

Perception of undergraduate medical students on the use of integrative and complementary practices

Percepção dos estudantes de graduação em medicina sobre o uso de práticas integrativas e complementares

Letícia de Alcântara Pereira¹, Victória Prochmann Piasecki², Alexandra Czepula³, Hudson Prestes dos Santos⁴, Fabrício Mulinari de L. Pessoa⁵

Pereira LA, Piasecki VP, Czepula A, Santos HP, Pessoa FML. *Perception of undergraduate medical students on the use of integrative and complementary practices / Percepção dos estudantes de graduação em medicina sobre o uso de práticas integrativas e complementares*. Rev Med (São Paulo). 2024 Mar-Apr;103(2):e-198717.

ABSTRACT: Introduction: The increasing use unconventional methods that provide holistic patient care is a global phenomenon. Data from the World Health Organization (WHO) reveal that around 80% of the population in developing countries uses Complementary and Alternative Medicine (CAM). In Brazil, many of these practices are recognized by the National Health Surveillance Agency (Anvisa) as an integral part of the therapeutic plan for different conditions. According to the Ministry of Health, 29 of them are official and can be available to population. These facts demonstrate the importance of medical undergraduate students to qualify their knowledge, in order to have the ability to ensure comprehensive care to their future patients. **Objective:** To verify the knowledge of undergraduate medical students at a private college in Curitiba/PR about the use of Integrative and Complementary Practices in the health area and to know their personal perception about the importance of addressing this topic in undergraduate courses. **Method:** Study is quantitative and descriptive, was carried out through the application of a semi-structured questionnaire via Google Forms with students of the undergraduate course in Medicine of a private higher education institution in Curitiba/PR. **Results:** A total of 212 responses were obtained, from which it is possible to infer that students consider their knowledge of complementary therapies insufficient, since only 2% of participants thought they were able to guide their future patients regarding the use of alternative therapies. Despite this, 93.4% of them show interest in formally learning the theoretical bases of the subject. **Conclusion:** It is essential that general doctors have basic knowledge about alternative treatment modalities, both to develop a humanized doctor-patient relationship and to ensure safety in their therapeutic decisions. Thus, by acquiring scientific information and identifying possible side effects and drug interactions of these therapies, medical care becomes more qualified and comprehensive.

KEY WORDS: Complementary Therapies; Medical Education; Undergraduate Medical Education.

RESUMO: Introdução: O crescente uso de métodos não convencionais que proporcionam um cuidado holístico do paciente é um fenômeno global. Dados da Organização Mundial da Saúde (OMS) revelam que cerca de 80% da população dos países em desenvolvimento faz uso de Medicina Tradicional e Complementar (CAM). No Brasil muitas destas práticas são reconhecidas pela Agência Nacional de Vigilância Sanitária (Anvisa) como parte integrante do plano terapêutico de condições diversas. Segundo o Ministério da Saúde, 29 delas são oficializadas e passíveis de serem disponibilizadas à população. Tais fatos demonstram a importância dos acadêmicos do curso de graduação em Medicina serem qualificados no tema, objetivando a capacidade de garantir a assistência integral aos seus futuros pacientes. **Objetivo:** Verificar o conhecimento dos estudantes do curso de graduação em Medicina de uma faculdade particular de Curitiba/PR sobre o uso de Práticas Integrativas e Complementares na área de saúde e conhecer a percepção pessoal destes sobre a importância da abordagem do tema na graduação. **Método:** Estudo de natureza quantitativa de cunho descritivo realizado por meio da aplicação de um questionário semiestruturado via Google Formulários com estudantes do curso de graduação em Medicina de uma instituição particular de ensino superior de Curitiba/PR. **Resultados:** Foram obtidas 212 respostas, nas quais observou-se que os estudantes consideram seu conhecimento sobre as terapias complementares insuficiente, uma vez que somente 2% dos participantes julgaram-se capazes de orientar seus futuros pacientes em relação ao uso de terapias alternativas. Entretanto, 93,4% deles demonstram interesse em aprender formalmente sobre o tema. **Conclusão:** É essencial que o médico generalista tenha conhecimentos básicos sobre as modalidades alternativas de tratamentos, tanto para desenvolver uma relação médico-paciente humanizada, quanto para garantir a segurança nas suas decisões terapêuticas. Ao adquirir informações científicas e identificar possíveis efeitos colaterais e interações medicamentosas dessas terapias, a assistência médica se torna mais qualificada e integral.

PALAVRAS-CHAVE: Terapias Complementares; Educação Médica; Educação de Graduação em Medicina.

1. Faculdades Pequeno Príncipe, Curso de Graduação em Medicina. ORCID: <https://orcid.org/0000-0003-3816-8565>. E-mail: leticia_alpereira@hotmail.com.
2. Faculdades Pequeno Príncipe, Curso de Graduação em Medicina. ORCID: <https://orcid.org/0000-0002-7776-2383>. E-mail: victoriaprochmann@gmail.com.
3. Faculdades Pequeno Príncipe, Curso de Graduação em Medicina. ORCID: <https://orcid.org/0000-0003-1622-997X>. E-mail: aleczepula@gmail.com.
4. Faculdades Pequeno Príncipe, Curso de Graduação em Medicina. ORCID: <https://orcid.org/0000-0001-9014-4590>. E-mail: hudson.santos@fpp.edu.br.
5. Faculdades Pequeno Príncipe, Curso de Graduação em Medicina. ORCID: <https://orcid.org/0000-0001-6150-2643>. E-mail: famulape@gmail.com.

Endereço para correspondência: Letícia de Alcântara Pereira. Rua Petit Carneiro, 161. Bairro: Água Verde – Curitiba – PR – Brasil. CEP 80240-050. E-mail: leticia_alpereira@hotmail.com.

INTRODUCTION

Traditional and Complementary Medicine therapies aim for holistic well-being and embrace an approach towards individual health concerns^{1,2}. These therapies are prescribed together with (a.e adjunctive) or primary treatments for various clinical conditions.³ This approach strives to mitigate the excessive and unnecessary prescription of traditional drugs, while empowering patients towards liberty and decision on their own treatment^{1,4}.

The basis of non-traditional medicine lies within Eastern philosophy. Chinese practices notably emerged as the first of many holistic healing modalities^{1,2}. Additionally, therapies like Acupuncture, Homeopathy, Phytotherapy, and Meditation are widely used by laymen².

Over recent decades, there has been an increase in global interest in complementary medicine, driven by a desire for comprehensive healing and body balance, not solely symptom management^{4,5,6}.

WHO has identified several factors contributing to the elevating alternative medicine clinical establishments, including the rise in chronic conditions, escalating healthcare costs, high medical error and adverse reactions associated with regular treatments. Furthermore, a great appreciation for holistic approaches that prioritize prevention and overall well-being is noticeable^{4,6,7}.

A study published in Brazil revealed that people with higher education levels are becoming the primary users of these therapies⁶. Also, the most prevalent symptoms prompting their usage are muscle pain and mood disorders. Participants in research studies correlate the effectiveness of treatment with the “inside-out” approach of these therapies, which focuses on treating the root cause of a health issue and emphasizes holistic healing by considering the interconnectedness of the body, mind, and spirit⁷.

The widespread use of alternative therapies became noticeable after the 1970s with the First International Conference on Primary Health Care. There, initial recommendations for other medical approaches were mentioned⁸. In Brazil, legal deliberations began in 1986 during the Eighth National Health Conference, even though these practices had already been propagated by medically-uneducated brazilians⁸. Notably, Homeopathy was introduced and recognized as a medical specialty as early as 1840⁹. National health related events served as propaganda to integrative practices within the Brazilian public health system⁵. This promoted their nationwide implementation. Additionally, Brazilians played a pioneering role in classifying Integrative and Complementary Practices, separating Traditional Medicine, Alternative Medicine, and Complementary Medicine⁴.

By the 2000s, alternative treatment had already gained notoriety in several Health Units across the central regions of the country. This trend further expanded in subsequent years with the establishment of the National Policy of Interactive and Complementary Practices. Thus, turning all 29 Interactive and Complementary Practices (as outlined by the Ministry of Health), available free of charge^{2,5}.

In spite of public guiding documents, integration of alternative therapies into public health practices remains

challenging. One notable obstacle is the absence of a unified protocol for their application. Thereby subjecting their technical application to the decision of municipal health-related authorities¹⁰.

Severe lack of technical knowledge among medical professionals regarding complementary medicine persists, despite these practices undeniably being a significant aspect of patients’ everyday lives^{11,12}. This problem originates from non-existent, elective or insufficient undergraduate courses on the topic, which encourages the production of research about it^{11,12}.

Taking this under consideration, this current study aims to assess the familiarity of undergraduate Medicine students at a private university in Curitiba/PR with Integrative and Complementary Practices in healthcare. Additionally, it seeks to understand these students’ personal perspectives regarding the significance of integrating such practices into their academic curriculum.

METHODS

This paper is quantitative and cross-sectional. The target population for this research consisted of regular and volunteer students from an undergraduate Medicine program at a University in Curitiba, State of Paraná, Brazil. Questioning was conducted during the second semester of 2020, with 212 students ranging from the 1st to 8th semester, with an average age of 20 years.

Students in the final two years of medical school were excluded from the sample due to no access for data collection - In Brazil, the last four semesters of medical school, students engage in clinical rotations in hospitals, health clinics, family practice centers and others, meaning they mainly participate in off-campus activities. Due to the COVID-19 pandemic, an online questionnaire was applied.

Data collection was carried out through a questionnaire consisting of 17 questions (see Annex 1), using Google Forms sent online to the students. Response time averaged five minutes.

Results were compiled into a spreadsheet. Participants’ social and demographic information such as gender, age, and semester, along with other answers, were included in the final statistics. Variables used in this study underwent descriptive statistical analysis. Data organization was performed using Sphinx Léxica version 5.1.0.8 software for both quantitative and qualitative results.

Collection was anonymous; identification was not linked to questionnaire score results or their evaluation. All questioned signed an Informed Consent Form. Data collection was approved by the Institution’s Research Ethics Committee with CAAE: 34536920.5.0000.5580.

RESULTS

212 responses were obtained from a total of 392 students that met the research inclusion criteria, representing 54% of the target population. 182 (86%) were female and 30 (14%) were male. Regarding their medical school semester: 21 (9.9%) were in the first, 23 (10.8%) in the second, 27 (12.7%) in the third, 31 (14.6%) in the fourth, 22 (10, 4%) from the fifth, 30 (14.2%)

from the sixth, 35 (16.5%) from the seventh and 23 (10.8%) from the eighth. It's worth noting that responses were well distributed but unequal: the fourth and seventh semesters had the highest participation rates, while the first had the lowest.

The first question was about knowledge regarding the definition of Integrative and Complementary Practices. Results show that 38.7% of participants didn't know the answer.

Subsequently, participants were questioned using a multiple-choice question about which of the 29 practices

available by the Brazilian public health system (SUS) they were aware of. Among them, Meditation and Acupuncture were the most mentioned (199 and 195 responses respectively). The least mentioned was Anthroposophical Medicine, with only 5 answers. Furthermore, almost all students reported having used some alternative therapy (80%) or knowing someone who has done so (94%). Among the most mentioned are Meditation and Yoga. Data information obtained through the aforementioned questions was summarized in Table 1.

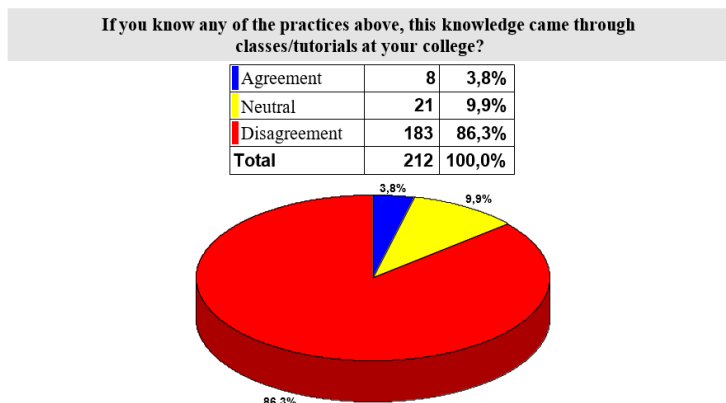
Table 1 - Data information obtained through the aforementioned questions was summarized

Traditional and Complementary Medicine therapies	I Know	Already used	Know someone who already used
Acupuncture	92,0% (195)	24,5% (52)	49,5% (105)
Apitherapy	4,2% (9)	-	0,9% (2)
Aromatherapy	81,1% (172)	20,7% (44)	22,6% (48)
Art therapy	18,8% (40)	0,9% (2)	2,8% (6)
Biodanza	5,6% (12)	-	0,4% (1)
Bioenergetics	10,8% (23)	0,9% (2)	0,4 (1)
Family Constellation	40,0% (85)	6,1% (13)	16,9% (36)
Chromotherapy	37,2% (79)	2,8% (6)	2,4% (5)
Circular Dance	6,1% (13)	-	1,9% (4)
Phytotherapy	72,6% (154)	12,7% (27)	17,9% (38)
Geotherapy	4,2% (9)	-	-
Hypnotherapy	52,8% (112)	2,4% (5)	4,2% (9)
Homeopathy	82,0% (174)	21,7% (46)	28,7% (61)
Imposition of Hands	23,6% (50)	3,8% (8)	6,6% (14)
Anthroposophical Medicine	2,4% (5)	-	-
Ayurvedic Medicine	22,6% (48)	3,3% (7)	7,0% (15)
Meditation	93,8% (199)	40,1% (85)	44,3% (94)
Musictherapy	67,4% (143)	1,4% (3)	7,0% (15)
Naturopathy	6,1% (13)	-	-
Osteopathy	28,3% (60)	4,2% (9)	4,7% (10)
Ozone Therapy	51,9% (110)	1,9% (4)	6,1% (13)
Chiropratic	79,7% (169)	9,9% (21)	23,1% (49)
Reflex Therapy	12,2% (26)	0,9% (2)	2,8% (6)
Reiki	60,3% (128)	15,5% (33)	32,1% (68)
Shantala	6,6% (14)	0,5% (1)	0,4% (1)
Integrative Community Therapy	14,6% (31)	-	0,9% (2)
Flower Therapy	66,5% (141)	17,4% (37)	23,1% (49)
Thermalism/Crenotherapy	4,2% (9)	-	-
Yoga	90,6% (192)	25% (53)	47,1% (100)

Source: authors

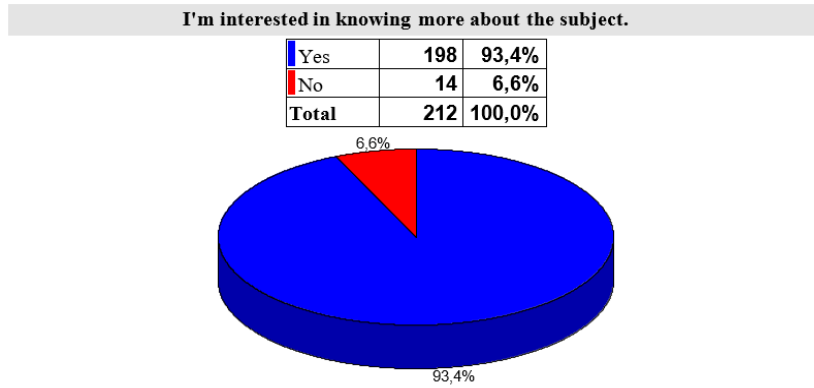
The students were also asked about their approach to the subject in their undergraduate courses. 86% of respondents denied there were any available classes as illustrated in Graph

1. In spite of this, the majority (93.4%) demonstrated significant interest in learning more on the topic (Graph 2).



Source: authors

Graph 1 - Students' assessment of the influence of college on their knowledge about CAM

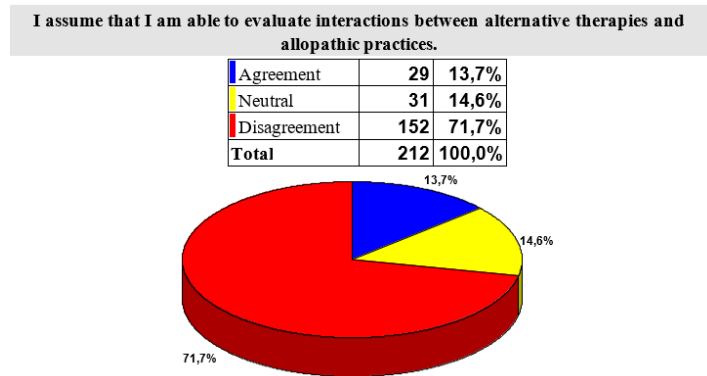


Source: authors

Graph 2 - Students' interest in acquiring more knowledge about PICs

Regarding technical knowledge on alternative therapies in medical practice, students demonstrated little to no skill set. 2% of participants answered being able to give precise orientation to patients regarding the use of alternative therapies.

13.7% of students answered having the proper knowledge to evaluate interactions between these practices and allopathic therapies (Graph 3).

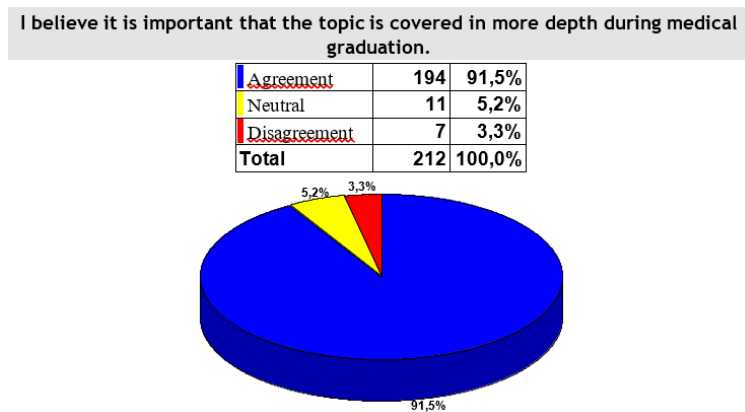


Source: authors

Graph 3 - Students' opinions on their ability to evaluate interactions between alternative therapies and allopathic practices.

Students demonstrated the desire and importance of these topics being addressed and discussed in the academic environment. 91.5% of respondents deem it crucial to incorporate these subjects into pre-graduate curricula (Graph 4).

This is consistent with the other responses obtained, given that it demonstrates participants' lack of knowledge in alternative therapies.



Source: Authors

Graph 4 - Students' point of view on the importance of delving deeper into the topic during graduation.

DISCUSSION

From the data obtained by the survey, it was observed that students' interest in the subject is considerable, given that participation (which was voluntary) surpassed half of the summoned audience. Noticeable greater participation of female students (86%) compared to males (14%) was obtained. This is attributed to the higher proportion of female students admitted to this medical school. This could skewer or bias the results^{11,13}.

Another point that corroborates the importance of this paper's scopus is that 80% of the students questioned said they had already used some alternative therapy and 94% knew someone who had already done so, which is in line with WHO statistics^{5,6}. Further worry in Brazil, where most natural methods are over the counter, thus, there is no need for a medical prescription, thus are easily accessible¹⁴.

No medical specialty is free from, at some point in their clinical or surgical practice, being faced with the need to evaluate interactions between these and allopathic medicines or even provide guidance on the topic¹⁵.

One widespread treatment that could be used as an example to corroborate this is the prescription of *Hypericum perforatum*, popularly known as St. John's wort, in the treatment of psychiatric disorders. This herb interferes with serum levels of several drugs, which may result in unsatisfactory therapies when used concomitantly. In addition to the serious possibility of generating Serotonin Syndrome when used simultaneously with conventional SSRIs¹⁵.

Furthermore, literature shows that patients who use alternative methods together with conventional treatments find it frustrating not to receive guidance and orientation from their practitioners¹⁵.

Data published, along with results found in this paper, confirms that the vast majority of students do not feel capable on advising on the use of most alternative medicine. They are unable to recommend them or evaluate their interactions with conventional prescriptions. As a result, they recognize the significance of integrating discussions on this topic into the graduation curriculum. Furthermore, it is noticed that not having quality information about unconventional medicine means being at a disadvantage in the profession and in patient care¹⁶.

Research found that students who had prior information about CAMs, did not acquire them through curricular activities.

Lack of trained professionals in the use of complementary methods, together with the low acceptance of these practices by the medical profession, are the main obstacles to adaptation of medical education curriculum^{17,18,19}. The author's survey reveals that most students (89%) agree with the previously mentioned discussion.

Another argument raised in scientific publications is the insufficient academic search for evidence-based medicine, when it comes to CAMs. Considering that these therapeutic interventions are complex, it is a challenge to publish and apply standardized treatment methods considering all individual variables. Thus, requiring publications and algorithms that support the multidisciplinary approach of these techniques and that standardize them. One could argue that new conventional therapies, before being implemented, also face the same problems related to high-quality scientific evidence, a process that is long and bureaucratic²⁰.

Therefore, given that technical-scientific knowledge is constantly being published, the medical undergraduate curriculum in Brazil must be subjected to such updates. Few Brazilian medical schools include CAMs in their curricular guidelines, and those few do so electively. It was observed in this research that the students interviewed recognize the lack of the subject in their preparation and that the vast majority (93%) would like to have access to more knowledge in this area. All these factors support the argument of teaching these subjects to medical students, supported by adequate guidance with evidence-based medicine¹⁶⁻²².

CONCLUSION

In the last decade, the world population's demand for non-conventional health practices has increased substantially. This demands doctors to grasp the fundamentals of various therapies. The research indicates that undergraduate Medicine students possess limited theoretical knowledge on the subject, which is not sourced from academic materials. Despite this, it was clear that students recognize such lack of knowledge as an obstacle to their future medical practice and show interest in formally learning the basic fundamentals of alternative medicine. Therefore, it is essential that medical graduation provide support for the development and generalist training that include holistic care.

Authors contribution: **Leticia de Alcântara Pereira e Victória Prochmann Piasecki** – were responsible for the following procedures: conceptualization of the work, data curation, formal analysis, investigation, methodology and writing (original draft, review and editing). **Alexandra Czepula** – guided all stages and participated in writing the article. **Hudson Prestes dos Santos** – carried out the statistical analyzes of the work and guided this stage. **Fabrcio Mulinari de L. Pessoa** – translated the article into English.

Conflicts of interest: The authors declare that there is no conflict of interest in this study.

ANNEX 1

QUESTIONNAIRE MODEL

Gender:

() Female

Male

Age: _____

Which semester are you currently in?

1st

2nd

3rd

4th

5th

6th

()

8th

7th

Are you familiar with the definition of Integrative and Complementary Practices (ICPs)?

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

Considering the following Integrative and Complementary Practices (ICPs), which ones are you familiar with?

Apitherapy

Ayurvedic Medicine

Bioenergetics

Geotherapy

Healing Touch

Meditation

Osteopathy

Chiropractic

Shantala

Balneotherapy/Crenotherapy

Aromatherapy

Biodanza

Family Constellation

Hypnotherapy

Anthroposophic Medicine

Music Therapy

Ozonotherapy

Reflexology

Integrative Community Therapy

Yoga

Art Therapy

Circle Dance

Chromotherapy

Homeopathy

Traditional Chinese Medicine (Acupuncture)

Naturopathy

Herbal Medicine

Reiki

Flower Therapy

If you are familiar with any of the above practices, did this knowledge come from classes/tutorials in your college?

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

Have you ever used any Integrative and Complementary Practice (ICP)?

Yes

No

If yes, which one(s)?

Do you know anyone who has used any of these practices?

Yes

No

If yes, who?

Has the topic of Integrative and Complementary Practices been addressed in any activity/class in your college?

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

Do you think the Unified Health System (SUS) offers any Integrative and Complementary Practices (ICPs) to its users?

Yes

No

I believe I am capable of guiding patients on the use of Integrative and Complementary Practices (ICPs).

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

I feel confident to recommend or prescribe the use of alternative therapies to my future patients.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

I believe I am capable of assessing interactions between alternative therapies and allopathic practices.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

I consider it important for the topic to be addressed more thoroughly in the Medicine curriculum.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

I am interested in learning more about the subject.

Yes

No

I judge the following statement to be true: the lack of trained and confident professionals in the use of complementary methods and the low acceptance of these practices by the medical community hinder the implementation of this subject in curricula.

Strongly agree

- () Somewhat agree
 () Neither agree nor disagree
 () Somewhat disagree
 () Strongly disagree

Source: Authors

REFERENCES

1. Contatore OA, Barros NF de, Durval MR, Barrio PCC da C, Coutinho BD, Santos JA, et al. Uso, cuidado e política das práticas integrativas e complementares na Atenção Primária à Saúde. *Ciênc saúde coletiva* [Internet]. 2015;20(10):3263-73. Doi: <https://doi.org/10.1590/1413-812320152010.00312015>
2. Ministério da Saúde (BR). Práticas Interativas e Complementares (PICS): quais são e para que servem [Internet]. [Brasília]: Ministério da Saúde (BR); 2019. <https://antigo.saude.gov.br/saude-de-a-z/praticas-integrativas-e-complementares>
3. Ribeiro G. SBMFC entrevista Lucas Gaspar Ribeiro: vamos falar sobre PICS [Internet]. [Brasília]: Sociedade Brasileira de Medicina da Família e Comunidade; 2018. <https://www.sbmfc.org.br/noticias/sbmfc-entrevista-lucas-gaspar-ribeiro-vamos-falar-sobre-pics/>
4. Tesser CD, Dallegrave D. Práticas integrativas e complementares e medicalização social: indefinições, riscos e potências na atenção primária à saúde. *Cad Saúde Pública* [Internet]. 2020;36(9):e00231519. Doi: <https://doi.org/10.1590/0102-311X00231519>
5. Telesi Júnior E. Práticas integrativas e complementares em saúde, uma nova eficácia para o SUS. *Estud Av.* [Internet]. 2016;30(86):99-112. Doi: <https://doi.org/10.1590/S0103-40142016.00100007>
6. Boing AC, Santiago P HR, Tesser C, Furlan IL, Bertoldi AD, Boing AF. Prevalence and associated factors with integrative and complementary practices use in Brazil. *Compl Ther Clin Pract.* 2019;37:1-5. Doi:10.1016/j.ctcp.2019.07.009
7. Faqueti A, Tesser C. (2018). Utilização de Medicinas Alternativas e Complementares na atenção primária à saúde de Florianópolis/SC, Brasil: percepção de usuários. *Ciênc Saúde Colet.* 2018;23:2621-30. Doi: <https://doi.org/10.1590/1413-81232018238.22012016>
8. International Conference on Primary Health Care (1978: Alma Ata, URSS). report of the international Conference on Primary Health Care jointly sponsored by the World Health organization and the united nations organization and United nations Children s Fund, Geneva], WHO, 1978.
9. Ministério da Saúde (BR). Dia Nacional da Homeopatia [Internet]. [Brasília]: Ministério da Saúde (BR); 2023 [cited 2024 Jan 10]. <https://bvsmms.saude.gov.br/21-11-dia-nacional-da-homeopatia-2/>
10. Tesser CD. Práticas integrativas e complementares e racionalidades médicas no SUS e na atenção primária à saúde: possibilidades estratégicas de expansão. *J Manag Prim Health Care* [Internet]. 2018;8(2):216-32. <https://www.jmphc.com.br/jmphc/article/view/528>
11. Silveira JC. Atitudes de estudantes de medicina frente às terapias alternativas e complementares. *Rev Med Saude Br.* 2019;138(8):25-44.
12. Christensen MC, Barros NF. Medicinas alternativas e complementares no ensino médico: revisão sistemática. *Rev Bras Educ Med.* 2010;34(1):97-105.
13. Feitosa MHA, Soares II, Borges GA, Andrade MM, Costa SM. Inserção do conteúdo fitoterapia em cursos da área de saúde. *Rev Bras Educ Med.* 2016;40(2):197-203.
14. Nicácio RAR, Pinto GF, Oliveira FRA de, Santos DA da S, Matos M de, Goulart LS. Potenciais interações entre medicamentos alopáticos e fitoterápicos/ plantas medicinais no Município de Rondonópolis – MT. *cmbio* [Internet]. 2020;19(3):417-22. <https://periodicos.ufba.br/index.php/cmbio/article/view/33253>
15. Cordeiro CHG, Chung MC, Sacramento LVS. Interações medicamentosas de fitoterápicos e fármacos: *Hypericum perforatum* e *Piper methysticum*. *Rev Bras Farmacol.* 2005;15(3):272-8.
16. Teixeira MZ, Lin CA. Educação médica em terapêuticas não convencionais. *Ver Med.* 2013;92(4):224. Doi: <https://doi.org/10.11606/issn.1679-9836.v92i4p224-235>
17. Christensen MC, Barros NF. Medicinas alternativas e complementares no ensino médico: revisão sistemática. *Rev Bras Educ Med.* 2010;34(1):97-105.
18. Kulkamp IC, Burin GD, Souza MHM, Silva P, Piovezan AP. Aceitação de práticas não-convencionais em saúde por estudantes de medicina da Universidade do Sul de Santa Catarina. *Rev Bras Educ Med.* 2007;31(3):229-35.
19. Jessé ARB, Gurgel LGD, Silva DMA, Alencar PSL, Jordán APW, Daniel NAA. Práticas integrativas e complementares: interesse da comunidade acadêmica e os desafios do ensino médico [Internet]. Faculdade Pernambucana de Saúde; 2020. <http://tcc.fps.edu.br:80/jspui/handle/fpsrepo/907>.
20. Colalto C. What phytotherapy needs: evidence-based guidelines for better clinical practice. *Phytother Res.* 2017;32(3):413-25.
21. Albuquerque LVC, Lima JWO, Silva ABG, Correia ICM, Maia LROG, Bessa MC, et al. Complementary and alternative medicine teaching: evaluation of the teaching-learning process of integrative practices in Brazilian medical schools. *Rev Bras Educ Med.* 2019;43(4):109-16.
22. Joyce P, Wardle J, Zaslowski C. Medical student attitudes towards complementary and alternative medicine (CAM) in medical education: a critical review. *J Complement Integr Med.* 2016;13(4).

Received: 2022, June 14

Accepted: 2024, Mayo 06