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ATTITUDES TOWARD FOLK MEDICINE AMONG MEDICAL STUDENTS IN POLAND: THE IMPACT OF GENDER, PLACE OF RESIDENCE, AND YEAR OF STUDY

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ABSTRACT

Background: In light of the growing interest to complementary approaches in healthcare and the widespread use of folk medicine in Eastern European countries, it is important to understand how future physicians perceive these practices. This study assesses the extent to which medical students are prepared for clinical dialogue with patients who use non-conventional methods and examines how demographic (such as sex, age and places of residence) and educational factors influence their views.

Aim of the study: The aim of this study was to identify attitudes toward folk medicine among Polish medical students and to analyze the influence of demographic and educational variables—specifically gender, year of study, and place of residence on these attitudes.

Materials and methods: The study was cross-sectional and descriptive in nature. It used an anonymous questionnaire developed by the authors, consisting of 15 questions grouped into four sections: demographic characteristics, knowledge and perception of folk medicine, sources of information, and willingness to use folk methods in future practice. Statistical analysis was conducted using the chi-squared test (χ^2), with a significance level of $p < 0.05$. The study included 168 medical students from Jagiellonian University Medical College in Krakow, Poland enrolled in years 1 through 6. 58,33% of participants were female, 41,67 – were male. Inclusion criteria: active enrollment in a medical program, age 18 or older, informed consent to participate. Students from non-

medical programs were excluded. Convenience sampling was used. The survey was conducted anonymously online.

Results: The statistical analysis revealed a significant relationship between knowledge of selected folk medicine methods and both the gender and year of study of the respondents. At the same time, the impact of the participants' place of residence was found to be statistically insignificant. The use of folk healers' services among medical students did not show a statistical correlation with demographic variables. Similarly, the analysis indicated no significant relationship between the use of alternative medicine in cases of ineffective conventional therapy and the demographic factors examined. The study confirmed that most future medical professionals believe that folk healers' work conflicts with that of physicians, and this opinion strengthened as students progressed through their studies.

Conclusion: The attitudes of medical students toward folk medicine are largely independent of the analyzed demographic factors. However, the primary factor shaping these attitudes is the level of medical education, which results in increasing skepticism toward traditional treatment methods as students advance in their studies.

Keywords: folk medicine; student’s opinion; folk healers;

INTRODUCTION

Folk medicine has long been an integral part of the cultural and historical heritage of societies around the world. Rooted in centuries-old traditions, it is based on empirical knowledge transmitted across generations concerning the healing properties of plants, natural therapeutic techniques, and beliefs surrounding health and illness. According to the World Health Organization (WHO), traditional medicine comprises “the sum total of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, and used in the maintenance of health as well as in the prevention, diagnosis, improvement, or treatment of physical and mental illness” [1]. Despite the dominance of evidence-based academic medicine, folk medicine remains relevant, particularly in rural areas or among individuals seeking holistic or culturally familiar alternatives to conventional treatment [2]. In countries such as Poland, these practices are not only part of cultural memory but often coexist with biomedical approaches. As WHO reports, in some regions up to 80% of the population relies primarily on traditional medicine for their healthcare needs [3]. The integration—or lack thereof—between folk and academic medicine remains a topic of ongoing debate. Concerns are frequently raised regarding the efficacy and safety of folk remedies, their potential interference with standard treatment protocols, and the role they play in shaping patients’ therapeutic choices [4]. This duality poses significant challenges for future healthcare professionals who must balance scientific rigor with cultural sensitivity in patient care. The present study investigates medical students’ attitudes toward folk medicine in the context of their future roles as healthcare providers. Specifically, it explores the relationship between selected demographic variables (gender, place of residence, and year of study) and students’ openness to folk practices such as consulting traditional healers, using protective objects (amulets, talismans), or accepting alternative treatments in cases where conventional medicine may fall short.

The following research hypotheses were formulated:

1. There is a relationship between demographic variables (gender, place of residence, year of study) and knowledge of a traditional folk remedy for stye treatment involving a gold ring.
2. There is a relationship between medical students' gender and place of residence and their willingness to seek help from folk medicine specialists.
3. There is a relationship between gender and the acceptance of folk medicine methods when conventional approaches are ineffective.
4. There is a relationship between students’ place of residence and their likelihood of possessing amulets, talismans, or similar objects believed to offer protection or good fortune.
5. There is a relationship between the year of medical studies and students’ perceptions of whether folk healing practices interfere with professional medical practice.

While the topic of traditional medicine has been explored in various international contexts—for example, among medical students in the United States, India, and Turkey—comparative studies remain limited, particularly in Central and Eastern Europe [5,6]. Previous research has revealed both openness to and skepticism about folk practices among students, often shaped by local culture, religious beliefs, and the structure of medical education [7]. Incorporating a comparative perspective in this study highlights its relevance and enriches the broader discourse on integrating traditional knowledge into contemporary healthcare systems [8]. This research specifically aims to assess whether medical students, educated within an evidence-based academic framework, maintain receptiveness to folk healing traditions, and how these attitudes might influence their future clinical practice. By situating the findings within an international context, the study contributes valuable insight into the evolving relationship between biomedical and traditional healing paradigms [6].

MATERIALS AND METHODS

STUDY CHARACTERISTICS

The study was conducted among medical students at the Jagiellonian University in Krakow, Poland between August and September 2023. Participants included students from various years of medical studies, allowing for a broad spectrum of opinions on folk medicine among future physicians. In total, 168 students took part in the study. Women made up 58.33% of the respondents, while men accounted for 41.67%. The surveyed group included students aged between 19 and 28 years.

The inclusion criteria were active enrollment in the medical program at Jagiellonian University and voluntary consent to participate. Students who did not provide consent or submitted incomplete questionnaires were excluded from the analysis.

Approval from the local bioethics committee was not required for this study, as it did not involve any medical interventions or procedures that could affect the participants' health. Participation was entirely anonymous and voluntary. No personal or sensitive data were collected, and all participants were fully informed about the purpose of the study, its anonymous nature, and their right to withdraw at any stage without any consequences.

RESEARCH METHOD

Data collection was carried out using a self-administered, structured questionnaire specifically designed for this study. The questionnaire consisted exclusively of closed-ended questions addressing multiple aspects, including medical students' perceptions of folk medicine, declarations of using folk medicine specialists' services, acceptance of folk medicine methods in cases where conventional medicine fails, possession of symbolic objects (amulets, talismans), and opinions on the potential impact of folk medicine on medical practice. Each question had a single-choice response format. Additionally, the survey included demographic questions about participants' gender, year of study, and place of residence (city or village).

Participation was voluntary and anonymous. Before completing the questionnaire, students were informed about the study's purpose, the confidential nature of their responses, and their right to withdraw at any time without consequences. No identifying information was collected.

Collected data were analyzed using the chi-square test (χ^2) to evaluate relationships between categorical variables. A significance level of $p < 0.05$ was adopted. Statistical analyses were performed with SPSS ver. 28, RStudio, Jasp.

RESULTS

The survey analyzed responses from 168 participants. The respondents were categorized by gender, age, and place of residence. A detailed description of the study group is presented in Table 1.

Table 1. Characteristics of the study group.

Research characteristic		Study group - absolute number	Study group - percentage share
Gender	Female	98	58.33%
	Male	70	41.67%
Completed year of study	1	37	22.02%
	2	21	12.50%
	3	20	11.90%
	4	23	13.69%
	5	36	21.43%
	6	31	18.45%
Place of	Village	51	30.36%

residence	City <100k inhabitants	41	24.40%
	City 100-300k inhabitants	17	10.12%
	City >300k inhabitants	59	35.12%

Table 2. Percentage of affirmative responses ("YES") to the questions asked, depending on the completed year of study.

Question	**Year of study**					
	1	**2**	**3**	**4**	**5**	**6**
Have you heard of treating hiccups by drinking with your head tilted down or consuming sugar?	56.8%	38.1%	60.0%	56.5%	58.3%	54.8%
Do you think drinking with your head down or consuming sugar can stop hiccups?	29.7%	3.8%	30.0%	21.7%	38.9%	16.1%
Have you heard of treating styes by rubbing inflamed glands with a gold ring?	56.8%	66.7%	65.0%	87.0%	86.1%	83.9%
Do you believe that rubbing inflamed glands with a gold ring has a healing effect on styes?	18.9%	47.6%	55.0%	30.4%	13.9%	33.3%
Have you heard of treating hemorrhoids with vinegar and salt compresses?	8.1%	9.5%	10.0%	13.0%	0%	6.5%
Do you believe that vinegar and salt compresses can help relieve hemorrhoids?	5.4%	15.0%	15.0%	34.8%	0%	3.4%
Have you heard of treating rickets by bathing the patient in water containing pine needles?	0%	0%	5.0%	4.3%	0%	0%
Do you believe that bathing a child with rickets in water with pine needles can alleviate symptoms?	0%	0%	5.0%	0%	0%	0%

The data presented above indicate that the most well-known folk medicine practice among respondents was treating a stye with gold, regardless of the year of study. However, belief in its effectiveness declined as students progressed in their education—while 55% of third-year students considered it effective, this percentage dropped to 13.9% by the fifth year. A similar trend was observed for other methods. For example, 29.7% of first-year students believed that drinking water while tilting the head forward or consuming sugar could help with hiccups, whereas by the sixth year, only 16.1% held this belief. This suggests that as medical students advance in their academic education, their scientific awareness increases, leading to greater skepticism toward folk medicine practices.

Table 3. Participants' responses depending on the place of residence

Question	Place of residence							
	Village		City <100k inhabitants		City 100-300k inhabitants		City >300k inhabitants	
	YES	NO	YES	NO	YES	NO	YES	NO
Have you heard of treating hiccups by drinking with your head tilted down or consuming sugar?	64.71%	35.29%	53.66%	46.34%	41.18%	58.82%	50.85%	49.15%
Do you think drinking with your head down or consuming sugar can stop hiccups?	39.22%	60.78%	29.27%	7.73%	5.88%	94.12%	22.03%	77.97%
Have you heard of treating styes by rubbing inflamed glands with a gold ring?	78.43%	21.57%	75.61%	24.39%	70.59%	29.41%	71.19%	28.81%
Do you believe that rubbing inflamed glands with a gold ring has a healing effect on styes?	31.37%	68.63%	26.83%	73.17%	23.53%	76.47%	32.76%	67.24%
Have you heard of treating hemorrhoids with vinegar and salt compresses?	9.8%	90.20%	4.88%	95.12%	11.76%	88.24%	5.08%	94.92%
Do you believe that vinegar and salt compresses can help relieve hemorrhoids?	15.69%	84.31%	5%	95.0%	5.88%	94.12%	7.02%	92.98%
Have you heard of treating rickets by bathing the patient in water	1.96%	98.04%	0%	100%	0%	100%	1.69%	98.31%

containing pine needles?								
Do you believe that bathing a child with rickets in water with pine needles can alleviate symptoms?	0%	100%	0%	100%	0%	100%	3.51%	96.49%

The least-known folk remedy among respondents was treating hemorrhoids with vinegar and salt compresses—only 9.8% of rural students had heard of it, while awareness dropped to 4.88% in cities with fewer than 100,000 inhabitants. Belief in its effectiveness was also low, though highest among rural students (15.69%), compared to just 5.88% in cities with populations between 100,000 and 300,000. The most widely recognized folk medicine practice, regardless of place of residence, was treating a stye with a gold ring. Conversely, very few students had heard of treating rickets with pine needle baths—awareness was 1.96% in rural areas, and 0% in smaller cities. No students in any group believed in the effectiveness of this method (0% across all groups), except for those from the largest cities, where 3.51% expressed belief in it.

Table 4. Participants' responses depending on the gender

Question	**Gender**			
	Female		**Male**	
	YES	**NO**	**YES**	**NO**
Have you heard of treating hiccups by drinking with your head tilted down or consuming sugar?	54.08%	45.92%	55.71%	44.29%
Do you think drinking with your head down or consuming sugar can stop hiccups?	27.55%	72.45%	27.14%	72.86%
Have you heard of treating styes by rubbing inflamed glands with a gold ring?	82.65%	17.35%	62.86%	37.14%
Do you believe that rubbing inflamed glands with a gold ring has a healing effect on styes?	29.90%	70.10%	30%	70%
Have you heard of treating hemorrhoids with vinegar and salt compresses?	7.14%	92.86%	7.14%	92.86%
Do you believe that vinegar and salt compresses can help relieve hemorrhoids?	4.21%	95.79%	15.71%	84.29%
Have you heard of treating rickets by bathing the patient in water containing pine needles?	0%	100%	2.86%	97.14%
Do you believe that bathing a child with rickets in water with pine needles can alleviate symptoms?	1.06%	98.94%	1.43%	98.57%

The biggest difference between male and female students in terms of knowledge about folk healing practices was observed in the treatment of styes. Significantly more women had heard of using gold to treat a stye (82.65% vs. 62.86% among men). Belief in the effectiveness of folk remedies was generally similar between genders, with one notable exception—treating hemorrhoids with vinegar and salt compresses. This method was believed to be effective by 15.71% of men but only 4.21% of women. Belief in the effectiveness of pine needle baths for treating rickets was minimal among both genders (1.06% of women vs. 1.43% of men).

Table 5. Chi-squared test 1

The statistical relationship between the year of study and the knowledge of treating styes by rubbing inflamed glands with a gold ring				**The statistical relationship between the place of residence and the knowledge of treating styes by rubbing inflamed glands with a gold ring**			**The statistical relationship between the gender and the knowledge of treating styes by rubbing inflamed glands with a gold ring**		
	Value	Df	p	Value	df	p	Value	df	p
χ^2	13.59	5	0.02	0.92	3	0.82	8.40	1	3.75×10^{-3}
N	168			168			168		

The analysis of demographic factors (year of study, place of residence, and gender) in relation to the awareness of treating a stye by rubbing inflamed sebaceous glands with a gold ring revealed a **statistically significant** relationship between year of study and knowledge of this method ($\chi^2=13.59$; df=5; p=0.02). This indicates that the higher the year of study, the greater the likelihood of familiarity with this practice.

Regarding gender differences, 82.65% of women reported knowing about this method, compared to 62.86% of men. This difference was also statistically significant ($\chi^2=8.40$; df=1; p=0.004), suggesting a considerably higher awareness among female students. However, place of residence was not found to be a significant factor influencing knowledge of this method ($\chi^2=0.92$; df=3; p=0.82). This means that where students lived did not significantly affect their familiarity with the folk remedy. Based on these findings, the first hypothesis was partially confirmed in the statistical analysis.

Table 6. Question 12

Have you ever used the help of healers, herbalists or other folk medicine "specialists"?								
	Place of residence	City 100-300k inhabitants	City <100k inhabitants	City >300k inhabitants	Village	**Gender**	Male	Female
Yes		4	4	5	7		10	10
No		13	37	54	44		88	60
Total	17	41	59	51		98	70	

Table 7. Chi-squared test 2

The statistical relationship between the place of residence of and the use of folk medicine "specialists" services.				**The statistical relationship between the gender and the use of folk medicine "specialists" services.**		
	Value	df	p	Value	df	p
χ^2	3.19	3	0.36	0.65	1	0.42
N	168			168		

Among the respondents, 148 people (88.90%) answered negatively, while only 20 (11.10%) answered affirmatively. The results of the Chi-square test showed no statistically significant relationship between place of residence and seeking help from practitioners of folk medicine ($\chi^2=3.19$; df=3; p=0.36). Similarly, the test results indicated no significant relationship between gender and using folk healer practices ($\chi^2=0.65$; df=1; p=0.42). Therefore, based on the collected data, the hypothesis regarding the presence of a significant relationship between place of residence and gender of the respondents and their declaration of seeking help from folk healers,

herbalists, or other folk medicine specialists should be rejected.

Table 8. Question 13

In a situation where a patient has been diagnosed with an incurable disease and all conventional medical treatments have failed, would you consider attempting treatment using known methods of folk medicine to be appropriate?			
	No	Yes	Total
Male	33	37	70
Female	42	56	98
Total	75	93	168

Tabel 9. Chi-squared test 3

	Value	df	p
χ^2	0.30	1	0.58
N	168		

The statistical analysis did not show a significant relationship between gender and respondents' stance on this issue (χ^2=0.30; df=1; p=0.58). Based on these findings, the hypothesis regarding a relationship between gender and the acceptance of folk medicine methods in the case of an incurable disease was rejected. It is worth emphasizing that the results indicate that gender does not significantly differentiate the attitudes of future doctors toward using folk medicine methods as a complementary or alternative therapy when conventional treatments have failed.

Table 10. Question 14

Do you possess lucky charms or various types of talismans, or any items that bring good luck, protect from illness, and ensure success?				
Where are you from ?		No	Yes	Total
City 100-300k inhabitants	Cohort size	16	1	17
	%	94.12%	5.88%	100%
City <100k inhabitants	Cohort size	41	0	41
	%	100%	0%	100%
City >300k inhabitants	Cohort size	50	8	58
	%	86.21%	13.79%	100.00%
Village	Cohort size	44	7	51
	%	86.27%	13.73%	100%
Total	Cohort size	151	16	167
	%	90.42%	9.58%	100%

Table 11. Chi-squared test 4

	Value	df	p
X^2	6.81	3	0.08
N	167		

The Chi-square test did not show a statistically significant association between students' place of residence and their declaration of possessing lucky charms or talismans ($\chi^2 = 6.81$; df = 3; p = 0.08). Although the p-value approaches the conventional threshold of significance ($\alpha = 0.05$), it does not meet the criterion for statistical significance. While numerically higher proportions of students from larger cities and villages reported possessing such items compared to those from smaller towns, these differences were not strong enough to support a statistically reliable conclusion. Therefore, the hypothesis suggesting a relationship between place of residence and the tendency to own protective or luck-bringing objects must be rejected in this sample. Nonetheless, the near-significant result (p = 0.08) may point to a trend worth exploring in future studies with larger or more diverse populations. Particularly, the relatively higher prevalence of such beliefs among students from urban areas >300k and rural regions suggests a potential cultural or psychosocial component that may influence attitudes toward superstition. Future research could benefit from examining not only place of residence but also factors such as cultural background, upbringing, or personal spirituality to better understand the underlying mechanisms.

Table 12. Question 15

Do you think that the activities of healers and other folk medicine specialists could interfere with medical practice as a future doctor?				
Which year of study have you completed?		No	Yes	Total
1	Cohort size	3	34	37
	%	8.11%	91.89%	100%
2	Cohort size	2	18	20
	%	10%	90%	100%
3	Cohort size	4	16	20
	%	20%	80%	100%
4	Cohort size	0	23	23
	%	0%	100%	100%
5	Cohort size	0	36	36
	%	0%	100%	100%
6	Cohort size	0	31	31
	%	0%	100%	100%
Total	Cohort size	9	158	167
	%	5.39%	94.61%	100%

Tabel 13. Chi-squared test 5

	Value	df	p
X^2	14.87	5	0.01
N	167		

The statistical analysis conducted yielded a χ^2 value of 14.86 with 5 degrees of freedom (df=5), which was statistically significant at a level close to the boundary of the accepted significance level (p=0.01). This means that based on the results obtained, the hypothesis of a statistically significant relationship between the year of medical studies and the opinion about the conflict between the activities of specialists in folk medicine and medical practice can be accepted. This suggests that the higher the year of medical studies, the stronger the tendency among students to perceive the activities of folk medicine specialists as potentially conflicting with medical practice. These results may indicate that throughout their medical education, students increasingly adopt a more definite stance regarding alternative medicine and emphasize the need to separate the two forms of therapy.

In summary, the following statistically significant relationships were identified:

1. **The relationship between the year of study and knowledge of the folk method for treating a stye by rubbing it with a gold ring** – this finding indicates that the higher the year of medical study, the greater the likelihood of familiarity with this practice.
2. **The relationship between gender and knowledge of the stye treatment method using a gold ring** – women were more likely than men to report awareness of this folk remedy.
3. **The relationship between the year of medical study and the perception of folk healers' practices as conflicting with professional medical practice** – students in higher years of study were more inclined to perceive the activities of folk medicine specialists as potentially conflicting with evidence-based medical care.

DISCUSSION

FAMILIARITY WITH FOLK MEDICINE METHODS: THE EXAMPLE OF BARLEY (STYE)

The present analysis confirms that knowledge of the folk remedy for stye—rubbing an inflamed meibomian gland with a gold ring rises progressively from first - to sixth year medical students (χ^2 = 13.59; p = 0.02). Comparable year-of-study gradients have been documented in India, where final-year undergraduates understand and critique complementary and alternative medicine (CAM) more readily than their junior colleagues [9]. Similar situation was described in Turkey, where clinical-stage students report higher CAM literacy than pre-clinical peers [10]. These data suggest that greater clinical exposure both acquaints students with patient folklore and equips them with the evidence-based medicine (EBM) skills required to evaluate it.

This study also showed a statistically significant predominance of women in terms of familiarity with folk medicine practices. These differences may stem from the fact that women are generally more interested in traditional healing methods, as confirmed by previous studies [11]. Additionally, findings suggest that women are more likely to turn to alternative methods in the context of preventive health care and the treatment of minor ailments, such as skin infections [12].

No significant relationship was found between knowledge of folk methods—including the use of a gold ring for styes—and students' place of residence. This result is consistent with reports by other authors who point out that widespread Internet access and globalization contribute to the universalization of knowledge about folk medicine, regardless of geographic location [13,14].

USE OF FOLK HEALERS' SERVICES

In the present survey, only 11 % (20/168) of medical students reported having sought help from a healer, herbalist, or other "folk-medicine specialist." Chi-square analysis revealed no association with place of residence or gender. A similarly framed question—focused on an actual visit to a traditional healer rather than general CAM use—was posed by Ameade et al. in Ghana; there, the proportion was more than twice as high (23 %) yet, importantly, it was also independent of sex and students' locality [13]. In a Polish study by Pęgiel-Kamrat and Zarzeczna-Baran nearly two decades ago, more than 25 % of sixth-year students reported experience with "non-medical treatment," but the authors likewise found no significant gender differences [15]. Our figure (11 %) therefore sits below both of these values, a result that likely reflects the ever-stricter evidence-based criteria embraced by younger cohorts and their easier access to EBM literature, which subjects folk practices to rigorous scrutiny. It is worth noting that, despite extensive searches, we were unable to identify additional studies that deal strictly with medical students' use of folk healers' services. This topic remains under-explored and calls for further, in-depth investigation.

FOLK MEDICINE AND THE TREATMENT OF INCURABLE DISEASES

The statistical analysis showed no significant effect of gender on medical students' attitudes toward the use of folk medicine when conventional treatments fail. The absence of differences suggests that both men and women demonstrate a similar level of acceptance of folk methods as complementary therapies in treatment incurables diseases. Consistent findings were reported in studies conducted in other countries, where personal experiences,

cultural beliefs, and prior contact with folk medicine had a stronger influence on attitudes than gender [16,17].

It is worth emphasizing that despite the lack of statistically significant differences, many participants in this study expressed general support for the use of alternative therapies in difficult-to-treat illnesses. Similar results were observed in studies conducted in the Australia and Germany, where medical students declared openness to complementary therapies as adjuncts to conventional treatment, especially in situations where no effective standard treatment exists [18,19]. Moreover, in a publication by Australian authors, first-year medical students expressed support for the use of alternative medicine not only in cases of incurable diseases but also indicated a willingness to participate in courses on non-conventional medicine offered at the university [19].

There may be two main reasons for the above phenomenon. Firstly, medical students, despite their scientific education, may recognize the limitations of conventional medicine, especially in managing chronic, incurable, or poorly understood diseases. This pragmatic approach reflects openness to integrative methods in situations where standard therapies do not provide satisfactory results, aiming to improve patients' quality of life or alleviate symptoms. Secondly, sociocultural factors play a significant role. Complementary and alternative therapies are often deeply rooted in cultural traditions and are perceived by some as safe and natural supplements to conventional care. Even within an evidence-based medical education environment, students may appreciate the psychosocial and cultural significance of these therapies for patients, which justifies their complementary use despite limited empirical evidence.

POSSESSION OF AMULETS AND TALISMANS

Statistical analysis did not reveal any significant relationship between place of residence and their declaration of possession amulets, talismans, or other objects believed to bring luck or protect against illness. One possible explanation for the lack of significant association is that belief in amulets and talismans may be more dependent on cultural, familial, or personal beliefs rather than the place of residence. Literature suggests (as previously mentioned in the discussion regarding other questions) that superstitions and magical practices are present across various social groups, regardless of the level of urbanization [20,21]. However, it is worth noting that despite the absence of a statistically significant relationship, the highest percentage of individuals declaring possession of amulets came from cities with over 300,000 inhabitants (13.79%) and rural areas (13.73%). In contrast, the percentage was only 5.88% among those from cities with 100,000 to 300,000 inhabitants, and there were no such cases recorded in the smallest cities (<100,000 inhabitants). This may suggest the presence of certain tendencies that, however, require further research with a larger participant group.

CONFLICT BETWEEN FOLK HEALERS AND MEDICAL PRACTICE

The results of the statistical analysis indicate a significant relationship between the year of medical studies and the perception of folk medicine specialists as potentially conflicting with medical practice. In particular, it was observed that students in higher years of study (years 4–6) are more likely to perceive the activities of folk healers and traditional medicine practitioners as hindering their future medical practice. This finding aligns with previous studies showing that as medical education progresses, students adopt a more skeptical and scientific approach toward unconventional medicine [21,22].

The literature highlights that medical students in the early stages of their education may have more open and less defined views on alternative medicine, which may result from their limited clinical experience [14]. However, as their studies progress and they gain practical skills, students are more likely to reject approaches that lack scientific evidence, emphasizing the importance of evidence-based medicine (EBM) [22]. On the other hand, a study conducted among Polish physicians revealed that senior doctors demonstrated a more positive attitude toward complementary and alternative medicine (CAM) compared to younger doctors, who were more skeptical or uncertain about the value of CAM [23].

From a practical standpoint, the obtained results indicate the need for further education of students regarding the consequences of using folk medicine methods, including their potential impact on conventional therapy effectiveness, pharmacological interactions, and the risks associated with patients abandoning conventional treatment [24,25]. Introducing educational modules dedicated to the critical analysis of alternative therapies could help students better understand this issue and develop a well-founded stance [26].

CONCLUSIONS

1. A higher year of study is associated with greater awareness of folk medicine methods, which may result from both the deepening of medical knowledge and an increasing interest in the cultural aspects of healing. This finding aligns with observations from other countries, including India and USA.
2. Women report familiarity with folk medicine methods more frequently than men, which is also supported by international studies indicating their greater interest in alternative treatments, especially in the context of prevention and mild ailments.
3. Place of residence does not significantly influence knowledge of folk medicine methods or the possession of

amulets, which may indicate a growing homogenization of health attitudes in the era of globalization and widespread internet access. This suggests that knowledge of folk beliefs and practices is widely accessible regardless of geographic background.

4. No significant differences were observed between genders or places of residence regarding the declared use of folk healers' services, which may result from medical education fostering a more critical approach to methods not supported by scientific evidence.
5. Both women and men exhibit similar levels of acceptance toward the use of folk medicine in cases where conventional treatment fails, a finding corroborated by studies from the USA and Turkey. This indicates that alternative therapies may be considered complementary rather than competitive to conventional medicine.
6. Medical students in higher years of study are more likely to perceive the activities of folk healers as potentially conflicting with medical practice, suggesting that with advancing education, there is an increased adherence to evidence-based medicine (EBM) and skepticism toward unverified methods.

THE MOST IMPORTANT PRACTICAL IMPLICATIONS OF THE STUDY ON MEDICAL EDUCATION:

The findings highlight the importance of integrating cultural competence training into medical education, particularly focusing on awareness and sensitivity to folk health beliefs. Such integration can enhance students' ability to effectively engage with patients from diverse cultural backgrounds who may hold traditional beliefs. Additionally, since skepticism toward folk remedies tends to increase as students advance in their studies, it is advisable to introduce critical appraisal skills and evidence-based thinking early in the curriculum. This approach helps students distinguish anecdotal practices from scientifically supported medicine from the outset. In terms of clinical communication, future physicians should be trained in strategies that allow them to respectfully acknowledge patients' beliefs while gently correcting misinformation, avoiding alienation.

Medical education should also address the potential risks associated with folk practices, such as delays in seeking appropriate medical care or harmful drug interactions, with particular emphasis in modules on public health, pharmacology, and ethics. Finally, exposure to common folk beliefs during training can encourage students' reflective practice regarding their own biases and assumptions, thereby strengthening professionalism and empathy in patient care.

STUDY LIMITATIONS

While the study followed a structured methodology, several important limitations must be acknowledged, as they affect the interpretation and generalizability of the findings:

1. Single-institution sample: The study was conducted exclusively among students from the Jagiellonian University Medical College in Krakow, Poland. As such, the results may not be representative of the broader population of medical students in Poland or internationally.
2. Reliance on self-reported data: All responses were based on participants' self-assessment, which introduces the risk of social desirability bias, recall bias, or subjective interpretation of the questions, particularly regarding personal beliefs and attitudes toward folk medicine.
3. Lack of behavioral validation: The study assessed declared knowledge and attitudes, but did not verify whether participants had actually engaged in the use of folk medicine or encountered such practices in clinical settings. Therefore, the results reflect perceptions rather than confirmed behaviors.

Future research should consider including a more diverse sample across multiple institutions, employ mixed-method approaches (e.g., interviews or behavioral observation), and attempt to validate self-reported data with objective measures where feasible.

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CONFLICT OF INTERESTS

The authors declare no conflict of interest

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