of our subjects is that of high school graduated (46%) followed by university graduated respondents (35%), while none of them are illiterate.

Income can also influence the consumers perception and usage of medicinal plants, by using medicinal plant products or herbal remedies at the expense of costly treatments. Due to recent consumer income decline, we tend to notice that most of the subjects are gaining average wages, between 1000 to 2000 RON, that can influence their purchasing preferences for medicinal plants.

4. Conclusions

1. In order to highlight the consumer's perception towards the consumption of medicinal plants within the city of Bistrita a survey based on questionnaire was applied on a sample of 100 respondents with a validation of responses of 100%.

2. Most of the respondents participating at this survey use medicinal herbs (82%), but they use them rarely, only a few times a year (39%) or once a month (25%).

3. The majority of the respondents (45%) appeal to specialized stores to purchase medicinal plant by taking into consideration their therapeutic capacity (61%).

4. Regarding the demographic profile of the respondents involved in this study, it can be seen that the vast majority were female respondents (64 %) of middle age (54%), graduated from high school (46%).

5. The cultivation of medicinal and aromatic plants is favored by the pedoclimatic conditions in our country, however a practical approach is needed for a better identification/characterization of the medicinal plant species used in traditional therapies, and a better awareness of the population about the therapeutical properties held by these type of plants.

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