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HOMEOPATHY IN GENERAL PRACTICE

THESIS SUMMARY

Of a PhD Thesis

For awarding the educational and scientific degree of

Philosophy Doctor

Scientific specialty: General Medicine

Research Supervisor:

Prof. Valentina Madjova, MD, PhD

Varna, 2026

The dissertation consists of 168 pages and is illustrated with 28 tables, 8 figures, and 3 appendices. The bibliography includes 269 references, of which 9 are in Cyrillic and 260 in Latin script.

The dissertation was discussed and approved for public defense by the Departmental Council of the Department of General Medicine at Medical University "Prof. Dr. Paraskev Stoyanov" – Varna.

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The defense materials are available at the Research Department of the Medical University of Varna and have been published on the official website of the university.

Note: The numbering of the tables and figures in this abstract does not correspond to their numbering in the dissertation.

USED ABBREVIATIONS

BMA	Bulgarian Medical Association
CAM	Complementary and Alternative Medicine
CT	Conventional Treatment
CM	Conventional Medicine
ECHAMP	European Coalition on Homeopathic and Anthroposophic Medicinal Products
EU	European Union
GP	General Practitice
GP / GPs	General Practitioner / General Practitioners
HDs	Homeopathic Medicinal Products
HT	Homeopathic Treatment
PHC	Primary Health Care
TCM	Traditional and Complementary Medicine
TCIM	Traditional, Complementary and Integrative Medicine
WHO	World Health Organization

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I. INTRODUCTION

General practice in Bulgaria provides first contact and continuity of care through an integrated biopsychosocial approach to holistic healthcare. The model places the complex needs of individuals and communities at its centre, emphasising effective communication, trust, and active patient participation, while promoting patient empowerment and awareness of personal health responsibility.

Interest in complementary and alternative medicine (CAM) has grown considerably over recent decades among both patients and healthcare professionals. Homeopathy is among the most widely used methods across numerous European countries and worldwide, applied predominantly within primary medical care. Its historical development, diverse forms of institutional recognition, and persistent presence in clinical practice bear testimony to its significant social and medical influence, notwithstanding the ongoing scientific debates regarding its mechanism of action and clinical efficacy. Systematic reviews and meta-analyses largely fail to provide convincing evidence of a specific therapeutic effect of homeopathic medicines, which stands in contrast to real-world clinical practice, where homeopathy continues to be used and sought. This discrepancy raises the question of what factors determine the acceptance, rejection, or integration of the method within the framework of general practice.

According to data from the European Coalition on Homeopathic and Anthroposophic Medicinal Products (ECHAMP, 2015), Bulgaria ranks third in the EU by sales of homeopathic products. A nationally representative Harris Interactive survey (2023) found that 65% of Bulgarians have used homeopathy at least once in their lifetime; two-thirds intend to use homeopathic preparations, with 52% stating they would first consult their general practitioner. Bulgaria ranks second in the EU by number of physicians prescribing homeopathy — approximately 25 per 100,000 patients, compared to an EU average of 10.6 per 100,000. Homeopathic treatment is used either as an alternative to, or as a complement to, conventional treatment.

The attitudes, knowledge, and beliefs of general practitioners, future medical professionals, and patients regarding homeopathy therefore carry growing significance, as they directly influence clinical decision-making, patient communication, and the level of trust in the doctor–patient relationship. General practice provides a unique setting for studying these processes, as it is precisely here that the scientific standards of evidence-based medicine, individual patient expectations, and the realities of everyday clinical work are integrated.

Studies examining attitudes, the degree of awareness, the motivation for using or rejecting homeopathy, and its influence on trust within the doctor–patient relationship in the context of Bulgarian general practice remain scarce in the available scientific literature. This gap justifies the need for the present study, which aims to investigate, analyse, and evaluate the attitudes of general practitioners, medical students, final-year medical students, and patients towards the use of homeopathy as a therapeutic and preventive method in general practice in Bulgaria.

II. AIM AND OBJECTIVES

Aim

The aim of the present dissertation is to investigate, analyse, and evaluate the attitudes of general practitioners (GPs), medical students, final-year medical students, and patients towards the use of homeopathy as a therapeutic and preventive method in general practice.

Objectives

- 1) To investigate the interest in and attitudes of GPs, medical students, final-year medical students, and patients towards homeopathy as a complementary and alternative method of treatment.
- 2) To examine the scope of homeopathy use by GPs in clinical practice.
- 3) To identify the reasons for using or rejecting homeopathy among GPs, medical students, final-year medical students, and patients.

- 4) To investigate the level of knowledge and the desire for training in homeopathy among GPs, medical students, and final-year medical students.
- 5) To investigate and evaluate the level of trust in the doctor–patient relationship with regard to the use of homeopathy as a CAM method.

Hypotheses

Based on the formulated aim and objectives of the study, a null hypothesis (H_0) and an alternative hypothesis (H_{1-s}) were set for each research objective.

Main hypothesis: There are statistically significant differences and associations in attitudes, knowledge, and behaviour regarding the use of homeopathy between general practitioners, medical students/final-year medical students, and patients.

Hypotheses corresponding to the research objectives:

H1: There is a statistically significant difference in the distribution of attitude scores towards homeopathy between the three groups.

H2: The use of homeopathy by GPs is associated with years of experience and additional qualification in homeopathy.

H3: The main reasons for accepting or rejecting homeopathy differ between medical professionals and patients.

H4: A higher level of awareness is associated with a more positive attitude towards homeopathy training.

H5: The level of trust in the doctor–patient relationship with regard to homeopathy as a CAM method is insufficient, as evidenced by limited disclosure on the part of patients and a preference for homeopathic care outside the primary healthcare system.

III. MATERIAL AND METHODS

1. Study Design and Organisation

An observational, non-interventional, cross-sectional survey study was conducted among three target groups: general practitioners (GPs) from the Varna, Burgas, and Dobrich regions; fourth-year medical students and final-year medical students during their training at the Department of General Medicine; and patients. The questionnaires were developed as online surveys using Google Forms and were completed voluntarily following informed consent. The study received ethical assessment and approval from the Research Ethics Committee (REC) at Medical University of Varna. Data were collected between April 2022 and March 2023.

2. Methods

Documentary method

Available national and international literature, as well as regulatory documents pertaining to homeopathy and its application in medical practice, were systematically reviewed. The primary databases utilised were PubMed, SCOPUS, and Science Direct, alongside Google Scholar, ResearchGate, and the official websites of the WHO, ECHAMP, and other organisations engaged with the subject matter of the dissertation.

Survey method

An original questionnaire was developed for each of the three groups (comprising 39, 39, and 34 items respectively), structured into four blocks: sociodemographic data; knowledge and experience with homeopathy; group-specific questions; and an identical Block IV containing 13 statements assessed on a 5-point Likert scale — the methodological basis for cross-group comparative analysis. The statements were organised into three subscales: *Skepticism towards Homeopathic Medicines* (T1–T5), *Belief in the Efficacy of Homeopathic Medicines* (T6–T9), and *Integration and Communication* (T10–T13). Scores were interpreted across three ranges: negative/low attitude (1.00–2.49), neutral attitude (2.50–3.49), and positive/high attitude (3.50–5.00).

Statistical methods

The data were analyzed using jamovi software (version 2.7), with a significance level of $\alpha = 0.05$. The following statistical procedures were applied: descriptive statistics (n, %, M, SD, Mdn); Cronbach's alpha for reliability assessment; the Kruskal–Wallis test with post hoc pairwise comparisons using the Conover–Iman procedure (Bonferroni-adjusted $\alpha = 0.017$); Pearson's χ^2 test and Fisher's exact test; Spearman's rank-order correlation; and effect size estimation using $r = Z/\sqrt{N}$ and Cramér's V.Ето превода на раздел Резултати и анализ. Поради обема ще го правим на части — започвам с първата:

IV. RESULTS AND ANALYSIS

1. Sociodemographic characteristics of the study participants

A total of 756 correctly completed questionnaires were included in the analysis: 54 from general practitioners, 147 from fourth-year medical students and final-year medical students, and 555 from patients aged 18 years and above (Table 1).

Table 1. Sociodemographic characteristics of the study groups

Characteristic	GPs (n=54)	Students and final-year medical students (n=147)	Patients (n=555)
Sex			
Male, n (%)	10 (18.5%)	57 (38.8%)	69 (12.4%)
Female, n (%)	44 (81.5%)	90 (61.2%)	486 (87.6%)
Age			
<25 years, n (%)	0 (0.0%)	134 (91.2%)	42 (7.6%)
25–44 years, n (%)	9 (16.7%)	13 (8.8%)	229 (41.3%)
45–64 years, n (%)	43 (79.6%)	0 (0.0%)	256 (46.1%)
≥65 years, n (%)	2 (3.7%)	0 (0.0%)	28 (5.0%)
Religious affiliation			
Christianity, n (%)	52 (96.3%)	107 (72.8%)	505 (91.0%)
Islam, n (%)	—	14 (10.7%)	7 (1.3%)
Atheism, n (%)	2 (3.7%)	15 (11.5%)	22 (4.0%)
Place of residence/origin			
Large city, n (%)	N/A	91 (61.9%)	473 (85.2%)
Small city, n (%)	N/A	47 (32.0%)	74 (13.3%)
Village, n (%)	N/A	9 (6.1%)	8 (1.4%)

Notes: n — number of participants; GPs — general practitioners; N/A — not applicable (item not included in the GP questionnaire).

GPs and patients were predominantly female (81.5% and 87.6%, respectively). Mean age was 51.2 ± 10.4 years for GPs, 22.3 ± 2.6 years for students, and 44.7 ± 11.6 years for patients. Patients were predominantly from large cities (85.2%), economically active, with a household income above 1,050 BGN per member (43.8%).

Among patients, statistically significant associations were found between HM use and sex (96.7% of women vs. 84.1% of men), age (the highest proportion of non-users was found in the 18–25 age group — 9.5%), and religious affiliation (over 95% among Christians vs. 22.7% non-users among atheists and 14.3% among Muslims). Place of residence and income did not demonstrate statistically significant associations with HM use. No significant sociodemographic predictors were identified among GPs or students.

2. Professional characteristics of general practitioners

The data are presented in Table 2. The majority had individual practices (68.5%), were located in large cities (61.1%), had over 20 years of experience as GPs (59.3%), and held a specialty in General Medicine (66.7%). A certificate in homeopathy was held by 55.6%, and 92.6% attended scientific forums at least once a year.

Table 2. Professional characteristics of general practitioners

Characteristic	n	%
Type of practice		
Individual primary care practice	37	68.5
Group primary care practice	11	20.4
Location of practice		
Large city	33	61.1
Small city	7	13.0
Village	1	1.9
Years of medical experience		
Up to 10 years	8	14.8
11–20 years	3	5.6

Characteristic	n	%
21–30 years	23	42.6
Over 30 years	20	37.0
Years of GP experience		
Up to 5 years	13	24.1
5–10 years	1	1.9
10–15 years	8	14.8
Over 20 years	32	59.3
Medical specialty*		
General Medicine	36	66.7
Internal Medicine	11	20.4
Paediatrics	9	16.7
Emergency Medicine	3	5.6
Other	3	5.6
Homeopathy training completed		
Yes (certificate holder)	30	55.6
No	18	33.3
Currently undertaking training	2	3.7
Intending to undertake training	2	3.7
Would not study homeopathy	2	3.7
Attendance at scientific forums		
More than once a year	35	64.8
Once a year	15	27.8
Less than once a year	4	7.4

Notes: n=54 general practitioners; * Participants could indicate more than one specialty; the sum may therefore exceed 100%.

The homeopathy certificate was the strongest predictor of frequent clinical use (Cramér's $V=0.629$, $p<0.001$): 63.3% of certified GPs used homeopathy frequently versus 0% of non-certified GPs. Years of GP experience was a stronger predictor than overall medical experience ($\rho=0.438$ vs. $\rho=0.315$). Practice type and participation in scientific forums were not significant factors. Hypothesis H2 was confirmed (Table 3).

Table 3. Summary of Chi-square analyses across five factors (GPs, n=54)

Factor	χ^2	p	Cramér's V	Significance
1a. Practice type (Individual vs. Group)	3.674	0.159	0.277	n.s.

Factor	χ^2	p	Cramér's V	Significance
1b. Location (Large city vs. Small city/Village)	6.424*	0.040	0.396	*
2a. Medical experience (4 groups)	10.223	0.116	0.308	n.s. **
2b. Medical experience (≤ 20 vs. $21+$ years)	8.130	0.017	0.388	*
3a. GP experience (4 groups)	13.659	0.034	0.356	*†
3b. GP experience (≤ 15 vs. > 20 years)	11.250	0.004	0.456	**
4. Forum attendance (3 groups)	2.838	0.585	0.162	n.s.
5. Homeopathy certificate (Yes vs. No)	18.987	< 0.001	0.629	***

Notes: * expected cell frequencies < 5 in certain cells; † with 4-group analysis of GP experience, small cells limit the reliability of Chi-square; the grouped analysis is recommended; n.s. — not significant; ** statistically significant.

3. Awareness and personal experience with homeopathy

Among GPs, 42.6% reported basic knowledge of homeopathy, 24.1% — good, 18.5% — very good, and 13% — excellent knowledge. Among students and final-year medical students, 80% were familiar with the method; among patients, 93%.

Personal experience with HM was reported by 83.3% of GPs, 77.6% of students, and 95.1% of patients. Perceived improvement following HM use was reported by 72.2% of GPs, 42.2% of students, and 83.1% of patients.

4. Information sources on homeopathy

The information profiles of participants are an important factor shaping their attitudes and therapeutic behaviour. The data (Table 4) delineate specific information profiles for each of the three target groups.

Table 4. Information sources on homeopathy

Source	GPs (%)	Students (%)	Patients (%)
Physician	46.3	53.0	63.4
Pharmacist	11.1	15.6	9.0
University	33.3	34.0	6.3
Scientific journals and books	50.0	53.7	37.3

Source	GPs (%)	Students (%)	Patients (%)
Family	1.9	42.2	21.3
Friends	18.5	29.3	61.6
Social media	9.3	44.2	26.5
Television and other media	1.9	24.5	8.8

Note: Participants were able to indicate more than one response; the sum therefore exceeds 100%.

The physician was the leading information source across all three groups (GPs 46.3%, students 53%, patients 63.4%), confirming the key role of the physician in providing reliable information about homeopathy. Among patients, friends represented an almost equally prominent channel (61.6%), indicating the parallel existence of professional and informal information flows.

GPs and students relied predominantly on academic and scientific sources — university (33.3% and 34%, respectively) and scientific literature (50% and 53.7%). Notably, 37.3% of patients also used scientific literature, exceeding reliance on popular media.

Social media emerged as a leading channel among students (44.2%), in marked contrast to GPs (9.3%), reflecting a generational difference in information-seeking behaviour and exposing future physicians to a higher volume of unfiltered online content. Television and mass media reached students more effectively (24.5%) than GPs (1.9%). Family was a significant source predominantly among students (42.2%), with the role of the pharmacist remaining low across all three groups (9–15.6%).

The data revealed a notable transformation between 4th-year students and final-year medical students: the physician as an information source increased from 47.9% to 64.2% — the most marked change across all sources. University as a source almost doubled: from 24.5% to 49.1%. These changes reflect the natural transformation of the information environment during the transition from early clinical training to clinical internship. Conversely, family as a source decreased substantially — from 46.8% in the 4th year to 32.1% among final-year medical students — reflecting the

gradual retreat of informal, family-based sources in favour of institutional ones, in keeping with the process of medical socialisation.

5. Attitudes and beliefs towards homeopathy

5.1. Results by subscale

The mean values, standard deviations, and medians by subscale are presented in Table 5. Scale interpretation follows the division: 1.00–2.49 = negative/low attitude; 2.50–3.49 = neutral; 3.50–5.00 = positive/high attitude.

Table 5. Kruskal–Wallis test — comparison between the three groups

Subscale	GPs M	Patients M	Students M	p- value	Ranking (descending)
Skepticism towards HM	2.82	2.32	3.53	<0.001	Students > GPs > Patients
Belief in the Efficacy of HM	3.71	3.86	3.20	<0.001	Patients > GPs > Students
Integration and Communication	4.31	4.23	4.09	0.007	GPs > Patients > Students
Overall Attitude Index	3.69	3.90	3.19	<0.001	Patients > GPs > Students

Notes: M = arithmetic mean; scale 1–5. For the Skepticism subscale, a higher score indicates more pronounced skepticism; for the remaining subscales, a higher score indicates a more positive attitude.

Statistically significant differences between the three groups were established across all four subscales. The magnitude of the observed H-statistics was particularly large for Skepticism ($H=154.09$) and the Overall Attitude Index ($H=126.80$), indicating substantial differences in distributions. A more moderate, yet statistically significant effect was observed for Integration and Communication ($H=10.02$, $p=0.007$), reflecting comparatively greater consensus between the groups regarding the importance of communication.

6. Scope of homeopathy use by general practitioners

The majority of the surveyed general practitioners (75.9%) use homeopathy in their practice: 35.2% do so frequently and 40.7% occasionally, while 7.4% of the total sample refer patients to a specialist. A total of 24.1% do not use homeopathy at all. Homeopathy is used in clinical practice by 55.6% of respondents; 24.1% use it only for family members and close acquaintances, 3.7% for personal needs, and 16.7% do not use it. The majority (70.4%) view homeopathy as a complementary therapeutic approach, 14.8% regard it as a stand-alone method, and 7.4% believe it has no place in primary medical care.

7. Motivating factors and barriers to the use of homeopathy

7.1. Motivating factors

The three groups demonstrated markedly different motivational profiles (χ^2 test with Bonferroni correction), confirming hypothesis H3.

Among general practitioners (GPs), the leading motivations were the reduction of antibiotic and medication use (55.6%) and the absence of side effects (53.7%), followed by treatment effectiveness (40.7%) and situations in which conventional medicine offers no solution (31.5%).

Among students, the dominant motivation was the safety of the therapy, specifically the absence of side effects (82.3%).

Among patients, the principal motivations were treatment effectiveness (63.8%), a holistic approach (61.1%), absence of side effects (58.2%), and an individualized approach (57.8%). Motivations unique to this group included disease prevention (24.1%) and additional benefits alongside conventional treatment (25.6%).

Notably, scientific evidence did not reach statistical significance ($p = 0.076$), indicating that the acceptance of homeopathy is based primarily on perceived effectiveness and personal experience rather than on objective scientific evidence.

7.2. Barriers

Significant differences were identified for 9 of the 10 barriers examined ($p < 0.05$), confirming hypothesis H3.

Among GPs, the leading barriers were perceived ineffectiveness and lack of familiarity with the method (14.8% each), followed by the lack of scientific evidence (13.0%) and lack of time (11.1%). A barrier specific to this group was the lack of patient demand (9.3%), which was absent in the other two groups.

Among students, the main barriers were the lack of scientific evidence (55.8%), lack of reliable information (54.4%), slower treatment outcomes (52.4%), a limited number of trained practitioners (51.0%), and lack of interest (36.7%). Notably, clinically oriented barriers such as perceived ineffectiveness or lack of familiarity with the method were largely absent.

Among patients, infrastructural barriers predominated, including a limited number of trained practitioners (52.6%), slower treatment outcomes (42.0%), lack of reliable information (33.0%), and lack of scientific evidence (21.1%).

The only barrier that did not reach statistical significance was “it is more time-consuming” ($p = 0.067$).

8. Clinical indications for the use of homeopathy

The pattern of homeopathy use differed substantially across the three groups. Childhood illnesses were the most frequently reported indication overall, particularly among patients (69.4%), followed by general health maintenance (51.0%) and infectious diseases (44.9%). Patients consistently reported the widest use of homeopathy across most clinical conditions, including respiratory disorders (53.1%), trauma (49.0%), allergies (44.9%), and anxiety, depression, and sleep disorders (40.8%). Medical students showed an intermediate pattern, with homeopathy being used mainly for childhood illnesses, general health maintenance, infectious diseases, and psycho-emotional conditions. In contrast, GPs reported lower frequencies overall but the broadest clinical scope, including the use of homeopathy for cardiovascular (20.4%) and oncological conditions (14.3%). These findings

suggest that while patients primarily associate homeopathy with a wide range of chronic and common health problems, GPs tend to apply it across a more diverse spectrum of clinical indications.

9. Attitudes towards Homeopathy Training

Among GPs, 74.1% supported the inclusion of homeopathy as an elective subject in medical education. Among medical students and residents, a gradient of decreasing enthusiasm was observed as the level of personal commitment increased: 75.5% believed that physicians in general should have knowledge of homeopathy, 54.4% supported the inclusion of a homeopathy course in undergraduate medical education, yet only 36.7% expressed willingness to personally participate in postgraduate training. These findings suggest broad support for basic awareness and education regarding homeopathy, but considerably lower interest in undertaking specialized training. Hypothesis H4 was confirmed among GPs ($p = 0.292$, $p = 0.032$) and partially supported among students. (Table 6).

Table 6. Attitudes of students/final-year medical students towards homeopathy training (n=147)

Question	Yes n (%)	No n (%)	Cannot determine n (%)
Is it necessary for physicians to have knowledge of homeopathic treatment?	111 (75.5%)	19 (12.9%)	17 (11.6%)
Should medical training include a short course in homeopathy?	80 (54.4%)	38 (25.9%)	29 (19.7%)
Would you participate in a postgraduate course in homeopathy?	54 (36.7%)	59 (40.1%)	34 (23.1%)

Note: Items are ordered by level of training: general necessity → core course → postgraduate specialisation.

10. Communication and Trust in the Doctor–Patient Relationship

The majority across all groups supported the patient's right to choose between conventional medicine and CAM — GPs (83.3%), patients (87.9%), and students (70.7%). A statistically significant difference was established ($\chi^2=30.23$, $p<0.001$), with post-hoc analysis demonstrating that only the

difference between students and patients reached significance ($p<0.001$) — reflecting the more critical academic attitude of future physicians formed in an evidence-based medicine environment.

GPs and students demonstrated practically identical distributions regarding active inquiry about HM use: approximately 60–63% supported active inquiry, approximately 27% were against ($\chi^2=0.69$, $p=0.710$). The similarity is noteworthy — regardless of different clinical experience, the two groups shared an acquired attitude on this issue. Patients significantly more often insisted on physician competency in CAM matters (85.9% vs. 75.5% among students, $\chi^2=17.73$, $p<0.001$).

The central finding was the discrepancy between GPs' declared readiness for communication and patients' actual behaviour. Approximately 41.6% of patients did not disclose CAM use to their GP, with the leading reasons being the belief that the GP is not interested (25.0%) and the anticipation of a negative reaction (20.2%) — both based on expectations rather than actual negative experience (Table 7). From the GP perspective, 64.8% reported that their patients actively disclosed HM use, while only 11.1% indicated non-disclosure.

Table 7. Disclosure of CAM/HM use — patient and GP perspectives

	Category	n	%
Patients (n=555) — Do you disclose HM use to your GP?	Yes, I disclose	324	58.4%
	Do not disclose	231	41.6%
Patients (n=555) — Reasons for non-disclosure	GP is not interested	139	25.0%
	GP has a negative attitude towards CAM	112	20.2%
GPs (n=54) — Do your patients disclose HM use?	Patients disclose actively	35	64.8%
	Prefer that I prescribe HM	7	13.0%
	Seek advice on HM	6	11.1%
	Do not disclose	6	11.1%

Note: The question on reasons for non-disclosure permitted multiple responses.

GPs demonstrated a strongly positive communication attitude: 87.0% agreed that the strong doctor–patient relationship is a valuable therapeutic intervention ($M=4.48$), 85.2% considered that physicians should be prepared to answer questions about CAM ($M=4.31$), and 87.0% supported the obligation of patients to inform their physician about HL use ($M=4.33$). These three closely aligned mean values (4.31–4.48) reveal that the participating GPs regard homeopathy not as an isolated therapeutic choice but as an element of a broader communicative and therapeutic partnership with the patient.

In contrast, only 9.5% of patients would seek homeopathic treatment from their own GP, while 77.5% preferred a specialist outside the primary healthcare system. This finding points to the presence of both communication-related barriers and structural factors influencing patient preferences.

Hypothesis H5 was confirmed. The level of trust appears insufficient when assessed through actual patient behaviour. Importantly, this barrier seems to be driven primarily by expectations and perceptions rather than by direct personal experience.

V. DISCUSSION

Bulgaria has one of the highest levels of homeopathy use in Europe and ranks second in the EU by number of prescribing physicians. The existing Bulgarian studies have examined individual groups — GPs (Parashkevova et al., 2005), chronically ill homeopathic patients (Vankova & Kapincheva, 2019), specialist homeopathic physicians and their patients (Yaneva et al., 2021), and GPs and patients (Tsvetkova & Mihaylova, 2025). There exists one study covering GPs and patients with regard to CAM use including homeopathy (Staykova-Pirovska et al., 2018) and one study on knowledge, practice, and educational needs regarding CAM among GPs, dental practitioners, pharmacists, and medical and pharmacy students in the Varna region (Vankova, 2023).

To date, no simultaneous comparative study has examined attitudes, behaviour, and communication regarding homeopathy among practising GPs, future physicians, and patients within the Bulgarian primary healthcare system. The present study represents an attempt to investigate these aspects, without examining the clinical efficacy of the method. The results reflect the voluntary design of the study: they describe the attitudes of those engaged with the topic rather than those of the general population.

1. Sociodemographic profile of participants

HM use among patients was significantly associated with sex, age, and religious affiliation, while place of residence and income showed no statistically significant association. These results are substantially consistent with available national and international data on CAM use, within which homeopathy is traditionally included as a distinct therapeutic modality.

Sex. The observed feminisation (87.6% women) is consistent with a well-established pattern in the CAM literature, according to which female sex is a consistent predictor of CAM use (Kemppainen et al., 2018; Bishop & Lewith, 2010; Fjær et al., 2020). A similar profile has been described for Bulgaria (Vankova & Kapincheva, 2019 — 87% women; Yaneva et al., 2021 — 75% women; Tsvetkova & Mihaylova, 2025 — 66% women) as well as for Spain (Cano-Orón et al., 2019), France (Lert et al., 2014), Germany (Steel et al., 2016), and beyond Europe (Dossett et al., 2016; Faisal-Cury & Rodrigues, 2022; Kaur et al., 2024; Nadareishvili et al., 2019). The higher use among women may be interpreted not only as an individual therapeutic preference, but also as part of a broader pattern of active health-seeking behaviour, in which women more frequently seek care from conventional physicians compared to men, and more often assume the role of initiator and organiser of health decisions within the family (Green & Pope, 1999).

Age. The 18–25 age group had the highest proportion of non-users (9.5%) and of those uncertain whether they had used HM (9.5%), while in all other age groups use exceeded 95%. Among patients of homeopathic physicians in Bulgaria, the highest proportion was in the 40–59 year group (48.9%), followed by 18–39 years (40.2%), with the lowest proportion

among those over 60 years (10.9%) (Yaneva et al., 2021) — a model consistent with international data indicating that CAM use is more characteristic of young and middle-aged adults rather than the earliest young adult group (Bishop et al., 2007).

The lower use in the youngest age group may reflect three interrelated factors: limited personal experience with chronic conditions that traditionally motivate the seeking of complementary therapeutic options; mediated contact with homeopathy — as treatment received in childhood by parental decision, which may not be identified as a personal conscious choice; and a more pronounced generational tendency towards evidence-based decision-making in therapeutic choices (Bishop et al., 2007).

Religious affiliation. Among Christians, those professing affiliation with Eastern religions, and those identifying as believers without a specific religion, over 95% had used HM, whereas among atheists (22.7%) and Muslims (14.3%) the proportion of non-users was higher. The international literature does not establish a direct relationship between specific religion and CAM use, but rather between holistic worldview, spirituality, and a preference for "natural" therapies (Ellison et al., 2012; Heller et al., 2021; Čavojová & Ersoy, 2020). This result is therefore interpreted cautiously as an indirect marker of differences in health beliefs and openness to non-conventional practices, rather than as direct religious influence.

Place of residence. The absence of a significant association does not contradict the literature — international data do not support a universal urban–rural model (Kemppainen et al., 2018). Adams et al. (2011) even found higher CAM use among women in rural and remote areas in Australia. The voluntary nature of participation likely favoured the inclusion of individuals with an interest in homeopathy regardless of location, which may have smoothed over any real territorial differences.

Income. Although income was not a statistically significant factor, its interpretive role should not be disregarded. European data associate CAM use with greater resources — including education and financial capacity (Fjær et al., 2020; Kemppainen et al., 2018). Given that HM in Bulgaria are

paid entirely out of pocket, income likely acts as a moderator of choice through its interaction with education, access to information, and health literacy, without being directly manifested in the statistical model for this particular sample.

The interpretation of the findings should be conducted with caution due to several limitations: self-reported data on HM use; small numbers in certain religious subgroups; cross-sectional and observational design precluding causal inferences; and a probable selection effect from voluntary participation, in which women and individuals with a positive attitude towards CAM are overrepresented (Bové & Ryckman, 2014).

The mean age of GPs in the sample (51.2 ± 10.4 years) corresponds to the national profile, with the Bulgarian Medical Association reporting a mean age of 61.4 years for GPs nationally. By comparison, the study by Parashkevova et al. (2005) among GPs in the Stara Zagora region found a mean age of 41.8 years — a difference of nearly a decade, reflecting the general ageing of the profession. Among homeopathic physicians in the study by Yaneva, 51% were aged 51–60 years and 30.3% were aged 41–50 years (Yaneva et al., 2021).

2. Information Sources on Homeopathy

Informal channels among patients. Friends were the leading information source among patients (61.6%) — a consistent finding confirmed by Bulgarian studies (Vankova & Kapincheva, 2019 — 73%; Yaneva et al., 2021 — 76% for relatives and friends) and international data (Cano-Orón et al., 2019 — 70%; Thompson et al., 2007; Kemppainen et al., 2018).

The physician was cited as an information source by 63.4% of patients in the present study — a value that appears to conflict with the data of Vankova & Kapincheva (2019), in which only 5.7% of chronically ill homeopathic patients learned of homeopathy from a physician. This discrepancy requires careful methodological interpretation. The most probable explanation lies in differences in study design: the study by

Vankova & Kapincheva recruited participants in homeopathic clinics with a minimum criterion of one year of treatment, whereas our study used snowball sampling to generate a more heterogeneous sample. An additional explanation is the difference in the questions posed: the present study asked about information sources in general — with the possibility of indicating multiple sources used over time — whereas the other study asked how participants first learned of homeopathy. The physician may be a significant ongoing informational resource for a patient without having been the initiator of initial interest.

Academic and scientific sources among GPs and students. The close values for university as an information source among GPs (33.3%) and students (34%), combined with the leading role of scientific literature in both groups (50% and 53.7%), reflect the dominant influence of academic socialisation — a tendency confirmed by Vankova (2023) for the Varna region and by Lie & Boker (2006) for medical professionals in the USA. Notably, 37.3% of patients also used scientific literature, consistent with a German study in which books (65%) and the internet (47%) were the most frequent information sources among HM users for self-treatment (Achstetter & Teut, 2018).

The digital environment and students. The high proportion of students using social media (44.2%) versus their virtual absence among GPs (9.3%) is consistent with international data (Samara et al., 2019; Lie & Boker, 2006) and is underscored by a systematic review in BMC Complementary Medicine and Therapies establishing that social media serve as a significant channel for the dissemination of misinformation about CAM, including homeopathy (Ng et al., 2023). This highlights the necessity of verified foundational information on CAM in medical education.

Family and medical socialisation. The prominent role of family among students (42.2%) compared to GPs (1.9%) reflects the dynamics of socialisation in young adulthood (Jocham, Berberat et al., 2017). The data also revealed a significant transformation between 4th year and final-year medical students: the physician as source increased from 47.9% to 64.2%,

while family decreased from 46.8% to 32.1% — delineating the gradual retreat of informal, family-based sources in favour of institutional ones in the process of medical socialisation.

The pharmacist. The role of the pharmacist was low across all three groups (9–15.6%), despite data from the Bulgarian KAP study showing that the majority of practising GPs and pharmacists prescribe or recommend CAM and wish to receive scientifically based training in this area (Vankova, 2023). The actual demand for this consultative role from patients and physicians remains low — a topic warranting further research.

3. Attitudes towards homeopathy — comparative analysis between the three groups

Overall attitude. Patients demonstrated the most positive overall attitude ($M=3.90$), followed by GPs ($M=3.69$), while students occupied the most reserved position ($M=3.19$) — around the boundary between neutral and moderately positive. The fact that differences were statistically significant across all subscales (Kruskal–Wallis, $p \leq 0.007$) reflects a consistent pattern rather than random variation. The observed differences can be interpreted as resulting from different dominant mechanisms of attitude formation: among patients — personal experience, perceived benefit, the sense of safety, and the quality of the therapeutic relationship; among GPs — the context of clinical practice and interaction with patients, including assessment of compliance and satisfaction, as well as judgement of the place of homeopathy in primary care; among medical students — academic orientation towards evidence-based medicine, pharmacological plausibility, and early professional socialisation within the biomedical model. This model is consistent with broader European data showing that homeopathy is among the most commonly used CAM methods, predominantly in a complementary rather than alternative role (Kemppainen et al., 2018). Accordingly, a positive attitude towards homeopathy should not be interpreted as a rejection of conventional medicine, but rather as acceptance of a complementary model.

Subscale "Belief in Efficacy": convergence between GPs and patients.

The absence of a statistically significant difference between GPs and patients ($p=0.870$) is one of the most substantial findings. Among patients, the higher assessment of efficacy is most likely the result of accumulated personal experience, perceived therapeutic benefit, and trust in the method. The international literature consistently shows that patients seeking homeopathic care frequently do so in the context of chronic, recurrent, or functional complaints, dissatisfaction with previous therapeutic attempts, fear of adverse medication reactions, and a need for more individualised attention (Avina & Schneiderman, 1978; Schmacke et al., 2014; Marian et al., 2008). Among GPs, the convergence is formed in a broader clinical context, in which perceived efficacy includes factors such as patient compliance, patient engagement, reduction of anxiety, greater satisfaction, and stability of the therapeutic relationship (Jin et al., 2008; Kerse et al., 2004). The positive attitude of GPs may therefore be interpreted as the result of clinical experience in real-world conditions, rather than merely as acceptance of homeopathic doctrine.

Subscale "Skepticism": students as the most reserved group. Students demonstrated the highest scores on the Skepticism subscale ($M=3.53$), with differences relative to patients and GPs reaching statistical significance ($p<0.001$ in both comparisons). This finding is consistent with international data and reflects the stage of professional socialisation in which orientation towards evidence-based medicine and pharmacological plausibility predominates. A German national study found that undifferentiated control group students — analogous to our student sample — demonstrated low CAM orientation and high orientation towards conventional science (Jocham, Kriston et al., 2017). A study examining attitudes towards CAM among students and physicians found that physicians more frequently sought information about CAM, while both groups rated their own competency on the topic as insufficient (Münstedt et al., 2011), highlighting the role of clinical experience as a factor that may modify an initially more skeptical position. Higher skepticism among students should not be interpreted as

categorical rejection, but rather as a reflection of a more stringent criterion of evidence at the early stages of medical training.

Subscale "Integration and Communication": convergence across the three groups. The most clearly apparent and practically significant finding is the convergence across all three groups on this subscale. Mean values were high and similar: GPs (M=4.31), patients (M=4.23), and students (M=4.09). This demonstrates that, regardless of differences in the assessment of efficacy and degree of skepticism, a widely shared understanding exists regarding the necessity of open and professional dialogue. Markun et al. (2017) found that 78.8% of Swiss GPs considered it necessary to ask patients about CAM use, even when not practising it themselves. Maha & Shaw (2007) demonstrated that the absence of open communication may lead to non-disclosure of CAM use by patients. Frenkel & Cohen (2014) emphasise that respect for patient preferences regarding CAM is a moral obligation of the clinician, regardless of their personal position on efficacy. Communication regarding CAM is perceived not as an expression of approval of the method, but as a clinical necessity related to safety, therapeutic coordination, and trust in the doctor–patient relationship. The high values among GPs on this subscale reflect not only a positive attitude towards integrative dialogue, but also a marker of clinical maturity and awareness of the risks of its absence. The data of Phutrakool & Pongpirul (2022) indirectly support this interpretation, demonstrating greater openness to CAM among general medicine specialists compared to other specialties.

Among patients, despite the high declarative attitude towards communication, actual disclosure of CAM use remained limited. The systematic review and meta-analysis by Foley et al. (2019), covering 86 studies, established an overall non-disclosure rate of only 33%.

Among students, the convergence on this subscale is particularly noteworthy, combining higher skepticism with readiness for professional dialogue. Ho et al. (2013) established that the primary motivation for including CAM in medical curricula was precisely the desire for competency in advising patients and the ability to engage in informed dialogue about their

CAM use. Lehmann et al. (2014) demonstrated that even students critical of the homeopathic approach assessed the holistic perspective and the partnership character of the therapeutic relationship positively — a position fully compatible with our data.

The convergence on the "Integration and Communication" subscale represents the most stable common ground between the three groups and is one of the strongest original findings of the present study, as the international literature rarely compares simultaneously patients, GPs, and students within a unified analytical framework specifically with regard to attitudes towards clinical communication about homeopathy.

4. Predictors of Homeopathy Use among GPs

GPs' attitudes toward homeopathy are rarely strictly polarized; rather, they tend to range from active use, through conditional recommendation, to a skeptical yet communicatively tolerant stance. A systematic review of UK studies found that fewer than 10% of GPs practiced homeopathy directly, whereas referral rates ranged from 4% to 73% (Perry et al., 2013). In a study among Liverpool GPs, only 13% reported direct use of complementary and alternative medicine (CAM), while 31% referred patients and 38% approved its use, indicating that approval was nearly three times more common than direct practice (Perry & Dowrick, 2000). Similarly, in Tuscany, 58% of physicians recommended CAM, whereas only 13% practiced it themselves (Giannelli et al., 2007). In the Czech Republic, most physicians tolerated CAM as a complementary therapeutic approach, and 19% of GPs reported using homeopathy in their practice (Krizova & Byma, 2014).

In Bulgaria, data from the Varna region indicate that 90% of GPs recommend homeopathy in their clinical practice (Vankova, 2023), while the study by Tsvetkova reported that 90% prescribe homeopathic medicines (Tsvetkova & Mihaylova, 2025). These findings suggest that the use of homeopathy in primary medical care cannot be explained by a single factor but rather reflects the interaction of education, clinical experience, and broader healthcare system conditions.

Age is a relevant predictor of homeopathy use, but the evidence is not unidirectional. A British qualitative study involving 25 GPs practising CAM within the NHS found that interest in homeopathy among more experienced physicians was associated with a more firmly established clinical identity and autonomy in practice (Adams, 2000). Mayo Clinic data, however, showed that physicians under 46 years were significantly more likely to refer patients to CAM practitioners compared to older colleagues (59% vs. 33%, $p<0.001$) (Wahner-Roedler et al., 2006). The apparent contradiction may be explained by context: when qualification in homeopathy is the result of personal motivation — as is the case in Bulgaria — greater clinical experience reinforces independent clinical identity and supports engagement with the method.

Training and certificate — leading predictor. The homeopathy certificate emerged as the strongest predictor (Cramér's $V=0.647$): none of the 20 non-certified GPs applied homeopathy frequently, while 63.3% of certified GPs ($n=30$) did so (Fisher $p<0.001$). This is consistent with Bulgarian data — in Parashkevova et al. (2005) all GPs applying homeopathy had undergone systematic training, in Yaneva et al. (2021) 98.4% of homeopathic physicians had specialised training, and in Vankova (2023) 84.2% of participating GPs had undergone some form of CAM training. Formal training has been identified as the leading predictor in multiple countries: Switzerland (Widmer et al., 2006), the United Kingdom (Perry et al., 2013), and Italy (Giannelli et al., 2007).

By 2023, over 1,500 physicians in Bulgaria had completed the two-year clinical homeopathy course. The Health Act requires homeopathy to be practised only by physicians, but does not stipulate a requirement for specialised training; accordingly, possession of a certificate is an indicator of personal motivation.

Physicians who have observed beneficial effects or received training are significantly more likely to apply and recommend the method (Berman et al., 1999). It is important to note that awareness alone is a necessary but not sufficient precondition for practice.

GP experience. The Spearman correlation between GP experience and frequency of use ($\rho=0.438$, $p<0.001$) was stronger than that for overall medical experience ($\rho=0.315$, $p=0.021$), suggesting that specific clinical exposure in primary care — rather than chronological seniority — is the more relevant factor. European data do not consistently identify years since graduation as a significant variable (Widmer et al., 2006; Krizova & Byma, 2014; Stange et al., 2008). Among homeopathic physicians in the study by Yaneva, nearly one third had over 30 years of professional experience (Yaneva et al., 2021).

Non-significant factors — analytically significant results.

Practice type. The absence of a significant association between practice type (individual vs. group) and homeopathy use indicates that the organisational structure of the practice is not determinative. The decision to use or not use homeopathy is made within the sphere of individual clinical autonomy (Wharton & Lewith, 1986; Giannelli et al., 2007). The use of homeopathy may be regarded as an expression of an internally formed professional identity (Cruess et al., 2014) and as a dynamic interaction between the subjective perception of the method's "relative advantage" — particularly for patients with chronic conditions or polypharmacy where conventional approaches reach their limits — and its high "compatibility" with the physician's desire for holistic and personalised care (Greenhalgh et al., 2004).

Participation in conventional scientific forums. The absence of an association between forum attendance and homeopathy use refutes the stereotype of professional isolation among homeopathy-practising physicians, confirming the findings of Yaneva et al. (2021) that 97.7% of homeopathic physicians in Bulgaria consider homeopathy should complement conventional treatment. Joos et al. (2011) found in a German sample of 1,027 GPs that CAM-practising physicians demonstrated higher job satisfaction and lower burnout rates. Contemporary studies from Switzerland and South Tyrol confirm that younger generations of physicians

regard the holistic approach as a means of improving the doctor–patient relationship (Wiedermann et al., 2025; Dubois et al., 2025).

5. Motives for using homeopathy — comparison between the three studied groups

5.1. Leading motives among GPs

The leading motives among GPs were *the reduction of antibiotic and medication use* (55.6%) and *the reduction of side effects* (53.7%) — two interrelated aspects. Antibiotic reduction is documented in children with nasopharyngitis (Trichard et al., 2004), otitis media (Frei & Thurneysen, 2001; Marchisio et al., 2011; Varanasi et al., 2024), tonsillitis (Palm et al., 2017), and acute respiratory infections with comparable clinical outcomes (Grimaldi-Bensouda et al., 2014). Reduction of other medications has been established for NSAIDs and analgesics in musculoskeletal disorders (Rossignol et al., 2012), psychotropic drugs — four times fewer prescribed benzodiazepines and antidepressants (Grimaldi-Bensouda et al., 2016) — as well as a sustained reduction in overall medication burden among chronically ill patients (Witt et al., 2005) and a high degree of remission in sinusitis with indirect reduction of decongestants and antibiotics (Nayak et al., 2012).

The reduction of antibiotic use is particularly significant in the context of global concerns regarding antimicrobial resistance, as primary care is responsible for over 80% of worldwide antibiotic consumption (Balea et al., 2025; Wang et al., 2021). The EU recommends the use of homeopathy in organic livestock farming as a tool against resistance (Viksveen, 2003), and a randomised controlled trial initiated in 2022 at the Technical University of Munich (NCT05545514) is investigating the same aspect in recurrent urinary tract infections. German GPs prefer homeopathy over NSAIDs and antibiotics, particularly in children and chronic conditions (Ostermaier et al., 2020; Stange et al., 2008), while a British study found reduced consultation frequency and lower use of conventional medications among GPs applying homeopathy (Slade et al., 2004).

The motive of *efficacy* (40.7%) is consistent with British data, where 29–48.7% of GPs consider homeopathy effective (Perry et al., 2013), and with Czech data, where the leading motives are disillusionment with the limited efficacy of biomedicine and positive clinical experience with homeopathy (Krizova & Byma, 2014). In Switzerland, 50% of ambulatory physicians had prescribed HM for a specific purpose, and 14.6% considered homeopathy to be at least as effective as conventional medicine but with fewer side effects (Markun et al., 2017). Our sample demonstrates comparatively higher conviction in efficacy relative to Western European countries with more pronounced skepticism.

Additional benefits relative to conventional medicine (31.5%) reflect the integrative model observed in numerous countries (Markun et al., 2017; Ostermaier et al., 2020; Gabriella, 2014). A systematic review found that GPs value the individualised and holistic approach of CAM as a means of increasing patient satisfaction and avoiding side effects (Schveitzer & Zoboli, 2014), while a Norwegian study found a positive attitude among 50% of physicians for specific conditions such as anxiety, migraine, and hay fever (Pedersen et al., 1996).

Alignment with personal worldview (29.6%) is a motive also described in a Mumbai study among 100 physicians and patients — philosophical and spiritual orientation was indicated by 17% of physicians (Solanki, 2016). In Germany, the long-standing tradition of interest in natural methods accounts for a similar tendency.

Two earlier Bulgarian studies confirm a similar motivational profile. In Pirovska et al. (2018), the leading motives of GPs practising CAM (including homeopathy among 42%) were efficacy, fewer side effects, alignment with worldview, and patient demand (Staykova-Pirovska et al., 2018). In Parashkevova et al. (2005) — efficacy, additional low-risk options, and patient interest within an integrative approach.

The motivational profile of GPs in Bulgaria is comparable to European trends regarding safety and antibiotic reduction, but demonstrates relatively higher conviction in efficacy compared to Switzerland and the United

Kingdom — a regional specificity warranting further comparative investigation across Central and Eastern Europe.

5.2. Motivating factors among 4th-year students and final-year medical students undergoing their clinical internship — comparative analysis

Stability of the safety motive. *The absence or reduction of side effects* was indicated by 83.0% of students and 81.1% of final-year medical students — a practically negligible difference, demonstrating that the safety attitude is a stable, pre-existing disposition formed independently of medical education. A British study found increasing skepticism towards CAM with advancing training (Furnham & McGill, 2003), and a Brazilian study found growing critical thinking in more advanced courses (Teixeira et al., 2005). In our data, a slight downward trend emerged for scientific evidence (30.9% vs. 30.2%), but this did not affect the central safety motive.

The most significant difference: societal popularity. The only motive showing a significant difference between the two groups was the societal popularity of homeopathy — 17.0% among students versus 34.0% among final-year medical students, representing a doubling. This likely reflects growing awareness of the commercial dimension of homeopathy during the transition to independent practice — a phenomenon described among American faculty members with more positive attitudes and more frequent CAM use compared to students and interns (Lie & Boker, 2006).

Attitudes towards efficacy and scientific evidence. Efficacy (42.6% vs. 43.4%) and scientific evidence (30.9% vs. 30.2%) were practically identical across both groups, suggesting that these convictions form independently of education — likely under the influence of family or media environments. The German national study by Jocham et al. found that control group students (with characteristics similar to our sample) had positive CAM attitudes in approximately one quarter, but were partly critical towards science (Jocham, Kriston et al., 2017). A Croatian study in Split found that graduating medical students had the most positive attitude towards science and the least positivity towards CAM — medical education had reduced the

positive assessment of CAM (Dogas et al., 2003). The fact that over 30% of participants in both groups cited scientific evidence as a motive may reflect either genuine conviction or unfamiliarity with the existing scientific consensus.

Personal experience and critical appraisal. Personal experience with HM was similar across both groups (78.7% vs. 75.5%, $p=0.642$) — substantially higher than British (37.3%, Greenfield et al., 2002) and Indian data (35.7%, Agrawal et al., 2019). A significant difference emerged in outcome assessment: improvement was reported by 48.9% of students versus only 30.2% of final-year medical students ($p=0.032$), while negative assessment increased from 13.8% to 26.4%. Clinical training does not reduce the frequency of use but significantly strengthens critical appraisal of outcomes — final-year medical students are less inclined to attribute subjective improvement to the homeopathic medicine itself.

Personal experience does not determine the safety motive but strongly activates the efficacy motives. The motive "absence of side effects" was practically identical among users and non-users of HM in both groups — it is a pre-existing attitude, likely constructed through media and social channels. Conversely, among students with positive experience, efficacy was a motive in 61% versus 23% without improvement, and scientific evidence in 43% versus 8%. Among final-year medical students, the contrast was even more pronounced — 81% versus 21% for efficacy and 50% versus 7% for scientific evidence. This illustrates the mechanism of "retrospective rationalisation" — positive subjective experience generates conviction of efficacy and even scientific validity, independent of the objective evidence base (Aßmann & Betsch, 2023).

Influence of information source. Regardless of the specific channel, the safety motive remained dominant (77–96%). More substantial differentiation was observed for efficacy: among final-year medical students informed by family, it was a motive in 59% versus 36% among those informed via social media. Family transmission specifically activates the conviction of efficacy

— likely through concrete accounts of personal improvement (Jocham et al., 2017; Wiedermann et al., 2025; Agrawal et al., 2019).

Notably absent among students were the motives of antibiotic reduction, complementing conventional medicine, and the holistic approach — motives requiring clinical experience for their formation. German students emphasise the holistic perspective (Jocham, Kriston et al., 2017), while an Irish study identifies the provision of better, more holistic patient care as the principal motive (Flaherty et al., 2015). This difference likely reflects the longer-standing tradition of CAM use in Germany and Ireland compared to Bulgaria, where homeopathy has been widely known for only approximately 30 years.

5.3. Motives for homeopathy use among the patient group

The data from the patient sample have been previously published by the authors (Hristova & Madjova, 2023) and are here extended with additional analysis and comparisons with the international literature.

Conceptual framework. Research into the reasons for seeking CAM has been the subject of systematic study since the late 1970s. Avina & Schneiderman (1978) found the leading reason to be the search for relief without the use of conventional medications, followed by the desire for better health education, prevention, and treatment consistent with personal beliefs. Vincent & Furnham (1996) proposed a five-factor model: positive evaluation of alternative methods; ineffective conventional treatment; concern about medication side effects; poor communication with physicians; and the availability of alternatives. Ernst (2002) extended the framework with the desire to expand diagnostic and therapeutic options and achieve a better therapist–patient relationship, while Furnham (2004) added a preference for a "wellness" approach and a holistic understanding of health.

Astin's (1998) national American study of 1,035 randomly selected participants tested three hypotheses — dissatisfaction with conventional medicine, desire for greater personal control, and alignment with value systems. The results were instructive: holistic orientation was an independent

predictor of CAM use, whereas dissatisfaction with conventional medicine was not predictive. The author concluded that the majority of users employ CAM not due to disappointment, but because these methods are more congruent with their values and philosophical orientation. A Swiss study (Wapf & Busato, 2007) identified three principal motives for choosing a CAM practitioner in primary care: dissatisfaction with conventional medicine in conditions resistant to treatment or following negative past experience; the desire for control over one's own health decisions; and compatibility with spiritual and value-based beliefs. These motives, including internal health locus of control, are confirmed across numerous studies (Bishop et al., 2005; Lert et al., 2014; Marian et al., 2008; Tangkiatkumjai et al., 2020).

The data from the present study correspond precisely with Astin's framework: dissatisfaction with conventional medicine was indicated by only 15.5% of patients, while the positive characteristics of homeopathy dominated overwhelmingly. Three Bulgarian studies confirm a similar profile. In Pirovska, the leading motives were safety, reluctance to take medications, and alignment with worldview, with dissatisfaction with conventional medicine ranking last (Staykova-Pirovska, 2017). In Tsvetkova — reluctance to take medications, good prior experience, and physician recommendation (Tsvetkova & Mihaylova, 2025). In Yaneva, 49% chose homeopathy to avoid side effects, and 41.5% because conventional medicine had not helped them; among those who chose homeopathy before trying conventional medicine, 68.8% did so because they considered it harmless (Yaneva et al., 2021).

Treatment efficacy was the leading motive among 63.8% of patients. The cross-analysis revealed complete polarisation: 75.9% of those reporting subjective improvement cited it as a motive versus 0% of those without improvement — the conviction of efficacy is entirely conditioned by personal experience rather than by appraisal of scientific evidence. Expected benefits were the leading motive for CAM in 84% of publications in the systematic review by Tangkiatkumjai et al. (2020), and Thomson et al.

(2014) found that 58% of patients were motivated by knowledge of successful use among acquaintances.

Holism and the individualised approach. The holistic approach was indicated by 61.1%, and the individualised approach to the patient by 57.8%, occupying second and fourth place in the motivational profile. These two conceptually related motives are among the strongest associations in the entire study (Cramér's $V > 0.5$), differing significantly between groups — they are leading exclusively among patients and practically absent among medical professionals. This discrepancy is not coincidental — it is a structurally conditioned response to a genuine deficit in contemporary healthcare.

Herman et al. (2024) demonstrate, in a provocative comparative analysis, that the conventional approach leads to a fragmented view of the patient as separate diagnoses, polypharmacy, and iatrogenic pathology, whereas a holistically oriented approach shows substantially better health and economic outcomes. Mash (2016) emphasises the necessity of transforming the fundamental paradigm — from a biological medicine focused on diagnosis and tasks, towards a medicine of the whole person, oriented towards the patient and their wellbeing. The convergence between patient expectations, homeopathic practice, and the academic biopsychosocial model raises an important question for general practice: the structural characteristics of the homeopathic consultation — duration of 60–90 minutes, detailed history-taking, individualised approach — provide precisely what patients seek and what conventional medicine declares in theory but rarely succeeds in delivering in practice (Wilhelm et al., 2024).

Clinical studies confirm this reality. The Swiss observational study by Marian et al. (2008) identified two principal factors associated with high satisfaction with homeopathic treatment: physician empathy expressed through a detailed and holistic approach to history-taking, and the presence of therapeutic limitations in conventional treatment of chronic conditions. An Australian study of 153 patients with chronic illnesses using CAM found a higher degree of perceived patient-centredness compared to conventional medical care (Foley et al., 2019), while the review by Jonas & Rosenbaum

(2021) links integrative models in primary care with improvements in patient experience. The qualitative study by Danell (2015) found that while initial CAM choice is motivated by dissatisfaction with conventional medicine, long-term use is sustained by the holistic and individualised approach and depth of engagement with the therapist — a model applicable to our patient sample, in which 95.1% had already used homeopathic medicines.

Treatment of children. Children's diseases are the leading occasion for homeopathy use (53.0%), followed by infectious diseases (38.2%) and respiratory diseases (29.7%). As a substantial proportion of participants are parents seeking homeopathic treatment for their children, the motivational profile within this subgroup is substantially modified — "push" factors predominate, particularly fear of the side effects of conventional medications (antibiotics, antihistamines, corticosteroids) — a tendency likely more pronounced in Bulgaria given the documented overuse of these agents in paediatric practice (Zaykova et al., 2024).

The literature confirms this motivational logic across various clinical contexts. Among parents of children with asthma and eczema, fear of steroid side effects predominates over "pull" factors (Thompson et al., 2007; Shaw et al., 2006). Notable is the proportion of parents seeking homeopathy to avoid antihistamine therapy for allergies (32.4% in our sample) and corticosteroid therapy for skin conditions (25.9%) — an Italian study found a reduction in both medication types with integrated homeopathic treatment of respiratory allergies, alongside improved quality of life (Ferrerri et al., 2016). The international study by Beer et al. (2016) among 582 paediatricians and GPs in six countries, including Bulgaria (15.8% HM prescribing, 82% of participating physicians), found that HM are applied predominantly for upper respiratory tract infections, colic, and sleep disturbances, usually alongside conventional treatment, at the insistence of parents concerned about side effects.

With regard to antibiotics, the literature evidence is not unidirectional. Supporting reduction — the systematic review by Teut et al. (2019) and the French EPI3 study (Grimaldi-Bensouda et al., 2014) found lower antibiotic

use among homeopathically treated patients with comparable clinical outcomes. Conversely — the study by Wye et al. (2008) among over 13,000 children found no reduction in antibiotic use, and Hawke et al. (2018) found no positive effect in acute respiratory illnesses. Given these inconsistencies in the evidence base, together with the particularities of homeopathic prescribing and the dependence of outcomes on prescriber expertise, further well-designed clinical trials are needed. Even accepting a placebo mechanism, however, the use of HM to reduce unnecessary antibiotic prescribing in mild, self-limiting conditions — particularly in children — remains practically significant in the context of growing antimicrobial resistance.

Personal philosophy, medication reduction, and prevention. Alignment of homeopathic treatment with personal philosophy was indicated by 48.3% of patients, and reduction of medication intake by 45.0%. These motives reflect an active rather than passive health attitude and are closely interrelated. The study by Sirois & Gick documents that holistic health beliefs are a predictor of CAM use, and that users demonstrate greater awareness of preventive health practices and healthier habits compared to users of orthodox medicine — tendencies also captured in the repeatedly cited EPI3 study.

The international literature consistently shows that patients seeking homeopathic care frequently do so in the context of chronic, recurrent, or functional complaints, dissatisfaction with previous therapeutic attempts, and a need for more individualised attention (Avina & Schneiderman, 1978; Schmacke et al., 2014; Marian et al., 2008). The qualitative study by Danell (2015) distinguishes two stages: initial CAM choice is motivated by dissatisfaction with conventional medicine for chronic and difficult-to-treat conditions, whereas long-term use is sustained by the attracting characteristics — holistic and individualised approach. In our patient sample, where 95.1% had already used homeopathic medicines, these long-term motives predominate.

Preventive orientation was indicated by 24.1% of patients — consistent with data showing that approximately 58% of CAM users in the USA employ it for prevention and health maintenance. The WHO emphasises that traditional and complementary systems function within a broader model in which prevention is a substantial motive, particularly for chronic and recurrent conditions. An Australian study found that CAM users perceive themselves as primary managers of their own health and desire better communication with physicians for the safe integration of their healthcare options (Avila et al., 2020) — consistent with the new paradigm of patient empowerment in general practice.

The motivational profile of patients can be organised into three layers: values-based — holistic orientation, value compatibility, and active health attitude; experience-based — efficacy and good prior experience formed through personal and social contact; and pragmatic — reduction of medication burden and avoidance of side effects, particularly in children's diseases. Recognition of each of these layers is a prerequisite for effective communication between physicians and patients regarding the use of homeopathy in general practice.

5.4. Divergence between motivational profiles — practical implications

The statistical confirmation of fundamental differences between the three motivational profiles carries implications beyond mere description. The divergence between GPs and patients regarding the holistic and individualised approach is particularly significant: while patients seek these qualities primarily in homeopathy, GPs practise homeopathy predominantly for antibiotic reduction and management of therapeutic uncertainty. Both parties may be satisfied with the interaction for entirely different reasons — a phenomenon described in the literature as "mutual misunderstanding with positive outcome."

This asymmetry is important for the development of communication skills: if a GP does not recognise that patients seek above all individualisation and a holistic attitude, they may prescribe homeopathy to achieve certain

goals, while the patient values it for entirely different ones. Such a discrepancy in expectations constitutes a potential risk factor, particularly in cases where patient expectations are not met.

The absence of scientific evidence as a determinant. The low rates of endorsement of "scientific evidence" across all three groups indicate that the legitimization of homeopathy in society and practice is based on subjective efficacy and personal experience rather than objective scientific evidence. This finding is consistent with the well-documented phenomenon in the literature whereby CAM practice is sustained by observational logic — personal or shared experience of improvement — rather than by the explanatory logic of randomised controlled trials.

This is not surprising, but it is regulatorily significant. Regulatory bodies and EASAC (2017) base their argumentation for restricting homeopathy on the evidence base. The present data, however, show that neither GPs, nor patients, nor future physicians choose or reject homeopathy primarily on this basis. Communication strategies directed solely towards evidence may therefore be effective for policy declaration, but are unlikely to transform established practices and attitudes.

6. Barriers to the use of homeopathy

6.1. Barriers among general practitioners

Barriers among GPs are of relatively low frequency, consistent with the fact that the majority of them apply homeopathy. The leading barriers are perceived ineffectiveness and unfamiliarity with the method (14.8% each), followed by lack of scientific evidence (13.0%) and time constraints (11.1%). The group-specific barrier "not requested by patients" (9.3%) warrants particular attention, as it may not represent an independent factor but rather a reflection of anticipated skepticism: patients sensing the physician's negative attitude likely do not raise the topic (Maha & Shaw, 2007) — a self-reinforcing mechanism in which the physician's attitude limits patient behaviour, which in turn confirms the physician's perception of a lack of interest.

These findings are consistent with the international literature. Beer et al. (2016) found similar barriers: lack of demonstrated efficacy (59%), unfamiliarity with the mechanism of action (43%), and lack of information on therapeutic indications (40%) — confirmed also in more recent studies (Thalavaisamy & Krishnakumari Amma, 2025; M & Cr, 2025). In an Australian context, almost two-thirds of GPs (63.9%) would not refer a patient to homeopathy under any circumstances, with lower levels of knowledge and reliance on peer-reviewed literature associated with lower likelihood of recommendation (Wardle et al., 2013). Swiss data add a further nuance: only 23% of physicians prescribing homeopathy believe scientific evidence for its efficacy exists, while the view of homeopathy as a means of eliciting a placebo effect is dominant — among 63% of prescribers and 74% of non-prescribers (Markun et al., 2017). These data demonstrate that even among physicians applying homeopathy, conviction in its specific therapeutic effect is not a precondition for its use.

6.2. Barriers among medical students

Students demonstrate significantly higher identification of barriers compared to GPs, concentrated around the evidence-based and informational domains: lack of scientific evidence (55.8%), lack of reliable information (54.4%), slower therapeutic results (52.4%), and an insufficient number of trained specialists (51.0%). The clinical-practical barriers characteristic of GPs (ineffectiveness, unfamiliarity) are notably absent among students — reflecting their lack of practical clinical experience.

This orientation towards evidence-based medicine is documented internationally: students in the control group of the German study by Jocham et al. (2017) demonstrate high scientific orientation and low CAM orientation; 72.6% of students in a Swiss study supported CAM training, but only under conditions of rigorous scientific standards, compared to 48.7% of conventional medicine specialists (Marcus, 2001); and a lack of knowledge alongside concerns about scientific evidence have been established as barriers in other studies (Saha et al., 2017). The barrier "insufficient number of trained specialists" reflects a structural reality — access to qualified

homeopathic care remains limited, constituting an independent systemic barrier distinct from personal attitude.

6.3. Barriers among patients

Patients prioritise an insufficient number of trained specialists (52.6%) and slower therapeutic results (42.0%), followed by lack of reliable information (33.0%), lack of interest (27.0%), and lack of scientific evidence (21.1%). Infrastructure and systemic barriers predominate — reflecting the consumer perspective of seeking rather than providing a service.

Access to a specialist. The systematic review by Relton et al. (2017), covering 36 studies from 11 countries, established a median 12-month prevalence of homeopath consultation of only 1.5% among adults (range 0.2–8.2%). Notably, the highest use was recorded in Switzerland (8.2%), where homeopathy is included in mandatory health insurance, confirming that systemic accessibility is a key factor for the use of the method. Only 19% of adult homeopathy users in the USA had consulted a specialist, with the majority resorting to self-treatment (Dossett et al., 2016). It should be noted that the present sample is predominated by patients with a positive attitude towards homeopathy; among them, the barrier "insufficient number of specialists" is likely formulated as a hypothetical or systemic obstacle rather than as personal experience. The study by Yaneva among regular patients of homeopaths in Bulgaria found that 94% had not encountered difficulties in finding a homeopathic physician (Yaneva et al., 2021) — a difference reflecting methodological specificity: patients already using homeopathy are not representative of the general population, in which access to a specialist objectively varies.

Slower therapeutic results. This barrier corresponds to the documented clinical reality of homeopathic treatment. In the German-Swiss prospective cohort study by Witt (2005) with 3,981 patients, 97% of diagnoses were classified as chronic, with a median duration of 10.3 years among adults. Improvement was observed within 3, 12, and 24 months, confirming that homeopathic practice is oriented predominantly towards chronic conditions resistant to conventional treatment. From a consumer perspective, a patient

without prior experience with the method may interpret this therapeutic logic as a disadvantage, particularly in the context of expectations for rapid effect characteristic of conventional treatment.

Lack of reliable information. This barrier (33.0%) does not find precise correspondence in international studies focused on barriers to homeopathy use — the consumer perspective on informational barriers is underexplored in the literature, lending independent value to this finding.

Lack of scientific evidence. The lower proportion among patients (21.1%) compared to students (55.8%, $p < 0.001$, Cramér's $V = 0.318$) is consistent with the well-documented tendency: homeopathy users rely predominantly on personal experience and recommendations from close contacts rather than on the academic evidence base.

Takes more time. This was the only barrier without statistical significance across the comparative analysis of the three groups ($\chi^2 = 5.41$, $p = 0.067$), indicating relatively uniform assessment by GPs, students, and patients. This corresponds to the well-established characteristic of the homeopathic consultation — its duration is inherent to the method and is recognised by all participants regardless of their role. Notably, this very characteristic is evaluated positively by patients already using homeopathy: in a Swiss study on patient satisfaction in primary care, Witt et al. (2008) found that patients of homeopathic physicians rated the thoroughness and quality of consultation communication significantly higher than patients of conventional GPs — a characteristic directly related to the longer duration of the homeopathic consultation (Van Wassenhoven et al., 2014).

7. Clinical indications for homeopathy use

7.1. Clinical experience of GPs

Among surveyed GPs, the leading indications were children's diseases (69.4%), followed by respiratory diseases (53.1%), general health maintenance (51.0%), trauma (49.0%), and allergies (44.9%). Anxiety, depression, and sleep disorders were also substantially represented (40.8%).

These findings correspond closely to a study among a representative sample of French homeopathic GPs (Trichard et al., 2003), in which the most frequent reasons for consultation were ENT disorders, stress, and anxiety, with 48% of leading diagnoses comprising otitis media, rhinopharyngitis, sinusitis, allergic rhinitis, bronchitis, and asthma, and children aged 2–7 years constituting 29.4% of patients for these indications. The correspondence between the two GP groups is notable: paediatric, respiratory, and allergic indications predominate regardless of geographical context.

The study by Tsvetkova (Tsvetkova & Mihaylova, 2025) also examined clinical conditions for which GPs use homeopathy. Most commonly cited (70%) were prevention of influenza and acute respiratory illness, gastrointestinal disturbances, hay fever, and acute respiratory conditions; for treatment of influenza and acute respiratory illness — 37%; with twice as frequent use for acute conditions (22%) as for chronic ones (11%). Although the spectrum here is considerably narrower than in our study, the emphasis on acute respiratory illness, allergies, and infections is confirmed.

The broad clinical scope among our GPs, including trauma (49.0%), urological (32.7%), cardiovascular (20.4%), and oncological conditions (14.3%), reflects the nature of general practice and likely the greater trust in homeopathic physicians in our country. EPI3 data show that the three principal indication categories among homeopathic GPs are respiratory and ENT diseases, musculoskeletal disorders, and neurotic disorders/sleep disturbances, together comprising 49.5% of all consultations (Colas et al., 2015), corresponding to the leading indications in our study. Among GPs in our sample, infectious diseases are a frequent indication (44.9%), whereas among French homeopathic GPs this is a rare indication (approximately 2%) — this substantial difference may be attributable to differing interpretations of the indication category "infectious diseases".

7.2. Clinical indications among patients

Among patients, the leading indications are children's diseases (54.7%), general health maintenance (41.7%), infectious diseases (39.5%), and

anxiety/depression/sleep disorders (35.0%), as well as skin conditions (26.8%), autoimmune disorders (14.7%), and oncological conditions (2.8%).

The systematised international data (adapted from Hristova & Madjova, 2023) show that respiratory and allergic diseases (10–31%), skin conditions (3–19%), musculoskeletal disorders (2–17%), and psychological/psychiatric problems (2–16%) are the most consistently represented indications across nine studies from six countries, with wide variability between them.

Our results are not fully comparable with the studies examined. There is some overlap regarding certain health conditions — children's diseases, infectious diseases, respiratory illness — together the most common occasions for turning to homeopathy in our sample, accounting for approximately half of cases.

In our sample, homeopathy is chosen more frequently as a standalone or complementary therapy for mild, self-limiting conditions. Homeopathy also offers a solution in the absence of a formal diagnosis, when functional disturbances, complaints, or discomfort exist without an established diagnosed condition. This is the likely explanation for 42% of participants seeking it for general health improvement or prevention (24.1%).

The holistic approach of homeopathy — viewing the person as a complex of psyche, emotions, and physical body — is also reflected in its use for psychological problems. A considerable number of people harbour concerns regarding medications prescribed by psychiatrists, the possibility of dependence on them, and seek an alternative. Our study does not confirm the observation that homeopathy is sought predominantly by individuals with chronic or severe illness. Rather, we may conclude that for more serious conditions, Bulgarians rely on conventional medicine, with homeopathy and other CAM serving a complementary role, chosen in cases where patients judge they can improve their health status without experiencing the side effects of conventional treatment (Hristova & Madjova, 2023).

7.3. Clinical indications among students and final-year medical students

Among students, the leading indications are general health maintenance (34.5%), infectious diseases (30.9%), and children's diseases (30.0%) — the latter likely indicated in the context of treatment received in childhood or within the family environment. Anxiety, depression, and sleep disorders rank fourth (27.3%). No oncological indications were indicated by any student.

Data on the specific clinical application of homeopathy among medical students in their role as patients are scarce in the literature. As previously noted, in the German study (Jocham et al., 2017) the leading motive for choosing homeopathy among students was personal experience with it, consistent with our data, in which indications are predominantly drawn from personal life rather than clinical practice. The relatively high proportion citing anxiety and sleep disorders (27.3%) among young people may be related to documented levels of academic stress in this population — a topic warranting independent investigation.

General trends. In comparing the three groups, a stable "core" of clinical homeopathy application in Bulgaria emerges: children's diseases, infectious diseases, general health maintenance, and anxiety/depression/sleep disorders are present among the leading five indications across all groups. Allergies and respiratory diseases are also consistently represented. This "core" is compatible with international data on the profile of homeopathic application in Europe and the USA, notwithstanding the substantial methodological differences between studies.

8. Attitudes towards homeopathy training

The established categorical support of GPs for the inclusion of homeopathy in medical education as an elective discipline (74.1%) is consistent with a broader international trend of growing interest among practising physicians. A study among family physicians in Turkey (İlhan et al., 2021) found that 66% of participants wished to receive training or a course in homeopathy, and 55.3% supported the establishment of a homeopathy department at universities, with a statistically significant association identified between level of knowledge and desire for training.

A study among American physicians (2017) at Ohio State University found that 35% expressed a desire for elective CAM training at university, and 25% wished for CAM training to form part of medical education (Patel et al., 2017). A study of internal medicine, paediatrics, and family medicine departments at an academic centre in Pennsylvania found that 62% of physicians from these specialties considered CAM training useful for their practice (Malone & Tsai, 2017). A study among GPs in northeast London (2004) found that 66% of 149 physicians expressed interest in CAM training (most frequently acupuncture and homeopathy), against a backdrop of 83% who had referred patients to CAM, primarily due to patient requests, conventional treatment failure, and evidence of effectiveness (van Haselen et al., 2004).

A Bulgarian study on the integration of CAM in medical education (Vankova, 2023) found that 99% of participating GPs supported the inclusion of CAM in university curricula (with postgraduate courses in homeopathy, Schuessler therapy, and naturopathy being most popular), while 75.2% of students expressed a similar desire. A further Bulgarian study found that participating GPs also expressed a positive attitude towards including CAM in medical education (Tsvetkova & Mihaylova, 2025).

The data among students in our study reveal a characteristic gradient warranting careful interpretation: 75.5% consider that physicians in general should have knowledge of homeopathy, 54.4% support inclusion of a course in core training, but only 36.7% would personally participate in a postgraduate course. This declining curve — from principled support to personal commitment — is documented also in the international literature. A study among medical students in Turkey found that positive attitudes towards and training in CAM decrease with increasing years spent in medical school (Akan et al., 2012).

The distinction between "support for training in principle" and "personal commitment" is conceptually important. The German study evaluating an elective homeopathy course at a medical university by Lehmann found that even students skeptically oriented towards homeopathy found value in the

educational content of such a course — the holistic approach and the doctor–patient partnership (Lehmann et al., 2014). The low personal readiness for postgraduate training in our sample does not necessarily signify rejection of the educational value of the topic, but rather reflects the distinction between competency (which students desire) and specialisation (which they do not plan).

The confirmation of H4 among GPs (Spearman $\rho=0.292$, $p=0.032$) and among students for two of the three indicators is consistent with the well-documented positive association between awareness and attitude in the literature. The non-significant correlation for personal desire to participate in a postgraduate course ($\chi^2=8.89$, $p=0.064$) likely reflects the specificity of the dependent variable: it measures concrete future behaviour rather than attitude. Even informed students may not plan to specialise in homeopathy, while simultaneously supporting in principle the patient's right to informed choice and the necessity for physicians to have sufficient knowledge of the method to engage in competent dialogue. This interpretation is supported by a Brazilian study among medical students, which found that over 85% considered that homeopathy and acupuncture should be included in the curriculum — predominantly as elective subjects (72%) or compulsory subjects (19%), with 56% expressing pronounced interest in training (Teixeira et al., 2005), without necessarily planning personal specialisation.

The findings carry practical implications for the organisation of medical education in Bulgaria. The established gradient from principled support to personal commitment, together with the confirmed role of awareness as a predictor of attitude, indicates that introducing homeopathy into medical education as an elective discipline has the potential to produce competent, informed physicians capable of fully communicating with their patients on CAM matters, even without themselves practising homeopathy.

9. Communication and trust in the doctor–patient relationship regarding the use of homeopathy as a CAM method

9.1. The patient's right to choose

The broad support for the patient's right to choose, established across all three groups (70.7–87.9%), is consistent with the growing international recognition of patient autonomy as a key principle in healthcare. The patient's right to choose represents a universal principle of medical ethics and is not specific to CAM. In all areas of clinical practice, this choice is exercised within the bounds of medical justification, safety, and available resources (Sackett et al., 1996).

In the CAM context, including homeopathy, this principled tension between patient preferences and medical rationality manifests more clearly and with greater intensity. The reason is that patient choice in these cases is often based to a greater extent on values, personal experience, and the search for alternative explanatory models, rather than on established scientific evidence (Ernst, 2004). This places the physician in a more complex position, requiring a balance between respect for autonomy and responsibility for ensuring safe and effective medical care (Sandman & Munthe, 2009) — while also accounting for the limited resources (material, human, organisational, temporal) characteristic of everyday general practice.

The significantly lower support among students (70.7% versus 87.9% among patients, $p < 0.001$ following Bonferroni correction) should not be interpreted as reflecting a more negative attitude towards patient autonomy as a principle, but rather as reflecting an educational environment with emphasis on evidence-based medicine — consistent with the documented discrepancy between the attitudes of medical students and those of more experienced clinicians or patients.

9.2. Active inquiry about homeopathic medicine use

Active inquiry by the physician regarding CAM use represents an essential element of effective clinical communication and safe medical practice. Data show that a substantial proportion of patients do not spontaneously disclose use of such therapies, with one of the most frequently cited reasons being the absence of a direct question from the physician (Shelley et al., 2009). In this sense, the absence of active inquiry cannot be regarded as a neutral position, as it contributes to the formation of a

communicative vacuum in which information important to treatment remains unclarified. Studies show that direct, non-leading discussion of the topic is associated with a higher degree of disclosure by patients and better coordination of care. This has important clinical significance, as non-disclosure of CAM use may affect the safety, efficacy, and timeliness of treatment. Active inquiry should therefore be regarded not merely as a communication skill, but as part of the physician's professional responsibility (Foley et al., 2019).

The practically identical distributions among GPs (63.0%) and students (59.9%) regarding active inquiry — with no statistically significant difference ($p=0.710$) — represent a noteworthy finding, suggesting that this clinical attitude is relatively stable and does not depend decisively on practical experience. The fact that the physician does not ask actively has been identified as one of three leading reasons for non-disclosure in a review of 12 studies on the topic (Robinson & McGrail, 2004). Consequently, if approximately 37–40% of physicians and students do not support active inquiry, this in itself constitutes a potential structural factor contributing to the communication barrier.

The reasons why physicians do not initiate discussion regarding CAM use are multifaceted, encompassing both individual and systemic factors: limited knowledge and consequent lack of confidence in discussing CAM (Aizuddin et al., 2022; Soós et al., 2015); skeptical or dismissive attitudes towards such practices; and structural constraints such as insufficient consultation time (Patel et al., 2017). Additionally, avoidance of potential conflict with the patient and underestimation of the clinical relevance of CAM use also contribute to the absence of active inquiry (Foley et al., 2019; Shelley et al., 2009). The lack of physician initiative is interpreted by patients as a signal of low acceptability or lack of interest, which may limit trust and reinforce communicative asymmetry. Non-disclosure of CAM should therefore not be viewed merely as an individual patient decision, but as an indicator of the characteristics of the doctor–patient relationship, with potential negative implications for the quality and safety of medical care.

9.3. Non-disclosure by patients — causes and consequences

The established rate of non-disclosure (41.6%) falls within the widely documented international range. The meta-analysis by Foley et al., covering 86 publications, found an overall rate of non-disclosure ranging from 7% to 80%, with the pooled rate of non-disclosure for biologically based CAM at approximately 67% (95% CI: 57–76%) (Foley et al., 2019). The earlier systematic review by Robinson & McGrail, covering 12 studies (1997–2002), reported non-disclosure in the range of 23–72% (Robinson & McGrail, 2004), while a more recent review among oncology patients (n=21 studies) found that 20% to 77% of patients did not disclose CAM use to their physician (Davis et al., 2012).

The study by Pirovska also examined communication between GPs and patients regarding CAM. The data show that only 35.2% had discussed CAM during consultation with their GP. Among these, over half of GPs expressed interest, while the remainder showed no interest, displayed irritation, were unwilling to discuss the topic, or even reacted with displeasure (Staykova-Pirovska, 2017).

The leading reasons for non-disclosure in the present study — anticipated lack of interest from the GP (25.0%) and anticipation of negative attitude (20.2%) — correspond directly to those identified internationally and cited in the reviews above. Reasons for non-disclosure include absence of inquiry by the physician, fear of disapproval, the perception that disclosure is irrelevant, the belief that the physician lacks knowledge of CAM, insufficient time, and the belief that CAM is inherently safe.

Particularly noteworthy is the finding that both leading reasons in the present study are based on expectations rather than necessarily on actual negative experience — a finding also confirmed in the literature: negative physician reactions to disclosure of CAM use actually represent a deviation from the more frequent positive or neutral reactions documented in studies. Non-disclosure is therefore not merely an individual patient decision, but a marker of communication barriers and limited mutual trust within the clinical encounter.

9.4. The influence of communication regarding homeopathy on doctor–patient trust

The findings of the present study suggest that the topic of homeopathy is not merely a therapeutic matter, but functions as a kind of "trust test" within the doctor–patient relationship. Patients avoiding discussion with their GP due to anticipated lack of interest or negative attitude do not merely omit sharing specific information — they signal a deeper uncertainty regarding the safety of open communication within this relationship.

The literature confirms that trust and communication regarding CAM are bidirectionally linked. Communication about CAM conducted in a direct, supportive, and non-judgmental style builds trust and mutual understanding. Such an approach incorporates shared decision-making, physician empathy, and recognition of patient values, thereby encouraging further dialogue (Akeeb et al., 2023). Conversely, when patients avoid the topic, there is a risk that silence itself deepens the sense of distance and perpetuates the cycle of non-disclosure.

The data of Pirovska establish a statistically significant association between trust in the GP and the GP's practice of CAM ($p < 0.0001$). Patients of physicians who offer CAM also report greater trust in them ($p < 0.0001$). Only 5% of patients visit an alternative therapist without informing their GP.

Particularly significant is the finding regarding the bidirectional nature of this dynamic among the chronically ill. Among chronically ill patients, trust in the healthcare system is a significant predictor of CAM use: the lower the trust in conventional medicine, the greater the propensity to seek CAM (van den Brink-Muinen & Rijken, 2006). Among the motives for turning to CAM described are dissatisfaction with physician attitude and the perception that the physician treats the patient "as a number" rather than truly listening. This finding is particularly relevant to the context of the present study: the preference of 77.5% of patients for a homeopathy specialist outside the GP system may partly reflect not only structural factors but precisely this dynamic of diminished trust.

Empirical data on the quality of communication among physicians practising homeopathy within conventional medicine offer an additional perspective. A large Swiss study within the national PEK programme (n=6,133 patients) found that patients of certified CAM physicians rated the quality of communication with their physician significantly higher than patients of conventional physicians, with overall satisfaction higher among CAM patients despite lower self-reported symptom relief. The authors conclude that the more effective communication models of CAM physicians likely play a role in maintaining more positive therapeutic expectations (Wapf & Busato, 2007). In parallel, a study among homeopathic and conventional GPs in Switzerland (n=3,126) found significantly higher overall satisfaction among patients of homeopathic physicians, with homeopathic treatment perceived as involving two to three times fewer adverse effects (Marian et al., 2008). It should be noted, however, that these studies include only physicians with additional CAM qualification, and the results are therefore not directly applicable to the general population of GPs.

The present data show that participating GPs are aware of this dynamic: 85.2% consider that physicians should answer questions about CAM, and 87.0% support the value of a strong therapeutic relationship. The strongly expressed Likert values among GPs (M=4.31–4.48 for the three communicative statements) reflect this same attitude, consistent with recommendations in the literature: fear of non-disclosure and its subsequent realisation can be overcome if medical professionals communicate with patients about CAM in a direct, supportive, and non-judgmental manner, with the aim of building trust and communicative success (Foley et al., 2019).

The discrepancy between GPs' declared readiness for communication and patients' actual behaviour (only 9.5% would seek homeopathic treatment from their own GP) may partly be explained by structural factors within the primary healthcare system. Attentive, empathetic, patient-centred communication requires sufficient time — in sharp contrast to the established average consultation duration of approximately 10.7 minutes across six European countries, ranging from 7.6 minutes in Germany to 15.6 minutes

in Switzerland (Deveugele et al., 2002). In Bulgaria, minimum consultation duration is regulated at 15 minutes, and standard consultations most often last precisely this long. Within this environment, patients likely do not perceive the GP as a partner for discussion of CAM matters — regardless of the physician's actual attitude.

The constataction that patients significantly more often insist on physician competency in CAM matters (85.9% versus 75.5% among students, $\chi^2=17.73$, $p<0.001$) closes an important analytical circle in the present analysis: as previously noted, the perception among patients that physicians lack adequate knowledge of CAM constitutes a substantial reason for non-disclosure, while physicians themselves cite lack of knowledge as a reason for their reluctance to initiate discussion about CAM. We may conclude that training in homeopathy within medical education could exert a dual effect: reducing the barrier among students and future physicians, and simultaneously signalling to patients a readiness for open dialogue.

Summary

Hypothesis H5 — regarding an insufficient level of trust, as measured through patient behaviour — is confirmed by the data and is consistent with the international literature. The rate of non-disclosure found in the present study (41.6%) falls within the middle of the widely documented international range. The principal mechanism — a barrier based on expectations rather than actual negative experience — directly corresponds to the findings of the systematic review by Stub et al. (2012) and the earlier review by Robinson & McGrail (2004).

The preference of 77.5% of surveyed patients for a homeopathy specialist outside the GP system cannot be interpreted solely as an indicator of communication barriers or insufficient trust. The time-limited consultation typical of general practice would itself constitute a barrier to such consultation. In the specific context of Bulgaria, this finding also reflects a rational patient choice, based on an informed distinction between two practical approaches within homeopathy — an important consideration for the correct interpretation of the data.

The majority of GPs in Bulgaria practise clinical homeopathy, acquired as an additional qualification through two-year courses. Homeopathic physicians in independent practice in Bulgaria have typically completed training in classical homeopathy, or both approaches, and work exclusively within the field of homeopathy — entailing a substantially greater number of homeopathic consultations conducted and more deeply developed expertise in individualisation, a key element specifically of the classical approach. The classical homeopathic consultation is conducted in a considerably more extended format, within which the homeopath poses in-depth questions, listens carefully, and observes the patient before selecting the single remedy. Patients seeking deeply individualised treatment for chronic complaints rationally direct their choice towards a specialist with richer and more focused experience in precisely this approach — something the GP system objectively cannot provide to the same extent within its current organisational framework.

This logic of self-selection is documented also in the international context. The national EPI3 study (n=6,379 patients) found that patients who chose a certified homeopathic GP did not differ substantially in sociodemographic characteristics from other patients, but were distinguished by a more positive attitude towards CAM. The choice of a specialist with narrower and deeper qualification reflects informed consumer behaviour, recognised also outside the context of homeopathy.

From this perspective, the finding regarding preference for a specialist outside the GP system should be interpreted on two levels: as a partial indicator of a communication barrier among those patients whose choice is motivated by anticipated negative or disinterested attitude from the GP, and as an expression of informed choice among those seeking classical, deeply individualised homeopathic care. Distinguishing between these two motives in future research would provide a more precise picture of patient behaviour within this specific healthcare niche in Bulgaria.

10. Limitations of the study

The limitations of the present study can be grouped into three categories.

Design. The cross-sectional nature of the study allows the identification of associations but does not permit conclusions about causal relationships. Although methodologically justified, the adaptation of the questionnaires to the specific characteristics of the three groups limits the direct comparability of some of the results.

Sample. Voluntary participation and the use of the snowball sampling method among patients imply the inclusion primarily of individuals with a pre-existing interest in the topic, resulting in selection bias, which was also evident among general practitioners through the overrepresentation of physicians certified in homeopathy (55.6%). Owing to the method of questionnaire distribution, the response rate could not be calculated, while the clustering of attitudes inherent in snowball sampling further limits representativeness. The relatively small sample size of general practitioners ($n = 54$) restricts the statistical power of subgroup analyses. In addition, the geographical imbalance in favour of large cities, the overrepresentation of women, and the religious homogeneity of the sample limit the generalizability of the findings.

Measurement. The questionnaires were developed specifically for the purposes of this study and do not constitute standardized instruments. Lower values of Cronbach's α for some scales limit the strength of the conclusions that can be drawn. Self-administration of the questionnaires creates a risk of social desirability bias, potentially leading to an underestimation of scepticism among physicians and an overestimation of critical attitudes among students.

These limitations stem primarily from the study design and participant recruitment procedures. They do not invalidate the findings but require caution in their interpretation. The main results are internally consistent and correspond to trends reported in the international literature, which supports their validity.

VI. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 1) Homeopathy occupies a stable place in the health behaviour of patients in Bulgaria. A significant proportion use it alongside conventional treatment, frequently without disclosing this to their GP — a pattern with direct consequences for the therapeutic process.
- 2) Attitudes towards homeopathy differ significantly across the three studied groups: patients demonstrate the most positive attitude, GPs occupy a pragmatic intermediate position, and students are the most critical. All three groups converge on the Integration and Communication subscale — the shared conviction regarding the value of open dialogue on CAM persists irrespective of views on efficacy.
- 3) Formal training is the leading predictor of homeopathy use by GPs. Certified GPs demonstrate higher clinical engagement and greater readiness for open communication with patients. Awareness is a significant predictor of support for homeopathy training among both GPs and students.
- 4) Motivations for seeking and using homeopathy differ qualitatively between groups: patients are driven predominantly by values-based factors (the holistic and individualised approach); GPs by pragmatic considerations (antibiotic reduction and expansion of the therapeutic repertoire); and students by the principle of safety. This differentiation carries practical significance for the development of communication strategies and educational interventions.
- 5) A significant communication barrier exists between patients and GPs regarding CAM. Approximately two-fifths of patients do not disclose their use of alternative methods, and the leading reasons are expectation-based rather than grounded in actual negative experience. The barrier is therefore institutional in character rather than reflective of individual clinical encounters.
- 6) The majority of patients do not perceive their GP as a natural partner in seeking homeopathic treatment. This finding reflects both a communication barrier and a rational choice: patients seeking classical, individualised homeopathy direct themselves towards a specialist with

more focused qualification and greater clinical experience in the method.

- 7) Medical students occupy a dual position — simultaneously users of homeopathy in their personal capacity and future physicians. Their personal experience generates significant associations with future clinical attitudes, while clinical training reduces willingness to communicate openly on the topic without correspondingly reducing personal use.
- 8) Non-disclosure of CAM use should be understood not merely as individual patient behaviour, but as an indicator of the characteristics of the therapeutic alliance and of the institutional communication culture within general practice.

Recommendations

- 1) For clinical practice: Routine inclusion of a question regarding CAM/homeopathy use within the medical history should become standard practice for GPs, conducted in a non-judgmental and empathetic communicative style, irrespective of the physician's personal attitude towards the method.
- 2) For medical education: Introduction of foundational CAM training within medical universities as an elective discipline, aimed at improving awareness, fostering critical appraisal of the evidence base, and developing skills for competent communication with patients using such methods.
- 3) For continuing medical education: Development of structured communication training modules addressing CAM for practising GPs, together with institutionally recognised and standardised access to postgraduate homeopathy training for physicians with personal motivation and interest in the method.
- 4) For health policy: Development of clear clinical guidance for discussing CAM within general practice, consistent with actual patterns of use in Bulgaria and with the principle of informed patient choice.
- 5) For future research: Longitudinal studies examining communication patterns and health behaviour regarding CAM within general practice

over time; studies investigating the relationship between CAM orientation in general practice and antibiotic prescribing behaviour, a topic of particular relevance in the context of growing antimicrobial resistance.

VII. CONCLUSION

The present study was conducted within the context of a growing divergence between the regulatory position on homeopathy and its actual use within primary medical care. While international regulatory bodies have reached consensus regarding the absence of convincing evidence for a specific therapeutic effect, the use of homeopathy among patients remains stable and, in certain respects, continues to grow, while clinical communication surrounding it remains inconsistent and insufficiently studied. It is precisely this unexamined combination — the simultaneous comparative investigation of attitudes, behaviour, and communication among practising GPs, medical students, final-year medical students, and patients within the Bulgarian general practice system — that constitutes the subject of the present study.

The results reveal a consistent and conceptually coherent pattern. The structured differences between the three groups are predictable and correspond to international data: patients demonstrate the most positive attitude, GPs occupy a pragmatic intermediate position, and students are the most critical. A substantial finding is the convergence specifically on the communication subscale — all three groups share the conviction regarding the value of open communication, the patient's right to informed choice, and the physician's responsibility to respond competently to questions about CAM, irrespective of their personal position on efficacy. This convergence delineates a practical resource upon which intervention may be built.

The results also reveal a systemic asymmetry between the actual health behaviour of patients and the institutional readiness of the general practice system to manage it. Patients use homeopathy but do not disclose this to their physician. Students use it personally but do not develop clinical competency on the topic. GPs declare readiness for communication, but patients do not

perceive this readiness. These three discrepancies are not independent but stem from a common cause: the absence of an institutional framework that would render the topic of CAM a legitimate part of clinical dialogue within general practice.

It is notable that convergence between the three groups was found precisely where the greatest divergence might be expected: in the conviction regarding the value of open communication. This shared attitude — stable irrespective of position on efficacy — constitutes the practical resource upon which intervention may be built. The question is not whether the system shares the value of communication, but whether it possesses the instruments to realise it.

The specific context of the distinction between clinical homeopathy, practised by GPs as an additional qualification, and classical homeopathy, practised by specialised physicians with more focused clinical expertise in the method, merits particular consideration. The prevailing preference of patients for a specialist outside the general practice system reflects simultaneously this rational logic of informed choice and an institutional communication barrier. These two motives are distinct in nature and require different responses from the system.

The present study does not investigate the efficacy of homeopathic medicines. Regulatory bodies and systematic reviews in the field provide an answer to this question. The data from the present study shift the research focus from the question of efficacy towards a more concrete and practically significant one: how should the general practice system competently, safely, and communicatively effectively manage the real use of homeopathy among patients?

The answer arising from the data is threefold: routine inclusion of CAM within the clinical history; structured educational modules for students and practising physicians; and institutionally recognised access to postgraduate training for physicians with an interest in the method. These interventions do not presuppose institutional recognition of the efficacy of homeopathic medicines. Rather, they are grounded in recognition of the reality of patient

behaviour, the necessity for clinical competency, and the value of open therapeutic communication — principles of indisputable validity.

An independent research potential is represented by the relationship between CAM orientation within general practice and the use of antibiotics and other medications. Within the context of growing antimicrobial resistance as a public health priority, future observational studies in Bulgaria examining prescribing behaviour and medication burden within practices of differing CAM orientation would provide an evidence base of independent scientific and practical value.

Homeopathy represents a genuine clinical and social phenomenon within general practice, the competent management of which requires informed awareness and an active communication strategy. The present study provides an empirical foundation for the development of such a strategy within the context of the Bulgarian system of primary medical care.

VIII. SCIENTIFIC PUBLICATIONS AND PRESENTATIONS RELATED TO THE DISSERTATION

Publications

E. Hristova, I. Hristova, M. Bliznakova, R. Aleksovska, V. Aleksandrova, V. Madjova. Homeopathic Prophylaxis and Treatment of Epidemic Diseases. Practical Paediatrics, No. 10, Oct. 2021.

E. Hristova, I. Hristova, M. Bliznakova, V. Madjova, I. Momcheva. Complementary and Alternative Treatment Methods, in Particular Homeopathy, for Upper Respiratory Tract Infections. Paediatric and Infectious Diseases, 14, 2022, No. 1, 36–40.

Hristova E., Hristova I., Bliznakova M., Madjova V. Knowledge and Beliefs about Homeopathy: A Cross-Sectional Survey among the Bulgarian Population. J of IMAB, 2022 Supplement, 2022, 119–122. DOI: <https://doi.org/10.5272/jimab.2022Supplement1>

E. Hristova, V. Madjova. Why Bulgarians Seek Homeopathic Treatment — Reasons and Health Problems. General Medicine, 25, 2023, No. 5, 24–30.

Presentations

Eva Hristova, Iv. Hristova, M. Bliznakova, V. Madzhova. Knowledge and Beliefs about Homeopathy — A Cross-Sectional Survey among the Bulgarian Population. Joint Forum SEEC-IMAB, 20–23.10.2022.

E. Hristova, I. Hristova-Nikolova, M. Bliznakova, V. Madjova. Opportunities for Homeopathic Treatment of Recurrent Cystitis — Two Cases from General Practice. Academy "Nephrology", 12–14 May 2023.

IX. CONTRIBUTIONS

1. Contributions of an original character

The first large-scale study in Bulgaria analysing and evaluating attitudes towards the application of homeopathy as a therapeutic and preventive method in general practice.

The first comparative study in Bulgaria encompassing general practitioners, patients, and the future generation of physicians entering our healthcare system — final-year medical students and medical students.

For the first time, medical students have been studied simultaneously in their role as future physicians and as current homeopathy users, with the dynamics of attitudes traced across the progression of medical education.

It has been established that the motives for seeking and applying homeopathy differ qualitatively between patients, GPs, and medical students.

For a more complete characterisation of the actual use of homeopathy in Bulgaria, a comparative analysis was conducted of the clinical application profile across the different studied groups.

The scope of homeopathy application by GPs in Bulgaria has been established, and the principal factors influencing its clinical application have been identified.

For the first time in the international literature, attitudes towards integration and communication regarding CAM matters have been studied simultaneously among GPs, medical students, and patients, establishing convergence between the three groups with regard to the significance of open therapeutic communication.

2. Contributions of a Confirmatory Character

The study confirms that homeopathy occupies a stable place in the health behaviour of patients in Bulgaria.

Homeopathy is used alongside conventional treatment, with its social and practical legitimation based predominantly on subjective experience and perceived utility rather than on scientific evidence.

Attitudes towards the application of homeopathy in Bulgaria correspond to data from international studies: patients are most positive, GPs occupy a pragmatic intermediate position, and students are most critical.

A significant communication barrier exists between patients and GPs regarding CAM matters, with approximately 50% not disclosing their use of alternative methods to their physician.

The majority of patients do not perceive the GP as a natural partner for homeopathic treatment and instead direct themselves towards classical individualised homeopathy and a physician with more specific qualification and greater clinical experience in the method.

Medical students occupy a dual position — simultaneously users of homeopathy and future physicians.

3. Contributions of a Scientific-Applied Character

Awareness of homeopathy is a significant factor in support for training in homeopathy and CAM, among both GPs and students.

Training in homeopathy is the leading factor for its clinical application by GPs, with additional qualification leading to higher clinical engagement and greater readiness for open communication with patients on the topic.

To increase the application of homeopathy in general practice, not only a change in physicians' attitudes is essential, but also their communication practice — actively sharing openness with patients on the topic.