

# Use of integrative and complementary practices and the quality of life of undergraduate nursing students\*

Uso de práticas integrativas e complementares e qualidade de vida de graduandos em enfermagem

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#### **ABSTRACT**

Objective: to evaluate the use of integrative and complementary practices and their association with the quality of life of nursing students. **Methods:** a cross-sectional study conducted with nursing students. A sociodemographic/clinical-therapeutic questionnaire and the WHOQOL-Bref instrument were used. The data were analyzed using descriptive statistics, with Levene's Test used to assess the Equality of Variances and the Student's t-test applied to compare the mean scores of the quality of life domains between the groups. **Results:** 73 students participated; among them, those who engaged in integrative and complementary practices reported improvements from their use and expressed a willingness to recommend them to others. The most used therapies were homeopathy, flower essence therapy, meditation, yoga, music therapy, and reiki. Regarding quality of life, when comparing the groups, students who engaged in integrative practices had higher mean scores in all domains compared to those who did not. Conclusion: few undergraduate students were familiar with and made use of integrative and complementary practices, and the quality of life of those who engaged in these practices was better compared to those who did not. Contributions to practice: the results may provide insights for strengthening the benefits of using integrative practices in this academic contexto.

**Descriptors**: Students, Nursing; Complementary Therapies; Quality of Life; Nursing.

## RESUMO

Objetivo: avaliar o uso de práticas integrativas e complementares e associar com a qualidade de vida de estudantes de enfermagem. Métodos: estudo transversal, realizado com acadêmicos de enfermagem. Utilizou-se um questionário sociodemográfico/clínico-terapêutico e o WHOQOL-Bref para avaliar a qualidade de vida. Os dados foram examinados por meio de estatísticas descritivas, empregando-se o Teste de Levene para Igualdade de Variâncias e o Teste t de Student para averiguar a diferença das médias dos domínios de qualidade de vida entre os grupos. Resultados: participaram 73 estudantes; destes, os que realizavam alguma prática integrativa e complementar notaram melhorias com o uso e recomendariam a outras pessoas. As terapias mais utilizadas foram homeopatia, florais, meditação, yoga, musicoterapia e reiki. Quanto à qualidade de vida, na comparação entre os grupos, os estudantes que utilizam alguma prática integrativa apresentaram melhores médias para todos os domínios do que os que não utilizavam. Conclusão: poucos acadêmicos conheciam e usavam práticas integrativas e complementares e a qualidade de vida daqueles que utilizavam as práticas foi melhor, se comparados com aqueles que não as usavam. Contribuições para a prática: os resultados podem oferecer subsídios para o fortalecimento dos benefícios do uso das práticas integrativas nesse cenário acadêmico.

**Descritores:** Estudantes de Enfermagem; Terapias Complementares; Qualidade de Vida; Enfermagem.

## Introduction

Quality of life is a multidimensional concept that encompasses various aspects of a person's well-being, including physical, psychological, emotional, social, and spiritual health. According to the World Health Organization, it refers to an individual's perception of their role in society within the various contexts in which they live, and is also linked to their sense of purpose, perspectives, patterns, and goals<sup>(1)</sup>. In other words, quality of life is closely tied to the sense of satisfaction and comfort experienced by an individual on a daily basis.

Healthcare students, particularly those in nursing, face numerous challenges from the moment they enter university until graduation, dedicating years to acquiring both theoretical and practical skills in simulation labs and real-life clinical settings. The constant pressure to become qualified professionals can lead to psychological disorders, such as anxiety and depression, as well as physical health issues, like cardiovascular diseases, factors that may ultimately contribute to a decline in their quality of life<sup>(2-3)</sup>.

In the academic environment, physical and mental distress has increased, particularly after the pandemic, along with the various adjustments students had to make, both when entering the period of social isolation and later, when returning to in-person activities. The incidence of anxiety and depression among university students has increased, often due to the constant stress from an overload of tasks, such as assignments, exams, internships, and the challenges posed by social interactions and the academic environment, leaving students feeling overwhelmed and unable to manage these demands<sup>(4)</sup>.

Currently, there has been a shift away from the biomedical model, a return to the ancient and millennia-old view of holistic care for the human being. The healthcare system has recognized the need and importance of implementing an integrative approach to healthcare in an effective and regulated manner<sup>(5)</sup>.

In 2006, faced with this scenario, the Ministry of Health implemented the National Policy on Integra-

tive and Complementary Practices within the Brazilian Unified Health System, with the aim of optimizing natural health approaches focused on prevention, health promotion, and recovery. Currently, 29 Integrative and Complementary Practices (ICPs) are offered<sup>(6-7)</sup>.

In 2021, the Ministry of Health compiled the most relevant evidence on the health benefits of Integrative and Complementary Practices. For example, auriculotherapy to alleviate occupational fatigue and yoga to reduce the symptoms of burnout syndrome. These and other ICPs can also be used to alleviate acute episodes of stress and anxiety<sup>(7)</sup>.

Considering that mental distress can affect university students' lives, directly impacting their performance, interpersonal relationships, and quality of life, and that ICPs have proven effective as complementary measures, this study aimed to evaluate the use of integrative and complementary practices and their association with the quality of life of nursing students.

#### Methods

This is a cross-sectional study conducted at a public university in the *Triângulo Mineiro* region (a region in the state of Minas Gerais, Brazil), following the guidelines of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) tool.

The study population consisted of undergraduate nursing students who met the following inclusion criteria: being enrolled at the specified educational institution and being 18 years of age or older. There were 284 students enrolled from the first to the tenth semester, who were invited to participate. A convenience sampling method was used, meaning that those who met the inclusion criteria and agreed to participate by completing the questionnaires were included in the study.

Data collection was conducted virtually from September to November 2023 using an online questionnaire created with Google Forms. The link to the questionnaire was shared through WhatsApp groups with students from the first to the tenth semester. Upon accessing the link, students were presented with

the Free and Informed Consent Form, and, by agreeing to participate, they were directed to the study's questionnaires.

The first form included sociodemographic and clinical-therapeutic characteristics, such as age, gender, self-reported skin color, marital status, whether the student worked while studying, monthly family income, current semester, diagnosed conditions and treatments received, including prior or acquired knowledge of Integrative and Complementary Practices (ICPs), and whether the student used any ICPs before the pandemic (prior to March 2020), during the pandemic (March 2020 to March 2022), or after the return to in-person activities at the university (from March 2022 onward), along with the specific practices used.

The World Health Organization Quality of Life - Bref (WHOQOL-Bref) instrument was then presented to assess the participants' quality of life, based on their experiences over the past two weeks. The instrument includes a Portuguese version that has been validated by the WHOQOL society for Brazil, with adequate psychometric properties<sup>(8)</sup>. The scale consists of 26 questions, with responses on a five-point Likert scale. Two general questions focused on participants' self-assessment of their quality of life and satisfaction with their health, while the remaining questions assessed four domains: physical, psychological, social, and environmental. The scores for each domain were transformed to a range of 0 to 100 and reported as means, with higher mean scores indicating a better perception of quality of life. The scale is appropriate for the study population due to its transcultural nature, which values the individual's perspective by assessing quality of life across diverse groups and circumstances. It can be used for both healthy individuals and those with illness(8).

The collected data was entered into an Excel spreadsheet, validated through double data entry, and analyzed using descriptive statistics. Categorical and quantitative variables were analyzed by calculating absolute and relative frequencies. To calculate the quality-of-life domains, the syntax proposed by

the WHOQOL-Bref instrument was applied. Levene's Test was performed to assess the Equality of Variances, and the Student's t-test was used to compare the mean scores of the quality of life domains between the groups of students who currently use and do not use ICPs, with statistical significance set at p<0.05. Data analysis was conducted using SPSS for Windows, version 23.0.

The project was approved by the Research Ethics Committee of the *Universidade Federal do Triângulo Mineiro*, under Certificate of Presentation for Ethical Consideration No. 62432522.5.0000.5154 and under opinion no. 5.824.186/2022.

# Results

Of the 284 undergraduate nursing students enrolled and invited, 75 accessed the Google Forms link, two declined to participate, resulting in 73 (25.7%) being included in the analysis. The mean age was 24.3 years, with a minimum of 18 and a maximum of 53. Most students were women, self-identified as white, single, not working while studying, with a monthly family income of up to three minimum wages, and enrolled in professional courses (from the fifth to the tenth semester), as shown in Table 1.

**Table 1** – Sociodemographic profile of the undergraduate nursing students (n=73). Uberaba, MG, Brazil, 2023

Variables	n (%)
Gender	
Female	62 (84.9)
Male	9 (12.3)
Non-binary	1 (1.4)
Other	1 (1.4)
Self-reported skin color	
White	49 (67.1)
Brown	17 (23.3)
Black	6 (8.2)
Asian	1 (1.4)
Marital status	
Single	63 (86.3)
Married/Stable union	8 (11.0)
Works while studying	
No	63 (86.3)
Yes	10 (13.7)
Current semester	
Basic cycle (1st to 4th semester)	23 (31.6)
Professional cycle (5th to 10th semester)	50 (68.4)

Regarding clinical data, 37.0% of students reported having one or more diagnosed psychological or physical conditions, with the most reported being anxiety (21.9%), depression (11.0%), and hypothyroidism (4.1%), in addition, 31.5% reported undergoing pharmacological treatment.

Regarding prior and acquired knowledge, many students reported an interest in and sought out academic subjects or courses on integrative and complementary practices during or after the pandemic; 38.4% of students were familiar with these practices, but only 27.4% had used any ICP before the pandemic, while 9.5% began practicing them after returning to in-person activities post-pandemic. However, 49.3% reported never having practiced any ICP. Among those who practiced, the majority reported experiencing benefits and stated that they would recommend these practices to others (Table 2).

**Table 2** – Knowledge and use of integrative and complementary practices among undergraduate nursing students (n=73). Uberaba, MG, Brazil, 2023

Variables	n (%)
Sought knowledge through an academic subject or event before the pandemic	
Did not seek any knowledge	64 (87.7)
Took an elective subject at the same institution	4 (5.5)
Took an academic subject at another institution	1 (1.4)
Participated in a course or scientific event	2 (2.7)
Participated in a teaching project, research project, extension project, and/or academic league	2 (2.7)
Sought knowledge through an academic subject or event during or after the pandemic	
Did not seek any knowledge	42 (57.7)
Took an elective subject at the same institution	12 (19.2)
Participated in a course or scientific event	4 (5.5)
Participated in a teaching project, research project, extension project, and/or academic league	13 (17.8)
Practiced any ICP before the pandemic	
No	53 (72.6)
Yes	20 (27.4)
Started practicing any ICPs during the pandemic	
No	53 (72.6)
Yes	20 (27.4)
Started practicing any ICPs after the return to in-person classes	
No	46 (63.0)
Yes	27 (37.9)
Noticed improvements from using the practice	
No	3 (4.1)
Yes	34 (46.6)
Never practiced any ICP	36 (49.3)
Had any adverse effects from using it	
No	35 (47.9)
Yes	2 (2.7)
Never practiced any ICP	36 (49.3)
Recommends practicing ICPs	
No	3 (4.1)
Yes	70 (95.9)

ICPs: integrative and complementary practices

Considering that students use more than one ICP, table 3 presents the most commonly used practices: homeopathy, flower essence therapy, and medita-

tion before the pandemic; meditation, yoga, and music therapy during the pandemic; and yoga, meditation, and reiki after the return to in-person academic activities.

**Table 3** – Integrative and complementary practices used by undergraduate nursing students according to the evaluated period (n=73). Uberaba, MG, Brazil, 2023

			Started after
Integrative and comple-	Before the	During the	the return
mentary practices	•	•	to in-person
mentary practices	n (%)	n (%)	activities
			n (%)
Homeopathy	14 (19.2)	5 (6.8)	4 (5.5)
Flower essence therapy	11 (15.1)	1 (1.4)	5 (6.8)
Meditation	10 (13.7)	14 (19.2)	8 (11.0)
Massage	9 (12.3)	2 (2.7)	5 (6.8)
Music therapy	7 (9.6)	6 (8.2)	5(6.8)
Yoga	5 (6.8)	9 (12.3)	9 (12.3)
Reiki	5 (6.8)	4 (5.5)	6 (8.2)
Family constellation therapy	5 (6.8)	0(0.0)	0 (0.0)
Aromatherapy	5 (6.8)	2 (2.7)	6 (8.4)
Relaxation	4 (5.5)	2 (2.7)	2 (2.7)
Ho'oponopono	3 (4.1)	2 (2.7)	3 (4.1)
Hypnotherapy	1 (1.4)	0(0.0)	0 (0.0)
Hands-on healing	1 (1.4)	0 (0.0)	2 (2.7)
Ozone therapy	1 (1.4)	0(0.0)	0 (0.0)
Hydrotherapy	1 (1.4)	0 (0.0)	0 (0.0)
Global postural reeducation	1 (1.4)	0 (0.0)	1 (1.4)
Reflexology	1 (1.4)	1 (1.4)	1(1.4)
Shantala massage	1 (1.4)	0 (0.0)	0 (0.0)
Behavioral Therapy	0(0.0)	0(0.0)	1 (1.4)
Circle Dance	0 (0.0)	1 (1.4)	0 (0.0)
Guided imagery	0 (0.0)	1 (1.4)	0 (0.0)
Bioenergetics	0 (0.0)	0 (0.0)	1 (1.4)
Others	4 (5.5)	1 (1.4)	4 (5.5)

Regarding quality of life, table 4 shows that students who used any ICPs had higher mean scores across all domains, as well as for overall quality of life, compared to those who did not use them. However, no statistically significant difference was found between the groups (p<0.05).

**Table 4** – Comparison of the quality of life between students who used (n=32) and those who did not use (n=41) integrative and complementary practices. Uberaba, MG, Brazil, 2023

Quality of life do-	Yes	No	**	p-value†	
mains	Mean (SD)	Mean (SD)	t*		
Physical	48.22 (7.44)	46.27(6.68)	1.17	0.245	
Psychological	51.58 (8.45)	49.10(7.89)	1.29	0.201	
Social	56.83 (14.57)	56.19(14.22)	0.19	0.851	
Environmental	57.31 (8.15)	53.71(8.62)	1.82	0.074	
Total	53.56 (6.76)	51.14(6.27)	1.58	0.118	

<sup>\*</sup>Student's t test; †p<0,05; SD: Standard Deviation

## Discussion

The clinical profile of undergraduate nursing students in this study shows that 37% reported having one or more diagnosed psychological conditions, with anxiety and depression being the most frequently mentioned. This finding aligns with national and international literature on the subject, and indicates that, in higher education, nursing students experience greater psychological and physiological stress changes compared to undergraduate students from other fields<sup>(9-11)</sup>.

Healthcare undergraduate students have shown a strong link between depression and stress, with higher levels of depression being associated with greater reported stress. These findings may have significant implications after graduation, as these future professionals may enter the workforce already facing these challenges. This underscores the importance of universities implementing interventions that promote students' well-being, aiming to reduce stressors and, consequently, alleviate depression among them<sup>(12)</sup>.

Regarding the findings on nursing students' knowledge of ICPs, this study highlights a significant lack of awareness, along with insufficient dissemination of information on the topic. This scenario may be linked to an academic curriculum focused primarily on biological aspects, which leads to a biomedical, care-oriented, and curative approach. This mindset influences both the education and clinical practice of healthcare professionals, preventing the adoption of more holistic and integrative approaches to health<sup>(13)</sup>.

Although knowledge of these therapies is limited and often imprecise, most students viewed them positively. Moreover, nursing students demonstrated a keen interest in expanding their knowledge on the topic and supported the inclusion of integrative practices in nursing curricula, at least as elective modules. A lack of sufficient evidence was identified as a significant barrier to the adoption or integration of these practices<sup>(14)</sup>.

Another key finding of this study is the increa-

sed use of ICPs following the return to in-person activities after the pandemic. The COVID-19 pandemic revealed the fragility of human well-being, causing widespread fear and uncertainty about contracting the virus or spreading it to family and friends. The impact of this scenario on healthcare students was undeniable, as they had to adapt both physically and psychologically to the new reality, while grappling with the fears and uncertainties they were forced to confront<sup>(15)</sup>.

In this context, with the aim of mitigating the harmful impacts of the pandemic, ICPs serve as a powerful tool for healthcare, addressing physical, emotional, social, and even spiritual aspects<sup>(16)</sup>. ICPs were mechanisms adopted by over 20% of individuals who had not previously engaged in such practices before the pandemic, and were regarded as beneficial for health, particularly in addressing biopsychosocial factors such as pain, anxiety, and depression<sup>(17)</sup>.

In this study, among the participants who engaged in any form of ICP, the majority reported experiencing improvements and expressed a willingness to recommend these practices to others. Among the practices mentioned, meditation was the most frequently used, with participants practicing it before, during, and after the pandemic. This therapy has strong clinical evidence in supporting mental health care, as it yields positive effects in managing post-traumatic stress, anxiety, depression, sleep disorders, work-related stress, and psychological tension, among other issues<sup>(18-19)</sup>. Research on ICPs in the context of COVID-19 indicates that meditation practices provide moderate to high levels of reliable evidence<sup>(20-21)</sup>.

Nursing students who practiced meditation reported improvements in their health and well-being, incorporating holistic practices, breathing techniques, healthy habits, and mindfulness meditation<sup>(18)</sup>. The implementation of a visualization meditation program with nursing students involved comparing preand post-test mean scores for depression, anxiety, and stress. While meditation showed a reduction in these scores to some extent, the differences did not reach statistical significance<sup>(19)</sup>.

Another practice reported by a larger proportion of participants was yoga. This practice has been increasingly adopted across all age groups and is also regarded as beneficial for managing adversity and coping with challenges. It includes breathing exercises, concentration and relaxation techniques, asanas (body postures), and promotes emotional and mental balance. Therapeutic benefits of regular yoga practice have been well-documented, with improvements not only in emotional regulation but also in physical, psychological, and social aspects, contributing to the overall well-being of practitioners<sup>(22)</sup>.

Yoga interventions among nursing students produced statistically significant results, demonstrating benefits for both physical health and mental and emotional well-being. Yoga enhanced mindfulness and self-compassion, while reducing anxiety, stress, and depression. Physically, it improved overall health and helped alleviate sleep disturbances and pain<sup>(23)</sup>.

As observed, yoga and meditation practices have shown significant benefits for well-being. Extensive research on the effectiveness of mindfulness meditation interventions for healthcare professionals has shown a wide-ranging positive impact across several variables. These practices provide individuals with an experience that fosters a sense of calm and inner connection. Repeated practice gradually permeates daily activities, helping individuals manage challenging circumstances with emotional balance<sup>(24)</sup>.

Other ICPs frequently used by undergraduate nursing students were homeopathy, flower essence therapy, music therapy, and Reiki, all of which are included in the National Policy of Integrative and Complementary Practices. Homeopathy involves treatments that utilize highly diluted substances to stimulate the body's natural healing processes, based on the principle of similarity, where the remedy induces symptoms similar to those of the disease being treated<sup>(6-7)</sup>. It is important to note that homeopathic medicines from the Brazilian Pharmacopoeia are included in the National List of Essential Medicines.

As for the other therapies mentioned, flower es-

sence therapy uses the extracts of flowers to address mental and emotional issues, while music therapy is a practice that employs music or its elements as a method to promote communication, relationships, learning, movement, among other therapeutic goals<sup>(7)</sup>.

The therapeutic practice of Reiki involves the placement of hands to channel vital energy, with the aim of promoting energetic balance, which is essential for both physical and mental well-being<sup>(6)</sup>. A Reiki intervention produced positive effects on the health and well-being reported by nursing professionals, prompting reflections on their own lives, interpersonal relationships with family and colleagues, and raising awareness about the importance of self-care<sup>(25)</sup>.

In the present study, analysis of the domains of the WHOQOL-Bref instrument reveals a slightly higher mean score for the quality of life of students who used ICPs compared to those who did not. This is in line with the goals outlined in the National Policy of Integrative and Complementary Practices, which focuses on broadening the understanding of the health-disease process and promoting self-care and quality of life<sup>(6-7)</sup>.

To understand the reasons behind the use of ICPs among students in a healthcare-related university program, quality of life stands out as one of the positive effects reported by the students, serving as a primary motivation for adopting these practices. It is also viewed as an alternative to the traditional biomedical model, with students seeking improved well-being and balance. The students highlight the importance of these practices for health promotion and the prevention of ailments, as well as for expanding their perception of self-care<sup>(26)</sup>.

As observed, ICPs can improve quality of life in various aspects. The use of these practices led to positive effects on quality of life, including increased vitality and energy for daily activities, greater self-contentment, improved enjoyment of life, enhanced focus, better social relationships and leisure activities, as well as a more balanced approach to adversity, contributing to a healthier and more fulfilling work envi-

ronment. Additionally, the professionals reported improvements in pain management and sleep quality<sup>(27)</sup>.

# **Study limitations**

The limitations of this study include its small sample size, mainly due to low student participation, and its cross-sectional design, which prevented an assessment of ICP use throughout the undergraduate program. As a result, it was not possible to establish cause-and-effect relationships between the variables. The scarcity of research studies on this topic also limits the ability to compare the results with other studies. It is recommended that more extensive studies be conducted with healthcare students to further explore the potential benefits of ICPs, emphasizing the importance of this research in a field that is still underexplored.

# **Contributions to practice**

The results of this research can provide valuable insights for strengthening and recognizing the benefits of ICPs. The study contributes to discussions on the use of ICPs in academic settings as a form of self-care and care for others, while also fostering greater awareness among future professionals of the various approaches to patient care.

### Conclusion

Fewer than half of the nursing students were familiar with and used integrative and complementary practices. Few sought knowledge about them through academic subjects, projects, and/or scientific events, both before, during, or after the pandemic. The most commonly used practices were homeopathy, flower essence therapy, meditation, yoga, music therapy, and Reiki. In terms of quality of life, students who used integrative and complementary practices reported slightly higher scores across all domains compared to those who did not.

There is a clear gap in the availability of integrative and complementary practices in academic settings and curricula, despite their acknowledged value among students and the reported benefits they provide. It is concluded that integrative and complementary practices can be used to improve quality of life, serving as a non-pharmacological and non-invasive strategy to achieve this goal.

# **Authors' contributions**

Conception and design or analysis and interpretation of data; Drafting of the manuscript, critical revision of the intellectual content; Final approval of the version to be published; responsibility for all aspects of the text in ensuring the accuracy and integrity of any part of the manuscript Santos GS, Almeida MC, Souza RV, Barros JA, Nicolussi AC.

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