



Original Contribution

A STUDY IN BULGARIA OF PUBLIC ATTITUDES TOWARDS THE USE OF HOMEOPATHY AS A PART OF ALTERNATIVE MEDICINE

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ABSTRACT

Integrative medicine (also referred to as integrated medicine) combines conventional treatment methods, promotion of health, scientific research, and complementary and alternative medicine (CAM). There is an increasing interest and use of CAM in Bulgaria, although scientific studies related to CAM are few. CAM approaches and products that can be dispensed in a pharmacy involve the following therapeutical areas: apitherapy, aromatherapy, ayurveda, traditional Bulgarian medicine, phytotherapy, homeopathy, Schüssler's biochemical therapy, Dr. Bach's therapy. This study aimed to examine the attitudes of general practitioners, pharmacists, and patients on the use of homeopathy as part of CAM treatment methods. A survey method and a comparative analysis of the results were performed among three groups of respondents: doctors, pharmacists, and patients. The analysis of the survey results confirmed an increasing interest in the use of homeopathy as an alternative therapy method and revealed that healthcare professionals were willing to expand their knowledge and competencies in the field through courses and continuing education.

Key words: flu and viral infections, homeopathy, CAM, integrative medicine, healthcare professionals

INTRODUCTION

Integrative medicine (also referred to as integrated medicine) combines conventional treatment methods, promotion of health, scientific research, and complementary and alternative medicine (CAM). Homeopathy is an advanced system and technology that is used in many countries in the world. Homeopathic medicines are recognised by the British, German, French, US, Brazilian, Indian, and European pharmacopoeias. They are prepared in specialised laboratories and production facilities that meet modern GMP standards. The Bulgarian Health Act, in force since 2005, regulates homeopathy as an unconventional therapeutic method. The practice of homeopathy is allowed to medical doctors and doctors of dental medicine. Homeopathic medicines are available in pharmacies. Clinical outcome research suggests a positive impact and excellent safety with respect to the usage of homeopathy (1). In recent decades, homeopathy has been actively developed through two

methodologies: clinical and classical homeopathy. According to the European Coalition for Homeopathic & Anthroposophical Medicinal Products (ECHAMP), the third most popular specific complementary treatment is homeopathy. Three out of four Europeans know about it and 29% of them use it for their health care (2). The right to practice homeopathy is granted to Bulgarian citizens and citizens of the Member States of the European Union, the other states of the European Economic Area and Switzerland, who have a master's degree in medicine or dentistry.

This study aimed to present the attitudes of general practitioners, pharmacists, and patients on the use of homeopathy as part of CAM treatment methods.

METHODS AND MATERIALS

The study was conducted from March to May 2023 in Bulgaria. The self-administered online instruments (Google forms questionnaires) were designed to identify public attitudes toward the use of homeopathy as part of CAM treatment methods. Three tools (questionnaires) were developed with an identical structure

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specifically created for the targeted groups (study subjects): general practitioners, community pharmacists, and patients:

- ✓ a questionnaire for general practitioners (Annex 1) on the reasons for using homeopathy in their practice which consisted of 13 closed-ended questions allowing for more than one answer.
- ✓ a questionnaire for community pharmacists (Annex 2) on the prescription and administration of homeopathic medicinal products; it contained 15 closed questions, and only one of the questions allowed for more than one answer.
- ✓ a questionnaire for patients over 18 years of age (Annex 3) about their attitudes towards the usage of homeopathy; the questionnaire included 15 closed-ended questions.

Participation was voluntary and anonymous. The respondents did not receive any stimuli to complete the questionnaire.

Descriptive statistical methods were used. The Google forms for conducting online surveys

allows the generation of spreadsheets, with the possibility of direct data transfer in Excel. Microsoft Excel, 2019 was used for the statistical processing of the primary information. A comparative analysis was used to compare the results of the two groups of professionals. The results are presented in graphs and tables.

RESULTS AND DISCUSSION

For a short and critical descriptive analysis, the three distinct study samples were combined into two groups: 1) The professionals' group - the representatives of primary care - general practitioners, and community pharmacists; 2) The patients over 18 years of age. The size of the sample was determined by the period (March-May 2023) and the respondents could participate only once. Overall, 153 volunteers took part, 103 professionals (47 doctors, 56 pharmacists) and 50 patients. The characteristics of the two groups are summarized for the professionals in **Table 1** (N = 103, >18 years old) and for the patients in Table 2 (N = 50, >18 years old).

Table 1. Description of the professionals sample (N = 103, physicians, pharmacists)

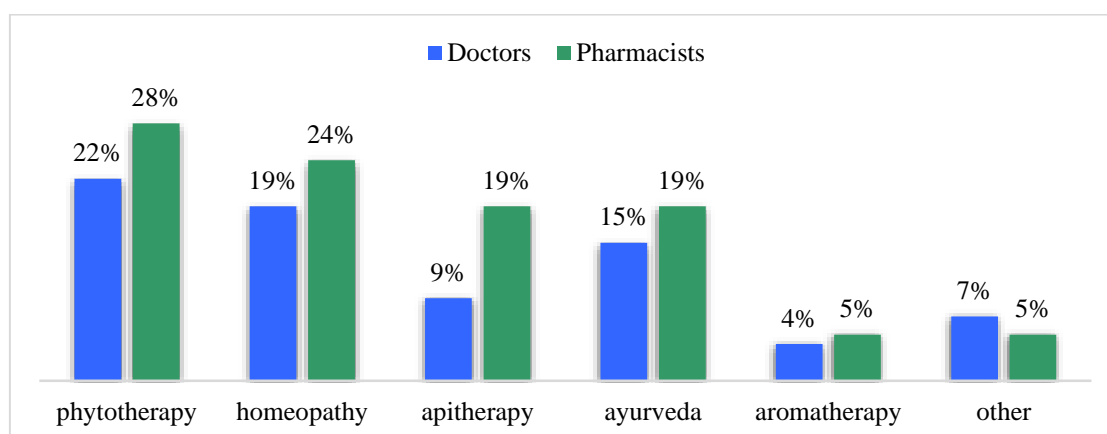
	Total professionals N = 103	Physicians N = 47	Pharmacists N = 56
Work Experience	17.2 ± 9.0		
> 15 years	42.7% (n = 44)	65.95% (n = 31)	23.21% (n = 13)
5-10 years	27.2% (n = 28)	23.41% (n = 11)	30.36% (n = 17)
< 5 years	30.1% (n = 31)	10.64% (n = 5)	46.43% (n = 26)
Place of work			
Regional city	39.8% (n = 39)	29.79% (n = 14)	44.64% (n = 25)
Small town	59.2% (n = 61)	63.83% (n = 30)	55.36% (n = 31)
Village	1.0% (n = 3)	6.38% (n = 3)	-

More than half of the physicians surveyed (65.95%) had more than 15 years of work experience, 23.41% had between 5 and 10 years of experience and the smallest share (10.64%) was that of physicians with less than 5 years of experience. In terms of geographical distribution, the highest relative share belonged to physicians practicing in smaller towns (63.83%), followed by the group of doctors from regional cities (29.79%) and doctors practicing in villages (6.38%). The pharmacists working in smaller towns were 55.36%; the remaining 44.64% were employed in regional cities and no one in a village. Regarding professional experience, 46.43% of the pharmacists surveyed had less than 5 years of experience, 23.21% had more than 15 years of experience, and the rest were in the range of 5-10 years.

Physicians included in the present study reported prescribing or recommending CAM approaches in their practice: 90% prescribed homeopathy, 89% often or sometimes recommended Schussler's biochemical therapy, 88% traditional medicine (the sum of percentages is greater than 100 because the participants gave more than one answer). The pharmacists surveyed mainly recommended food supplements, herbal products, homeopathy, Schussler's biochemical therapy. In summary, more than 70% of all surveyed professionals prescribed or recommended CAM treatments. In the survey, doctors and pharmacists were asked to indicate the CAM modalities they used the most frequently in their work (**Figure 1**).

Table 2. Description of the patients sample

	N = 50
Age group	40.35 ± 14.74
18-25 years	18% (n = 9)
26-35 years	24% (n = 12)
36-45 years	26% (n = 13)
46-55 years	16% (n = 8)
56-65 years	11% (n = 5)
65+ years	5% (n = 3)
Gender	
Female	66% (n = 33)
Male	34% (n = 17)
Education	
Master's degree	42% (n = 21)
College degree	32% (n = 16)
High school	26% (n = 13)

**Figure 1.** The most common CAM modalities used by doctors and pharmacists in Bulgaria

After comparing the responses, we found that CAM modalities with the highest rates were phytotherapy (50%) and homeopathy (43%), followed by ayurveda and apitherapy. The results of our study match the results of a similar study published in 2023 in which 90% of all participants confirmed using CAM methods (3).

Homeopathy is a therapeutic approach created more than 200 years ago by the German physician Samuel Hahnemann. This method differs from other approaches to improving human health in its use of medicines in infinitesimal doses based on the principle of similarity. In recent decade, physicochemical research in homeopathy has grown significantly. In 2014, in collaboration with French and Belgian university teams, a research project, DynHom (Dynamisation & Homeopathy) was launched (4). The aim of the project is to describe and characterise homeopathic remedies up to their highest

dynamisations through a multidisciplinary approach. Different methods are combined, such as: structural (Nuclear Magnetic Resonance, NMR), particulate (Nanoparticle Tracking Analysis Technique, NTA), material (scanning electron microscopy, EDX), and molecular (Fourier transform infrared spectroscopy, FTIR) all this without excluding the study of electric fields and other approaches to the nature of homeopathic medicine. The results are published in 2024 (5). The main highlights are the following: homeopathic medicines contain NPs with specific properties that can be identified using nanoparticle tracking analysis measurements, even at ultra-high dilutions; homeopathic potentisation is not a simple dilution; above the Avogadro's limit, homeopathic solutions cannot be considered as pure water.

In the period 2018-2021, Tournier et al. (6-8) published data from a systematic review and bibliometric analysis in 3 parts. Analysis of

more than 200 studies revealed that 72% of physicochemical experiments demonstrated measurable and specific physicochemical properties of homeopathic medicines, established with modern technologies (sophisticated spectroscopic techniques, such as Raman, UV-visible spectroscopy, and NMR)

(9). The most promising techniques are NMR relaxation, optical spectroscopy, and electrical impedance measurements (8).

Among healthcare professionals, the opinion prevailed that there was an increasing interest and trust in patients towards alternative medicine and homeopathy in particular (**Figure 2**).

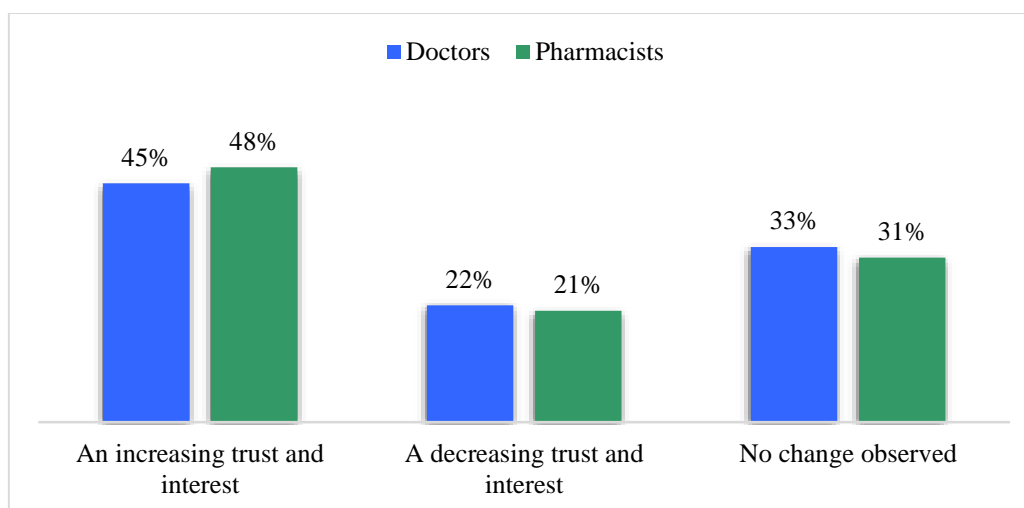


Figure 2. Patient attitudes toward homeopathy according to doctors and pharmacists

The number of doctors and pharmacists who reported an increasing interest and trust in homeopathy was almost the same (45% doctors, 48% pharmacists), suggesting an objective need to improve the quality of knowledge in this area. A 2021 study conducted among students at the Medical University of Varna and health professionals in Varna showed that both students (57%) and practicing professionals (71%) wanted to gain more knowledge about complementary and alternative medicine. Medical practitioners and pharmacists who participated in that study stated the need for specialised information through scientific seminars and congresses. Integration of homeopathy courses and other CAM approaches into university education was supported by 75% of students (10). These results showed a high degree of interest from healthcare professionals in increasing their professional competencies. Familiarisation courses about homeopathy are provided in the medical undergraduate curriculum as a part of a course on Complementary and Alternative Medicine in Hungary (one university), Italy and the Netherlands; as a separate subject in Bulgaria, Germany and Romania. These familiarisation courses are optional for medical students in Germany, Hungary (one university), Italy, the Netherlands and Switzerland (some universities), obligatory in Latvia and Romania.

Postgraduate training courses in homeopathy for doctors are provided at universities in Bulgaria, Germany, France, Italy, Lithuania and Spain, in other countries at private teaching centres (11).

A 2016 survey revealed similar results where students believed that such knowledge would be beneficial to their practice and would recommend the use of complementary and alternative medicine to their patients (12). High-quality health care is based on good medical knowledge, experience, and responsibility, as well as knowledge of therapeutic methods outside of conventional medicine, including homeopathy. Respondents in our study indicated a positive attitude toward the integration of CAM training in universities.

According to 37% of doctors and 38% of pharmacists in our study, homeopathic products were prescribed and dispensed most often the most frequently in the cases of flu and viral infections. Prophylaxis was the second most common answer given by 1/3 of respondents (**Figure 3**). More than half of general practitioners (70%) prescribed homeopathic medicinal products as a form of prevention during seasonal infections (flu and other viral infections, gastrointestinal infections, hay fever, respiratory diseases).

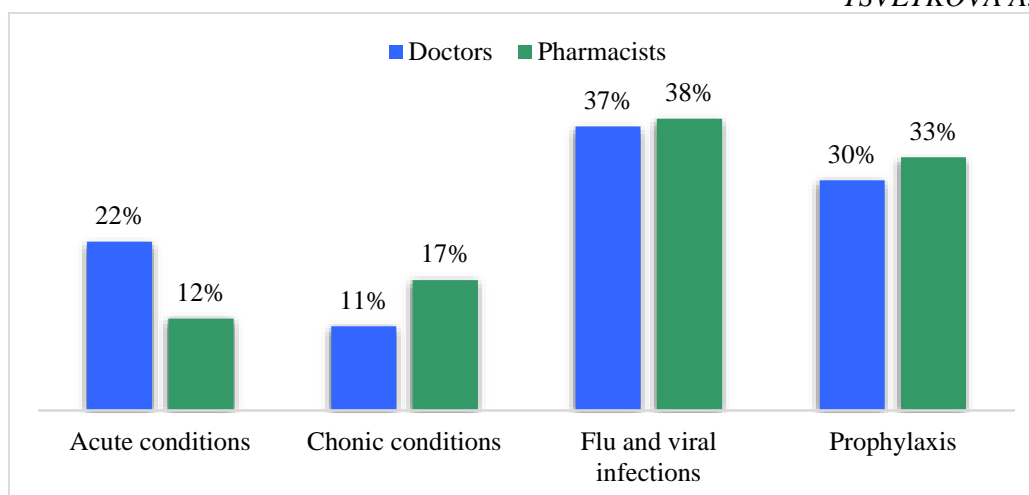


Figure 3. Conditions for which homeopathic products are prescribed and dispensed

In a review article, Maftai et al. (13) examine some of the available data on the impact of homeopathy on various common chronic diseases within the fields of internal medicine, oncology, obstetrics, and mental health. Current evidence supports the positive role of homeopathy in health and well-being in a wide range of different diseases in both adults and children. Combining conventional medicine with homeopathy as reported by doctors (48%) and pharmacists (40%) was primarily based on the symptoms and condition of the patient. The percentage of pharmacists who combined both methods of treatment was higher (36%) compared to physicians (22%). The professionals who replied that they did not combine conventional treatment with homeopathy were 30% of the doctors surveyed and 24% of the pharmacists.

Homeopathy has had documented success in treating various epidemics over the past two centuries. In order to establish the action, effectiveness and efficiency of homeopathic products for COVID-19, a number of studies have been carried out. A placebo-controlled, double-blind, randomized clinical trial was conducted in Brazil between June 2020 and April 2021. 86 participants received the homeopathic drug *Natrum muriaticum* LM2. Secondary results showed that a 50% reduction in symptoms was achieved, significantly earlier in the homeopathy group. Hospitalization rates were 2.4% in the homeopathy group and 6.8% in the placebo group (14).

In another retrospective cohort study conducted by Daruiche et al. from April to July 2020, the

incidence of COVID-19 was studied during a three-month follow-up of employees of a service sector company, taking *Arsenicum album* 30CH once a week. The incidence rate of COVID-19 was considerably lower among workers who received homeopathic medicine compared to those who did not use *Arsenicum album* (15).

In a study published in 2023 Manchanda et al. concluded that homeopathic drugs showed promising results during the third (Omicron) wave of COVID-19 as a supportive therapy. The most frequently used were nine homeopathic medications: *Gelsemium sempervirens*, *Bryonia alba*, *Hepar sulphuris*, *Rhus toxicodendron*, *Pulsatilla nigricans*, *Arsenicum album*, *Belladonna*, *Nux vomica*, and *Phosphorus*. New indications for some of the medications were found, which required further research (16).

The percentage of physicians (59%), who think the COVID-19 pandemic influenced the use of homeopathic medicines, was higher than that of pharmacists (43%). For 57% of the pharmacists and 41% of the physicians surveyed, the pandemic did not affect use (**Figure 4**). The results did not indicate that the COVID-19 pandemic was a factor influencing increased use.

As reported in a study from 2018 homeopathy can improve public health, particularly in the treatment of infectious diseases, pain, and mental health issues (17). Homeopathy can be used as primary and adjunctive therapy.

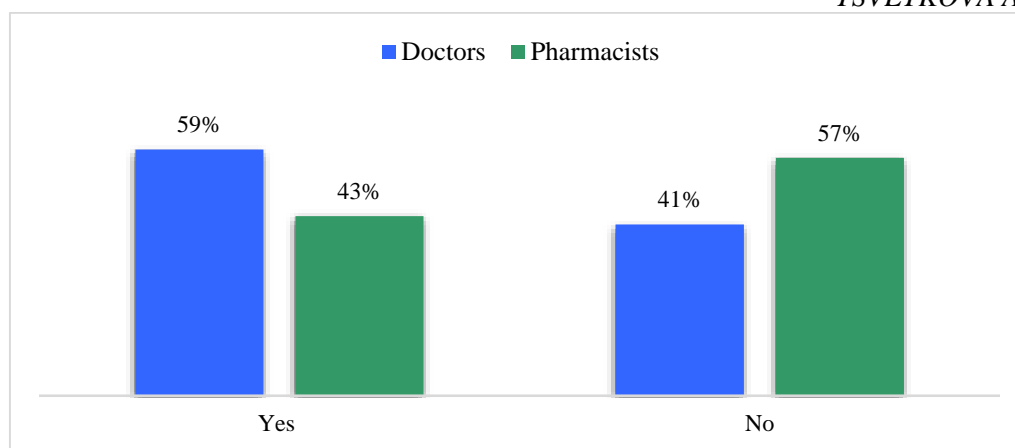


Figure 4. Impact of COVID-19 on the use of homeopathy

Gender distribution showed a predominance of females (66%) compared to males (34%). One third of patients (32%) used homeopathy for prophylaxis and prevention. When choosing a homeopathic product, they consulted a doctor (34%) or a pharmacist (39%), which confirmed the increasing role of healthcare professionals in that type of treatment. Among the main reasons for the use of homeopathy by patients were a

low rate of reported adverse drug reactions; reluctance to take conventional medicines; good personal experience; a recommendation from a healthcare professional and a high safety profile (**Figure 5**). As stated by ECHAMP, patients express high levels of satisfaction with their treatments, and the use and demand are increasing due to the high safety profile.

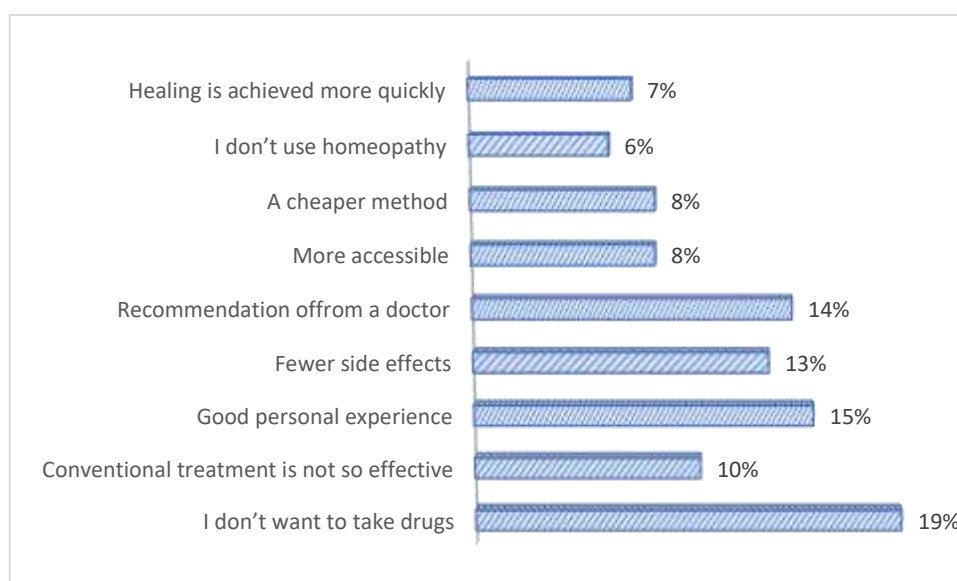


Figure 5. Main Reasons for the Use of Homeopathy by Patients

The increasing awareness of homeopathy leads to its more frequent and widespread use, as well as to the growing patient satisfaction after treatment with homeopathic medicines. Respondents in the three survey groups reported a reduction in treatment costs both for individual patients and for the healthcare system when using homeopathic medicinal products.

Limitations

The limitations of the study include those of subjective and objective origin. The online format and voluntary nature of participation

may have introduced selection biases, limiting the generalizability of the findings. Some professionals (physicians and pharmacists) could not spend time due to their busy schedules and did not participate in the study. The sample reflects the perspectives of those who opted to participate, but may not fully capture the attitudes of general practitioners, pharmacists, and patients about the use of homeopathy as part of the CAM treatment methods in the country. The experience and speciality of physician and pharmacist can affect the prescribing of homeopathy.

CONCLUSIONS

The existing conflicting opinions on homeopathy do not affect the growing interest in this method of treatment among doctors, pharmacists, and patients in Bulgaria. New highly sensitive analytical methods are being developed with the advancement of technologies that demonstrate that the effect of homeopathy is not a placebo effect. Homeopathy is one of the most popular forms of CAM due to a low frequency of adverse drug reactions, a good safety profile, and a wide range of applications. The study revealed a positive attitude toward the use of homeopathy by both professionals (general practitioners and pharmacists) and patients. A significant part of healthcare professionals combined homeopathy with conventional treatments, especially in symptom-based management, which reflects a positive attitude towards integrative approaches in healthcare, in particular homeopathy.

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