

THE ASSESSMENT OF THE LEVEL OF KNOWLEDGE AND THE USE OF PLANT-DERIVED PREPARATIONS AMONG PEOPLE REPORTING TO THE REHABILITATION DEPARTMENT IN LUBLIN

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Abstract. The use of plant-derived compounds in medicine arouses more and more interest. Most plants contain numerous active ingredients that may have therapeutic effects on the human body. For many years, herbs have been used as medicinal agents. However, it is necessary to learn about the chemical content of the plant as well as how they work on the human body.

The aim of this study was to evaluate the use of preparations containing plant extracts and the assessment of respondents' knowledge about plant resources with medicinal properties.

The study group consisted of people who visited the Rehabilitation Department in Lublin. Respondents voluntarily filled out the questionnaire consisting of 21 questions. 33 persons were examined in total.

More than 77% of those who participated in the study have ever applied preparations of plant origin. More than half rated their level of knowledge about medicinal plants as small. Respondents gained knowledge about data on herbs and herbal supplements from several sources. None of the respondents considers preparations containing plant extracts as fully safe for the body and no one would use it without consulting a doctor first. The majority of respondents (over 63%) rated the effectiveness of the plant-derived compounds as good. Over 90% of respondents noticed positive effects of the use of plant supplements. Most respondents did not use compounds of plant origin which might slow down the body's aging process or improve memory and concentration. However, more than half of the respondents applied preparations containing sedative plant extracts.

As seen in the studies and the discussion above, the prevalence of the use of plant-derived compounds among respondents is relatively large. Respondents do not have sufficient knowledge of these substances. Almost all respondents notice the positive impact of plant compounds on the body. There is a need for educational campaigns among society to enrich the knowledge on the use of herbal medicine and its side effects in details.

Key words: medicinal plants, herbal supplements

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Introduction

The use of plant-derived compounds in medicine increases the interest both in society and in the profession of researchers. Although in recent years more and more scientific reports on them have occurred, it is still an aspect worth interest and it demands more research. Most plants contain numerous active ingredients that may have therapeutic effects on the human body. For many years, herbs have been used as

therapeutic agents (OŻAROWSKI *et al.* 1987). The knowledge about their use in therapy has developed and it is based on years of observation and experience of doctors and herbalist. Many years ago, Paracelsus said: "All things are poison and nothing is without poison, only the dose permits something not to be poisonous". Proper use of products containing plant extracts often appears very helpful in the prevention as well as in drug therapy. However, it is necessary to know the chemical content of the plant as

well as how they work on the human body. In society there is a mistaken belief that natural products, and thus the plants, are harmless to our health. It is important to remember that incompetent use of herbs, contrary to the adopted recommendations, may cause very serious consequences, sometimes even leading to death (DROZD 2012).

The aim of this study was to evaluate the use of preparations containing plant extracts and the assessment of respondents' knowledge about plant resources with medicinal properties.

Material and methods

The study group consisted of people who visited the Rehabilitation Department in Lublin to treat trauma and injuries caused during the Winter Sports Camp. Respondents voluntarily filled out the questionnaire consisting of 21 questions and demographic data. 33 persons were examined in total. Not all respondents answered all questions in the questionnaire. Among the respondents, there were 21 women, representing 72.41% of those who reported their gender, and 8 men, which accounted for 27.59%. Research techniques that have been used to collect data in the context of this study is a questionnaire developed by the authors of publication. Questions related to the medicinal use of products containing plant extracts and checked the respondents' knowledge on the most commonly used herbs. Interviews with respondents had the character of direct interview and were conducted personally by the authors of publication. The survey also included some metrical part, which contained questions about gender, education, type of work, place of residence. Respondents were also asked to subjectively rate their health condition and to identify their lifestyle.

Results

The study group consisted of 33 persons out of which 72.41% were women, while 27.59% were male. Among the respondents there were no people with primary education. More than half of the respondents had a high school

education and approx. 35% were of higher education. Only two people have vocational qualifications. 25 people answered the question about the kind of work they do. Most of them were white-collar workers, up to 48%, slightly more than 16% were blue-collar workers. 10 respondents were unemployed and one person was retired. The majority of respondents, as a place of residence declared a city with over 10,000 residents (66.67%), among others the same percentage of respondents lived in in the city with less than 10,000 inhabitants, as well as in rural areas (16.67%). Most of the respondents estimated their current state of health as good (43.33%) or very good (40%). 10% of respondents defined their health as poor, and only 6.67% as an average. Among the study population, more than 60% declared running a stressful lifestyle, almost 45% rated their lifestyle as active, and slightly more than 13% as calm. 5 respondents described their way of life as an active and stressful at the same time.

More than 77% of those who participated in the study have ever used plant-derived compounds (Fig. 1). More than half of them rated their level of knowledge about medicinal plants as small (Fig. 2). Respondents gained knowledge about data on herbs and herbal supplements from several sources. These were mostly leaflets, information from friends or – to a lesser extent – television. Information from a doctor was the least frequently used data source. None of the respondents considered preparations containing plant extracts as fully safe for the body and no one would use it without consulting a doctor first. Most respondents considered it as supplement to a diet or type of concomitant medication and about 1/3 of respondents was asking their doctor for an opinion. Among 27 people who responded to the question about confidence in the efficacy of herbal remedies, more than half claimed that they trust them because they are a good way to support the treatment. A slightly smaller proportion of respondents were convinced of their effectiveness, however, they claimed that their action is weaker than drugs. Other responses (“Yes, they are

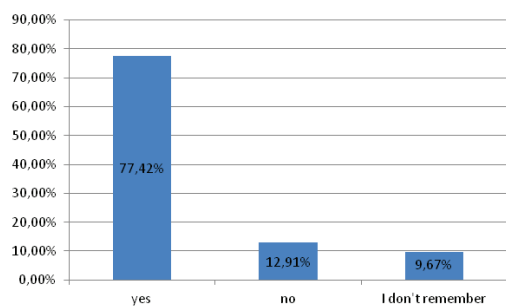


Fig. 1. Have you ever used plant-derived compounds?

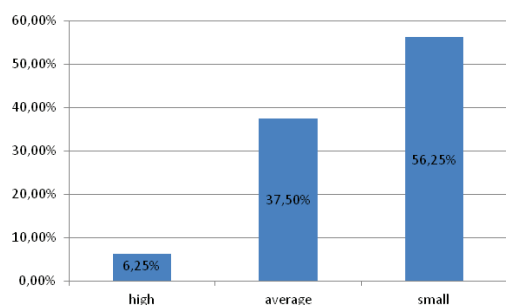


Fig. 2. How do you estimate your knowledge of medicinal plants?

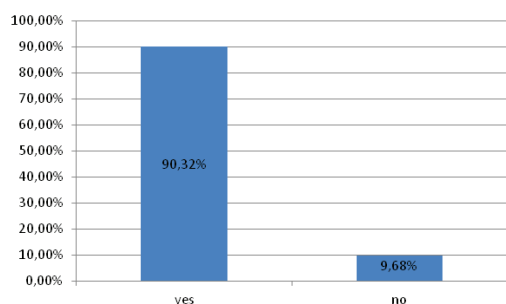


Fig. 3. Have you noticed the positive effect of plant compounds you used?

more effective than some drugs”, “I’m not convinced”, “No, but I use them because of the recommendations”) were chosen by a few individuals. The majority of respondents (over 63%) rated the effectiveness of the plant-derived compounds as good. Only one person spoke negatively about their effectiveness, while 11 respondents had no opinion on the subject. Most of the respondents applied plant

compounds in various forms, mostly herbal teas, syrups, ointments, and baths with herbs.

Over 90% of respondents noticed positive effects of the use of herbal supplements (Fig. 3). The majority of respondents did not use plant-derived compounds that might slow down the body’s aging process or improve memory and concentration. However, more than half of the respondents applied preparations containing sedative plant extracts. Only 9 people out of the study population decided to give reasons why they do not apply herbal remedies. It was the lack of knowledge about their impact or lack of belief in their effectiveness. Among the plants that affect the treatment of peripheral edema most respondents chose chestnut, aloe, oak bark, mountain arnica, hops, garlic and marigold. 8 respondents chose the answer “I do not know”.

Plants that were previously used by the respondents in the treatment of peripheral edema are: mint, garlic, aloe, flax, balm mint, mountain arnica, salvia (Fig. 4). The factor that mostly influenced the choice of plant preparation used in the treatment of edema was subsequently opinion of others, price, medical advice, advertising, and the slightest appearance of the package. In determining the mode of action of plant ointment for the treatment of edema in the majority of subjects chose several mechanisms, most chose the answer «reduce inflammation,» «relieve itching,» «diuretics» and «relieve the pain.» Some of the subjects independently prepared vegetable preparations for medical purposes. These were mainly raspberry juice, elderflower syrup, garlic and onions, infusion of echinacea, nettle, St. John’s wort, mint, lemon balm, linden. Plant compounds majority of respondents bought at a pharmacy (83.33%) or in the shop (63.33%).

Discussion

Drugs of plant origin are used in medicine right from its inception. A large part of currently artificially synthesized formulations has its prototype in plant compounds. Herbal medicine was especially present in folk medicine and knowledge of the use of various

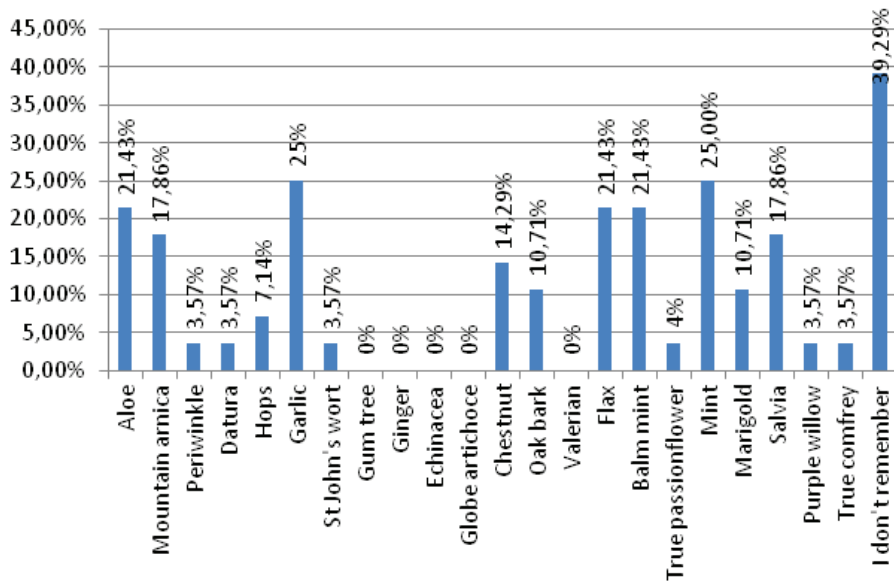


Fig. 4. What kind of herbs did you use/are you using?

plants has been passed down from generation to generation. At the moment, herbal medicine on the one hand is undergoing a renaissance since the interest in substances of plant origin is growing again. On the other hand, is often pushed into the background by becoming only the so-called additional treatment or it is even often wrongly referred to as homeopathy (AKRAM *et al.* 2014). As shown by our studies, in most cases people treat herbal medicine as an adjunct to conventional therapy. This situation has advantages but may also cause some risk. People often do not report the fact of using herbal medicine to the doctor. Most respondents applied medicines of plant origin together with conventional drug therapy and other dietary supplements sold without a prescription. Such connections may cause a variety of interactions. The doctor, not knowing that the patient uses herbal substances, may attribute those effects to choosing the wrong kind of conventional medicine. The effect may be the unnecessary interruption or modification of therapy, affecting the final result of treatment (GOH *et al.* 2009). An additional problem is that often both physicians and patients do not have enough knowledge on herbal medicine. As

demonstrated by our research, respondents drew the knowledge on this subject mainly from leaflets and friends' advice rather than from professional sources. Unfortunately, most patients rarely consulted their concerns with a doctor. This confirms that people's knowledge about herbal medicines is still fragmented and comes from unverified sources. Additionally, there may appear the need to pay more attention to this aspect during training young doctors. At the moment, the problem is underestimated and marginalized (SCARTON *et al.* 2013). Aspect of safety use and interactions of plant-derived medicines becomes even more serious if we notice that over 77% of people use these drugs. According to a recent study, 80% of the world population is using herbal medicine (EKOR 2013). Certainly there is a need for further research on combining the efficacy, safety and interactions of herbal medicine with conventional therapy. The problem is relatively new and widely commented (WERNER 2014). Analyzing the situation on the Polish market, the additional problem is the lack of clear legal regulations concerning trading in drugs of plant origin. There is a great number of products and herbal mixtures

that do not have any certifications and can be even more dangerous for a person who will use such a product. There is still a shortage of scientific publications on the interactions and side effects of products of plant origin used in the treatment of common disorders.

In this trial, as much as 90% of people reported positive effects of using drugs (mainly ointments and gels) of herbal substances in the treatment of post-traumatic edema. According to the respondents, preparations were easing the pain and accelerating the absorption of a bruise.

Conclusions

The study and the discussion above show that the prevalence of the use of plant-derived compounds among respondents is relatively large. Respondents do not have sufficient knowledge of these substances. Almost all respondents recognize the positive effects of plant compounds used on the body. There is a need for educational campaigns among society to enrich the knowledge on the use of herbal medicine and its side effects in details.

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