

Empathy, spirituality and wellness in physicians practicing at Brazilian university hospitals: a multicentric study

Empatia, abertura à espiritualidade e bem-estar em médicos que atuam em hospitais universitários: um estudo multicêntrico

Gabriel de Almeida Arruda Felix¹  gabriel.epm77@gmail.com
Lara Oliveira Gouveia²  laraswertsdeoliveira@gmail.com
Isabella Azevedo Cardeliqio³  isacantarelli@outlook.com
Nathália Alves Santos⁴  nathalia.alves@unifesp.br
Larissa Figueiredo Paes⁵  lari_paes@hotmail.com
Daniela Vieira da Silveira Santos⁶  daniivss88@hotmail.com
Heitor Oliveira Gouveia⁷  heitor0110@gmail.com
Daniela Francescato Veiga^{1,3}  danielafrveiga@gmail.com

ABSTRACT

Objective: This multicentric study aimed to evaluate empathy, openness to spirituality, and wellness among physicians in Brazilian university hospitals, fundamental in medical training.

Methods: This multicentric cross-sectional study included 1,000 physicians of any age or gender, with at least six months of experience in public or private university hospitals affiliated with the Brazilian Unified Health System (SUS). The Empathy, Spirituality, and Wellness in Medicine Scale (ESWIM), validated in Brazil, was used, with scores ranging from 1 to 5, where higher scores indicate greater empathy, openness to spirituality, or wellness. The statistical analysis included Mann-Whitney and Kruskal-Wallis tests with a significance level of 0.05.

Results: Of the 1,000 physicians invited, 445 completed the survey. The median scores (interquartile range) were 3.90 (0.60) for empathy, 4.00 (0.67) for openness to spirituality, and 3.00 (0.86) for wellness. No significant differences in empathy were found between genders ($p=0.047$). Factors such as family dynamics ($p=0.003$), academic roles ($p=0.004$), and parental status ($p=0.003$) were associated with higher empathy scores. Younger physicians demonstrated greater openness to spirituality ($p=0.019$), with regional variations observed. Wellness scores were influenced by gender, experience, age, specialty, academic degree, and frontline COVID-19 duties, with frontline clinicians exhibiting lower wellness scores ($p<0.001$).

Conclusions: Empathy, openness to spirituality, and wellness among physicians in Brazilian university hospitals are influenced by various characteristics.

Keywords: Physicians; Empathy; Spirituality; Quality of Life; Hospitals, University.

RESUMO

Objetivo: Este estudo multicêntrico – do qual participaram médicos de hospitais universitários brasileiros – avaliou empatia, abertura à espiritualidade e bem-estar que são aspectos fundamentais na formação médica.

Métodos: Trata-se de um estudo multicêntrico transversal que incluiu mil médicos de qualquer idade ou sexo, com pelo menos seis meses de atuação em hospitais universitários públicos ou privados afiliados ao Sistema Único de Saúde (SUS). Utilizou-se a Escala de Empatia, Abertura à Espiritualidade e Bem-Estar na Medicina (ESWIM), validada no Brasil, com pontuações de 1 a 5. Nessa escala, pontuações mais altas indicam maior empatia, abertura à espiritualidade ou bem-estar. A análise estatística incluiu os testes de Mann-Whitney e Kruskal-Wallis, com nível de significância de 0,05.

Resultados: Dos mil médicos convidados, 445 completaram a pesquisa. As medianas (intervalo interquartil) foram 3,90 (0,60) para empatia, 4,00 (0,67) para abertura à espiritualidade e 3,00 (0,86) para bem-estar. Não houve diferenças significativas na empatia entre sexos ($p = 0,047$). Fatores como dinâmica familiar ($p = 0,003$), funções acadêmicas ($p = 0,004$) e status parental ($p = 0,003$) estiveram associados a maiores pontuações de empatia. Médicos mais jovens mostraram maior abertura à espiritualidade ($p = 0,019$), e houve variações regionais. As pontuações de bem-estar foram influenciadas por sexo, experiência, idade, especialidade, grau acadêmico e atuação na linha de frente da Covid-19, com clínicos da linha de frente apresentando menores pontuações de bem-estar ($p < 0,001$).

Conclusão: Empatia, abertura à espiritualidade e bem-estar em médicos de hospitais universitários brasileiros são influenciados por diversas características.

Palavras-chave: Médicos; Empatia; Espiritualidade; Qualidade de Vida; Hospitais Universitários.

¹ Postgraduate Program in Translational Surgery, Universidade Federal de São Paulo, São Paulo, São Paulo, Brazil.

² Faculdade de Medicina de Itajubá, Itajubá, Minas Gerais, Brazil.

³ Universidade do Vale do Sapucaí, Pouso Alegre, Minas Gerais, Brazil.

⁴ Universidade Federal de São Paulo, São Paulo, São Paulo, Brazil.

⁵ Universidade do Sul de Santa Catarina, Tubarão, Santa Catarina, Brazil.

⁶ Universidade Nove de Julho, São Paulo, São Paulo, Brazil.

⁷ Universidade José do Rosário Vellano, Alfenas, Minas Gerais, Brazil.

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INTRODUCTION

Medicine is a profession that provides service that depends on trust and aims to meet the physical and emotional needs of people, seeking to prolong life, maintain health, and alleviate suffering^{1,2}.

Effective medical practice goes beyond the technique, including empathetic understanding of patients' beliefs and needs, seeking to increase their satisfaction and wellness. Empathy, involving cognitive, emotional, and behavioral aspects, is essential for the establishment of the doctor-patient relationship²⁻⁶.

The influence of religion and spirituality on healthcare is increasingly recognized^{7,8}. Healthcare professionals often work with patients impacted by illness, suffering, and loss, and patients turn to doctors not only for treatment for their physical problems, but also for their emotional or spiritual needs^{9,10}. The impact of spirituality and religiosity on the cultural competence of medical students has been studied, revealing that religious aspects contribute to stress management and patient-centered care. Activities that promote wellness and spiritual openness significantly affect medical students' empathy, emphasizing the importance of such training¹¹.

Burnout among physicians is a growing problem affecting the quality of care, highlighting the importance of cultivating empathy and wellness in medical education¹². Studies have shown that empathetic doctors experience higher job satisfaction, lower risk of burnout and greater overall wellness. However, the demanding environment of medical schools often leads to burnout, requiring continuous efforts to cultivate empathy and combat its negative effects¹³⁻¹⁵.

Focusing on the wellness of doctors is essential, as healthy doctors provide higher quality care. A health system that incorporates the same professional values that attracted physicians to this noble profession will naturally promote the physicians' professional satisfaction, wellness, and mental health, directly reflecting on the care they offer¹⁵.

The role of physicians who work in university hospitals is crucial in medical training, even those who are not formal teachers, since they are role models for physicians in training.

OBJECTIVE

To evaluate empathy, openness to spirituality and wellness among physicians who work in Brazilian university hospitals.

METHODS

This cross-sectional multicentric study was conducted from March 2020 to December 2021, during the COVID-19 pandemic. The study protocol was approved by the Ethics Committee of Universidade Federal de São Paulo, the

coordinating center of the study, after the consent of the other centers (CAAE 29146620.9.1001.5505, March 27, 2020; amendment approved on June 7, 2021). All participants provided informed consent.

Physicians of any age or gender who had been working for at least six months in public or private university hospitals affiliated with the Brazilian Unified Health System (SUS, *Sistema Único de Saúde*) were eligible to participate in the study. The exclusion criteria were physicians who did not provide informed consent and those who completed duplicate surveys (e.g., the same physician working at multiple participating institutions).

Non-probabilistic sampling was used. The authors initially obtained a list of e-mail addresses of accredited physicians from the administration of the five collaborating Brazilian university hospitals. After the contact with these doctors, snowball sampling was implemented to cover more university hospitals.

The participants were invited by email, which included a link to an electronic form and a summary of the study objectives and methods. The first section of the form was the informed consent form. If the physician agreed to participate, they entered their full name and was directed to the second section of the form, which collected sociodemographic and professional information.

The form ended with the Brazilian version of the Empathy, Spirituality and Wellness in Medicine Scale (ESWIM)^{16,17}. It consists of 23 items distributed among three subscales: Empathy (10 items), Openness to Spirituality (6 items) and Wellness (7 items). Scores range from 1 to 5 for each subscale, with higher scores indicating greater empathy, openness to spirituality, or wellness.

Statistical analysis

Numerical variables are presented as measures of central tendency (mean, standard deviation, median, and interquartile range (IQR)). Categorical variables are reported as absolute (n) and relative (%) frequencies.

The Shapiro-Wilks test was used to determine whether the data had a normal distribution. Variables were examined using the Mann-Whitney or Kruskal-Wallis test with paired Dunn comparisons. The results were adjusted to consider whether or not the participants worked on the frontlines of the COVID-19 pandemic. A significance level of 0.05 was established for each test. Minitab 19.1 and SPSS 26.0 were used for data analysis.

RESULTS

Of the 1,000 physicians invited to participate, 445 completed the survey, resulting in a response rate of 44.5%.

The respondents' median age was 43 (IQR \pm 26) years, and they had graduated from medical school a median of 20.4 (IQR \pm 25) years before. The other demographic characteristics are shown in Table 1.

Table 1. Sociodemographic characteristics of the sample (n=445).

Variable	N=445 (100%)
Sex	
Male	235 (52.8%)
Female	210 (47.2%)
Age	
Up to 35 years old	148 (33.3%)
From 35 to 50 years old	137 (30.8%)
From 52 to 65 years old	127 (28.5%)
66 years or older	33 (7.4%)
Ethnicity	
Caucasian	379 (85.2%)
Non-Caucasian	66 (14.8%)
Marital status	
With partner	336 (75.5%)
No partner	109 (24.5%)
Family status	
With children	256 (57.5%)
Childless	189 (42.5%)
Time since graduation	
Up to 10 years	151 (33.9%)
Between 10 and 25 years	124 (27.9%)
More than 25 years	170 (38.2%)
Graduation Institution	
Public	211 (47.4%)
Private	234 (52.6%)
Medical specialty	
Clinical	285 (64.0%)
Surgical	160 (36.0%)
Highest academic degree	
Associate Professor/Full Professor	71 (15.9%)
Doctorate/Master's Degree	163 (36.7%)
Specialization/Graduation	211 (47.4%)
Sector in which you work	
Public	136 (30.6%)
Private	25 (5.6%)
Both	284 (63.8%)
University Professor	
No	229 (51.5%)
Yes	216 (48.5%)

Continue...

Table 1. Continuation.

Variable	N=445 (100%)
Worked during COVID-19 pandemic	
No	41 (9.2%)
Yes, in-person	237 (53.3%)
Yes, remote	29 (6.5%)
Yes, both	138 (31.0%)
State	
Minas Gerais	101 (22.7%)
São Paulo	296 (66.5%)
Other*	48 (10.8%)
Worked on the front line of COVID-19	
No	277 (62.2%)
Yes	168 (37.8%)

*Federal District, Paraná, Rio de Janeiro, Santa Catarina, Tocantins.
Source: Prepared by the authors.

The comparisons between sociodemographic variables and empathy, openness to spirituality, and wellness scores are described in Table 2.

DISCUSSION

In this study, it was observed that factors such as age, marital status, parental status, and performance on the frontline of the COVID-19 pandemic significantly influenced aspects such as empathy, openness to spirituality, and wellness among physicians working in Brazilian university hospitals. These results highlight the complexity of the personal and professional characteristics that can affect these dimensions, suggesting the importance of establishing specific strategies to support medical training and practice.

These findings are in line with previous studies, which indicate that demographic and professional factors can affect physicians' empathy and wellness^{5,21}. However, unlike some studies that reported higher levels of empathy among female physicians, no significant differences were found between the genders in this study, possibly due to the participants' clinical experience^{5,18,19,21,22}. However, it confirms the finding that the differences in scores between genders tend to decrease with increasing years of experience^{23,24}.

Interestingly, the current study revealed a unique correlation between empathy scores and family dynamics. Doctors who were also university teachers and those with children had higher empathy scores. This association suggests that the responsibilities and experiences associated with academia and parenthood can contribute positively to the development and maintenance of empathetic qualities among medical professionals^{25,26}.

Table 2. Statistical comparisons of the domains of the Empathy, Openness to Spirituality and Wellness in Medicine Scale (ESWIM) for each studied variable.

Variable	Scores					
	Empathy		Openness to Spirituality		Wellness	
	Median (IQR*)	p	Median (IQR*)	p	Median (IQR*)	p
<i>Sex</i>						
Female	3.90 (0.50)	NS	4.08 (0.50)	p<0.001a	2.86 (0.71)	p<0.001a
Male	3.80 (0.60)		3.83 (0.83)		3.14 (0.79)	
<i>Age group</i>						
Up to 35 years old	3.80 (0.60)	p=0.044b	4.00 (0.66)	p=0.006b	2.86 (0.75)	p<0.001b
From 35 to 50 years old	3.90 (0.50)		4.00 (0.66)		2.86 (0.72)	
From 51 to 65 years old	4.00 (0.50)		3.83 (0.83)		3.14 (0.71)	
66 years or older	3.80 (0.60)		3.67 (0.92)		3.43 (0.86)	
<i>State</i>						
Minas Gerais	3.90 (0.55)	NS	4.17 (0.66)	p=0.002b	2.86 (0.72)	NS
São Paulo	3.80 (0.60)		4.00 (0.83)		3.00 (0.72)	
Other*	3.80 (0.58)		4.00 (0.66)		3.00 (0.72)	
<i>Family status</i>						
Childless	3.80 (0.70)	p=0.003a	4.00 (0.66)	NS	2.86 (0.86)	p<0.001a
With children	3.90 (0.60)		4.00 (0.66)		3.14 (0.86)	
<i>Time since graduation</i>						
Up to 10 years	3.80 (0.60)		4.17 (0.66)		2.86 (0.78)	p<0.001b
Between 10 and 25 years old	3.90 (0.55)	p=0.019b	4.00 (0.66)	p=0.012b	2.86 (0.75)	
More than 25 years	3.90 (0.50)		3.83 (0.66)		3.14 (0.85)	
<i>Specialty</i>						
Clinical	3.90 (0.60)	NS	4.00 (0.66)	p=0.014a	2.86 (0.72)	p<0.001a
Surgical	3.90 (0.60)		3.83 (0.83)		3.14 (0.85)	
<i>Highest academic Degree</i>						
Graduation/Specialization	3.80 (0.60)		4.00 (0.66)		2.86 (0.72)	
Master's Degree/Doctorate	3.90 (0.50)	NS	4.00 (0.66)	p<0.001b	3.14 (0.86)	p<0.001b
Post-doctorate/Full Professor	3.90 (0.60)		3.67 (0.84)		3.29 (1.00)	
<i>University Professor</i>						
No	3.80 (0.60)	p=0.004a	4.00 (0.66)	NS	2.86 (0.79)	p<0.001a
Yes	3.90 (0.50)		4.00 (0.66)		3.14 (0.71)	
<i>Worked on the COVID-19 frontline</i>						
No	3.90 (0.60)	NS	4.00 (0.83)	NS	3.14 (0.86)	p<0.001a
Yes	3.90 (0.67)		4.00 (0.66)		2.86 (0.71)	
Total (n=445)	3.90 (0.60)	-	4.00 (0.67)	-	3.00 (0.86)	-

Significance level: p < 0.05; NS = non-significant

*Federal District, Paraná, Rio de Janeiro, Santa Catarina, Tocantins

♦Interquartile range.

^aMann-Whitney test; ^bKruskal-Wallis test with Dunn paired comparisons. Statistically significant results are indicated in bold, regardless of whether the scores were higher or lower than those of the other groups. Outcomes are controlled for whether or not the participant worked on the frontlines of the COVID-19 pandemic.

Source: Prepared by the authors.

Notably, empathy scores were consistently high across all variables, diverging from systematic reviews and emphasizing the need for more research^{18,19}.

Openness to spirituality varied among regions and age groups, with younger physicians and physicians from certain regions, such as the state of Minas Gerais, exhibiting a greater

propensity to this dimension. These results suggest that cultural aspects and the stage of life can influence openness to spirituality, corroborating the importance of training that considers these differences.

Wellness, a multifaceted concept that encompasses physical, mental, and emotional well-being, is influenced by several factors. Gender, experience, age, specialty, and academic degree all played roles in determining wellness scores among physicians. Surgeons, older physicians, and those with higher academic degrees tended to score higher on wellness assessments. This raises intriguing questions about the impact of career trajectories and personal development on the overall wellness of medical professionals.

The COVID-19 pandemic has had a notable impact on wellness, especially among frontline physicians, who scored lower in this regard. These findings reinforce the importance of institutional approaches to prevent burnout, especially during periods of high demand such as a pandemic. Although previous studies have presented conflicting results on the relationship between professional roles and wellness^{17,19}, the present study contributes with valuable reflections about factors that influence the general wellness of physicians.

Empathy, a complex skill, requires acknowledging, understanding, and responding to patients' emotions together with medical care. Spirituality and faith positively impact patients, although doctors can often overlook their relevance^{4,27,28}. Incorporating empathy, openness to spirituality, and wellness into medical education is crucial.

It is necessary to focus more on empathy training for doctors and medical students, aiming to improve the services provided^{20,29}. Physicians who work in university hospitals play a fundamental role in medical education, even if they are not formal teachers, as they work not only in residents' training but also in the interaction with undergraduate students, in their practical training. Therefore, it is important to know its potential to stimulate the development of empathy among physicians in training, including through the example of their own medical practice.

These results reinforce the need for training and support programs that address empathy, openness to spirituality, and wellness in an integrated manner, contributing to the physicians' mental health and the quality of patient care.

Limitations and highlights

The response rate obtained in the present study was 44.5%. Although it is not high, it is usual for this type of study as demonstrated by a recent meta-analysis³⁰.

The limitations of this cross-sectional study include the inability to capture changes over time and potential self-

report bias. Regional specificity limits the representativeness of the study, although a multicentric approach may increase the generalization. The strengths of this study lie in its broad scope, diverse sample, and validated measures, requiring ongoing research in these areas.

CONCLUSION

The empathy, openness to spirituality, and wellness of physicians who work in Brazilian university hospitals are influenced by several characteristics. Considering gender, age, experience, and academic degree is crucial when designing training and continuing education programs. These factors directly impact doctor-patient relationships, quality of care, and quality of life for both doctors and patients. These results provide an understanding of the complex factors that affect physicians' wellness and patient outcomes, emphasizing the continued need for more research in this area.

AUTHOR CONTRIBUTIONS

All authors contributed to the study conception and design. The preparation of the material and data collection were carried out by Lara O. Gouveia, Isabella A. C. Cantarelli, Nathália A. Santos, Larissa F. Paes, Daniela V. S. Santos and Heitor O. Gouveia. The analyses were performed by Daniela F. Veiga and Gabriel A. A. Felix. The first version of the manuscript was written by Daniela F. Veiga and Gabriel A. A. Felix, and all authors commented on earlier versions of the manuscript. All authors have read and approved the final version of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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