

Assessment of attitudes related to humanization of assistance by medical students

Avaliação de atitudes relacionadas ao atendimento humanizado pelos estudantes de Medicina

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ABSTRACT

Introduction: Typical medical care has been characterized by professional and disease-centered attitudes, with little concern for focusing on the patient's psychosocial context and expectations. However, the medical care that seeks to more globally encompass the patient's perspective has shown to bring greater benefits.

Objective: To evaluate the attitudes of medical students regarding the physician-patient relationship.

Methods: This is a cross-sectional study that evaluated the attitudes of students in the 4th semester of the medical course in relation to patient care based on the application of the Patient-Practitioner Orientation Scale and a questionnaire with sociodemographic and curricular characteristics. Data were analyzed using the Statistical Package for Social Science (SPSS) software and the Mann-Whitney test, Kruskal-Wallis test with Dunn's *post hoc*, and Chi-square test.

Results: A total of 83 medical students participated in the study, with a prevalence of female students (74.7%), and those who declared a family income of less than US\$ 2,140 (43.0%), as well as those who professed the Catholic religion (53.0%). The majority of students (85.5%) had attitudes centered on the physician and the disease (mean PPOS scores <4.57), with scores in the caring domain higher than those in the sharing domain. The variables gender, family income, student financial aid, and religion showed a positive association ($p \leq 0.05$) with PPOS scores related to patient-centered attitudes. There were no statistically significant associations of PPOS scores with the variables age group, city of origin, undergraduate research activities, extracurricular internships, artistic activities, personal and family history of serious illness, and parental level of schooling.

Conclusion: The present study showed that the assessed medical students had attitudes centered on the physician and on the disease, with mean PPOS scores below the range related to attitudes of humanized medicine.

Keywords: Humanization of Assistance; Education; Medical; Undergraduate; Physician-Patient Relations; Patient-Centered Care; Clinical Competence.

RESUMO

Introdução: O atendimento médico usual tem sido caracterizado por atitudes centradas no profissional e na doença, pouco se preocupando em focar o contexto psicossocial e as expectativas do paciente. Entretanto, o atendimento médico que procura abranger mais globalmente a perspectiva do paciente tem se mostrado mais eficiente ao promover maiores benefícios.

Objetivo: Este estudo teve como objetivo avaliar as atitudes de estudantes de Medicina a respeito da relação médico-paciente.

Método: Trata-se de um estudo transversal que avaliou as atitudes de acadêmicos do quarto período de Medicina em relação à atenção aos pacientes a partir da aplicação da Escala de Orientação Médico-Paciente (EOMP) e de questionário com características sociodemográficas e curriculares. Os dados foram analisados no software Statistical Package for Social Science (SPSS), e utilizaram-se o teste de Mann-Whitney, o teste de Kruskal-Wallis com *post hoc* de Dunn e o teste de qui-quadrado.

Resultado: Participaram do estudo 83 estudantes de Medicina, com prevalência maior de alunos do sexo feminino (74,7%) e que declararam renda familiar inferior a dez salários mínimos (43,0%), bem como a religião católica (53,0%). A maioria dos acadêmicos (85,5%) apresentou atitudes centradas no médico e na doença (média de escores da EOMP < 4,57), com escores do domínio cuidar superiores aos do domínio compartilhar. As variáveis sexo, renda familiar, bolsa de auxílio financeiro estudantil e religião apresentaram associação positiva ($p \leq 0,05$) com os escores da EOMP relacionados às atitudes centradas no paciente. Não foram observadas associações estatisticamente significativas dos escores da EOMP entre as variáveis faixa etária, cidade de procedência, realização de atividades de iniciação científica, estágios extracurriculares, atividades artísticas, antecedentes pessoais e familiares de doença grave, e escolaridade dos pais.

Conclusão: O presente estudo demonstrou que os acadêmicos de Medicina avaliados apresentaram atitudes centradas no médico e na doença, com média de escores da EOMP abaixo do intervalo relacionado às atitudes da medicina humanizada.

Palavras-chave: Humanização da Assistência; Educação de Graduação em Medicina; Relações Médico-Paciente; Assistência Centrada no Paciente; Competência Clínica.

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INTRODUCTION

The term humanization, understood as the action of making something friendlier to humans, has started to be widely discussed in Brazilian medical schools, particularly since the implementation of the National Curricular Guidelines^{1,2}. For many centuries, in medical education, the prioritization of the training of competent professionals in relation to the scientific knowledge of diseases was observed, to the detriment of the valorization of their humanistic competences related to patient-centered care³⁻⁵.

In search of more effective ways to further the evolution of health services, attention has been paid to the need to reverse this scenario characterized by the dehumanization of medical care, or, at an earlier stage, the dehumanization of the care provided by the medical student, through the implementation of the teaching of humanistic skills inherent to the physician-patient relationship⁶.

It is known that the knowledge, skills, and attitudes, developed in actions of humanistic programs during medical undergraduate school, provide the training of future medical professionals who are more empathetic and able to organize their actions aiming to achieve better results in both diagnosis and therapy and in the disease prognosis^{7,8}.

Among the strategies aimed at the teaching of humanization in medical undergraduate school, the continuous training of clinical methods centered on the patient and not only on the disease stands out. These methodologies include the development of the physician-patient relationship through the implementation of communication skills and understanding of the patient's and family's expectations, as well as the embracement and care attitudes provided by the entire health team⁹.

The objective of this article was to evaluate the attitudes of medical students regarding the physician-patient relationship.

METHODS

Study population

This is a cross-sectional study with a quantitative approach, carried out with students attending the fourth semester of the medical course at the Evangelical University of Goiás (UniEVANGÉLICA). The study was approved by the Research Ethics Committee of the institution, under Opinion number 4,162,988, CAAE: 25267019.7.0000.5076.

When considering a sampling error of 5% and a confidence interval of 95%, a minimum sample size of 76 participants was calculated for the study. All students regularly enrolled in the fourth semester of the course in 2020, of both genders, aged over 18 years, were included. Students who were

away from academic activities, for any reason, and students who did not agree to fill out or inadequately filled out the questionnaires used in the study were excluded.

Study instruments

The Patient-Practitioner Orientation Scale - PPOS¹⁰ was applied, translated and adequately validated for Brazilian Portuguese, (denominated the *Escala de Orientação Médico-Paciente - EOMP*)¹¹.

The PPOS is a scale that assesses the attitudes of patients, doctors, and medical students regarding the physician-patient relationship, based on eighteen items that reflect domains related to the attitudes of "sharing" and "caring" for patients¹¹. The questions inherent to the "caring" domain (2, 3, 6, 7, 11, 13, 14, 16, and 17) demonstrate whether the evaluated participants consider the patients' expectations, feelings, and lifestyle as critical elements of the physician-patient relationship. Items in the "sharing" domain (1, 4, 5, 8, 9, 10, 12, 15, and 18) assess whether respondents believe that power and control should be shared between physician and patient, and to what degree the physician should share information with the patient^{10,12}.

Therefore, each domain can be further analyzed in two areas corresponding to the communication model, centered on the patient, as proposed by Epstein et al.³. The "caring" domain comprises areas related to the understanding of the psychosocial context (items 6, 13, and 16) and the patient's perspective (items 2, 3, 7, 11, 14, and 17). "Sharing" corresponds to the areas of sharing information (items 5, 8, 10, and 18) and sharing power and responsibility with the patient (items 1, 4, 9, 12, and 15).

The PPOS scores are obtained using a *Likert* scale ranging from 1 (strongly agree) to 6 (strongly disagree). The average of the scores for all items (total score) and for the nine items in each domain ("caring" and "sharing") is calculated¹⁰. The mean of the sum of the scores obtained from the sum of the items on the PPOS scale demonstrates physician- and disease-centered attitudes, in the intervals < 4.57, or attitudes that reflect preferences for a more patient-centered relationship (mean scores \geq 5.00). The mean score range between 4.57 and 4.99 reflects moderately patient-centered attitudes^{7,14}. The scores for the statements of items 9, 13, and 17 are inverted¹⁵ and when only one item was not answered in a domain, the average of the eight answered items was used for the analysis, based on the guidelines from the scale author¹⁶.

Along with the PPOS scale, a sociodemographic questionnaire was applied to analyze the variables age, gender, family income, origin, participation in student scholarship programs, extracurricular internships, undergraduate research activities, artistic activities, presence of severe personal or family

members' illness, parental level of schooling and profession, intended medical specialty, and professed religion.

Statistical analysis

The data were analyzed using the Statistical Package for Social Sciences (SPSS) software and described as mean, standard deviation, frequencies, and percentages. The Mann-Whitney test was used for comparisons between two independent groups, whereas the Kruskal-Wallis test with Dunn's *post hoc* was used for three groups. The variation (Δ) between the means was used to indicate the increase (+) or decrease (-) in the comparison between the groups. The chi-square test verified the association between the classification of the questionnaire domains and the sociodemographic and educational variables, and the value of $p \leq 0.05$ was considered statistically significant.

RESULTS

In the present study, 83 students were evaluated, aged between 18 and 30 years. In this sample, female students, those who declared a family income of less than US\$ 2,140, those originated from the state capital Goiânia, and those who professed the Catholic religion prevailed. The majority of students reported not participating in student financial aid scholarship programs, or extracurricular and artistic activities; however, 81.9% of the students reported participating in activities related to undergraduate research activities (Table 1).

The majority of the students in the sample reported no personal history of severe diseases; however, in relation to family history, 50.2% reported a diagnosis in the family. It was also observed that children of parents who attended higher education prevailed in the sample, and 7.2% of the students had parents who had a medical degree. Regarding future areas of medical practice, 39.7% of the sample reported aptitudes for clinical specialties (Table 1).

According to the analysis of the scores on the PPOS scale, it was observed that students with physician-centered and disease-centered attitudes prevailed in the sample (85.5%). Similarly, it was found that the majority of students had low scores (mean scores <4.57) on questions related to the 'caring' domain (77.1%) and the 'sharing' domain (89.2%) (Table 2).

When considering the patient-centered communication model proposed by Epstein et al.¹³ (2005), there was a higher frequency of scores associated with moderately patient-centered attitudes (38.6%) in the area corresponding to sharing power and responsibility. It is noteworthy that the domains related to caring, both in the areas related to the understanding of the psychosocial context and the understanding of the patient's perspective, showed mean PPOS scores higher than the sharing domain, with a

Table 1. Sociodemographic and curricular characteristics of the 83 medical students.

Sociodemographic and curricular characteristics	Frequency	(%)
<i>Gender</i>		
Female	62	74.7
Male	21	25.3
<i>Age range</i>		
18 to 20 years	39	47.0
21 to 25 years	39	47.0
26 to 30 years	04	6.0
<i>Family income</i>		
< US\$ 2,140	36	43.0
Between US\$ 2,140 and US\$ 4,280	27	32.5
Between US\$ 4,280 and US\$ 8,560	13	15.7
> US\$ 8,560	07	8.4
<i>Place of origin</i>		
Goiânia	44	55.5
Brasília	03	3.6
Other	36	40.9
<i>Religion</i>		
Catholic	44	53.0
Evangelical	22	26.5
Spiritualist	10	12.0
Buddhist	01	1.2
Other	02	2.4
None	04	4.8
<i>Student Scholarship programs</i>		
Yes	23	27.7
No	60	72.3
<i>Extracurricular internships</i>		
Yes	24	28.9
No	59	71.1
<i>Artistic Activity</i>		
Yes	24	28.9
No	59	71.1
<i>Undergraduate Research</i>		
Yes	68	81.9
No	15	18.1
<i>Personal Illness</i>		
Yes	04	4.8
No	79	95.2
<i>Family Illness</i>		
Yes	42	50.6
No	41	49.4

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Table 1. Continuation.

Sociodemographic and curricular characteristics	Frequency	(%)
<i>Parental level of schooling</i>		
Elementary	11	13.3
High School	23	27.7
Higher Education	49	59.0
<i>Parent with a medical degree</i>		
Yes	06	7.2
No	77	92.8
<i>Intended specialty</i>		
Clinical	33	39.7
Surgical	21	25.3
Clinical and Surgical	01	1.2
Does not know	28	33.7

Source: created by the authors.

prevalence of 8.4% of students who focused on humanized patient-centered attitudes (Table 2).

In the present study, male participants had higher mean scores than female ones, when analyzing the caring domain from the patient's perspective ($\Delta = +0.46$, $p=0.011$) (Table 3).

There were no statistically significant associations of PPOS scores among the variables age group, city of origin, carrying out undergraduate research activities, extracurricular internships, artistic activities, personal and family history of severe illness, and parental level of schooling (Table 3).

The caring domain of the PPOS scale showed a positive association ($p=0.033$) with the students' family income in the studied sample, with the highest average score being observed among students with a family income between US\$ 4,280 and US\$ 8,560 (4.54) compared to those with an income lower than US\$ 2,140 (4.19), between US\$ 2,140 and US\$ 4,280 (4.30), and greater than US\$ 8,560 (4.00) (Table 3).

Students who reported not having a student grant for financial aid had higher PPOS scores in the present study than those who reported having a student grant, demonstrating a statistically significant association ($\Delta = +0.33$, $p=0.047$) when evaluating this variable in relation to the caring domain, related to the understanding of the psychosocial context (Table 3).

The religion variable of the assessed sample showed a significant association between the categories of the PPOS scale ($p=0.05$). The caring domain in the understanding of the patient's perspective, when associated with religion, indicated that 60.3% of the students with physician-centered attitudes and disease-centered attitudes were Catholic and 61.1% of those with moderately patient-centered PPOS

Table 2. Distribution of PPOS score domains among the 83 medical students.

Scores	Frequency	%
<i>Total PPOS</i>		
<4.57*	71	85.5
4.57-4.99 ⁺	12	14.5
$\geq 5.00^s$	0	0
<i>Caring</i>		
<4.57*	64	77.1
4.57-4.99 ⁺	12	14.5
$\geq 5.00^s$	7	8.4
<i>Caring - psychosocial context</i>		
<4.57 ^a	59	71.1
4.57-4.99 ^b	17	20.5
$\geq 5.00^c$	7	8.4
<i>Caring - patient's perspective</i>		
<4.57 ^a	58	69.9
4.57-4.99 ^b	18	21.7
$\geq 5.00^c$	7	8.4
<i>Sharing</i>		
<4.57 ^a	74	89.2
4.57-4.99 ^b	5	6.0
$\geq 5.00^c$	4	4.8
<i>Sharing information</i>		
<4.57 ^a	72	86.7
4.57-4.99 ^b	5	6.0
$\geq 5.00^c$	6	7.2
<i>Sharing power and responsibility</i>		
<4.57 ^a	48	57.8
4.57-4.99 ^b	32	38.6
$\geq 5.00^c$	3	3.6

^a PPOS scores < 4.57 = physician-centered and disease-centered attitudes;

^b PPOS scores between 4.57 and 4.99 = moderately patient-centered attitudes;

^c PPOS scores ≥ 5.00 = patient-centered attitudes;

Source: created by the authors.

scores (4.57 -4.99) declared to be evangelicals ($p=0.005$) (Table 4).

DISCUSSION

This study, carried out in a medical school, using the Problem Based Learning (PBL) teaching method, showed that the majority of the students (85.5%) still show physician-centered and disease-centered attitudes (mean PPOS scores < 4.57). This situation was also evidenced in other national and international studies¹⁷⁻²⁷.

Table 3. Comparison of the domains of PPOS scores and sociodemographic and academic characteristics of the 83 medical students.

Sociodemographic and curricular characteristics	Mean total PPOS (SD)	Caring Mean (SD)	Caring -psychosocial context Mean (SD)	Caring -patient perspective Mean (SD)	Sharing Mean (SD)	Sharing information Mean (SD)	Sharing power and responsibility Mean (SD)
<i>Age range</i>							
18 to 20 years	4.13 (0.50)	4.32 (0.51)	4.49 (0.63)	4.24 (0.70)	3.95 (0.71)	3.66 (0.89)	4.17 (0.74)
21 to 25 years	4.09 (0.43)	4.21 (0.61)	4.28 (0.66)	4.17 (0.77)	3.97 (0.53)	3.60 (0.81)	4.28 (0.88)
26 to 30 years	4.00 (0.30)	4.27 (0.23)	4.07 (0.43)	4.37 (0.32)	3.73 (0.55)	3.05 (0.57)	4.28 (0.73)
p ^a	0.887	0.723	0.110	0.553	0.925	0.470	0.707
<i>Gender</i>							
Female	3.96 (0.49)	4.08 (0.66)	4.51 (0.87)	3.87 (0.77)	3.84 (0.59)	3.49 (0.91)	4.12 (0.55)
Male	4.15 (0.44)	4.33 (0.49)	4.31 (0.54)	4.33 (0.66)	3.98 (0.63)	3.64 (0.83)	4.26 (0.70)
p ^a	0.121	0.101	0.442	0.011	0.556	0.666	0.248
<i>Family income</i>							
< US\$ 2,140	4.09 (0.38)	4.19 (0.53)	4.20 (0.60)	4.19 (0.68)	3.98 (0.55)	3.68 (0.79)	4.23 (0.58)
Between US\$ 2,140 and US\$ 4,280	4.11 (0.48)	4.30 (0.56)	4.51 (0.72)	4.19 (0.77)	3.93 (0.69)	3.60 (0.95)	4.20 (0.72)
Between US\$ 4,280 and US\$ 8,560	4.20 (0.55)	4.54 (0.49)	4.64 (0.46)	4.48 (0.67)	3.87 (0.68)	3.38 (0.72)	4.26 (0.86)
> US\$ 8,560	3.98 (0.60)	4.00 (0.55)	4.14 (0.54)	3.93 (0.76)	3.95 (0.68)	3.57 (1.01)	4.26 (0.59)
p ^a	0.549	0.033	0.09	0.266	0.565	0.670	0.595
<i>Place of origin</i>							
Goiânia	4.13 (0.50)	4.34 (0.54)	4.37 (0.63)	4.29 (0.63)	3.92 (0.67)	3.57 (0.89)	4.20 (0.71)
Brasília	4.20 (0.50)	4.48 (0.39)	4.33 (0.00)	4.56 (0.59)	3.93 (0.63)	3.25 (0.90)	4.47 (0.61)
Others	4.07 (0.41)	4.17 (0.55)	4.29 (0.67)	4.11 (0.80)	3.98 (0.58)	3.66 (0.80)	4.24 (0.63)
p ^a	0.658	0.658	0.389	0.612	0.612	0.640	0.651
<i>Student Scholarship programs</i>							
Yes	3.96 (0.49)	4.12 (0.63)	4.13 (0.57)	4.12 (0.91)	3.80 (0.61)	3.41 (0.63)	4.12 (0.78)
No	4.16 (0.44)	4.32 (0.50)	4.46 (0.64)	4.25 (0.63)	4.00 (0.62)	3.67 (0.91)	4.27 (0.62)
p ^a	0.157	0.183	0.047	0.519	0.219	0.206	0.619
<i>Undergraduate research activities</i>							
Yes	4.10 (0.47)	4.26 (0.55)	4.37 (0.67)	4.21 (0.71)	3.93 (0.63)	3.58 (0.84)	4.22 (0.70)
No	4.13 (0.41)	4.27 (0.54)	4.33 (0.45)	4.24 (0.74)	3.99 (0.58)	3.68 (0.89)	4.24 (0.51)
p ^a	0.972	0.938	0.828	0.953	0.665	0.436	0.789
<i>Extracurricular internships</i>							
Yes	4.10 (0.51)	4.23 (0.55)	4.41 (0.66)	4.14 (0.65)	3.97 (0.71)	3.56 (0.86)	4.30 (0.78)
No	4.11 (0.44)	4.28 (0.55)	4.34 (0.63)	4.25 (0.74)	3.93 (0.58)	3.61 (0.84)	4.20 (0.62)
p ^a	0.880	0.625	0.397	0.621	0.580	0.984	0.355
<i>Artistic activity</i>							
Yes	4.08 (0.49)	4.15 (0.55)	4.28 (0.38)	4.08 (0.75)	4.01 (0.61)	3.59 (0.82)	4.35 (0.61)
No	4.11 (0.44)	4.31 (0.54)	4.40 (0.72)	4.27 (0.70)	3.92 (0.63)	3.60 (0.86)	4.18 (0.69)
p ^a	0.896	0.215	0.228	0.301	0.365	0.896	0.210
<i>Personal illness</i>							
Yes	4.19 (0.25)	4.14 (0.47)	4.17 (0.84)	4.13 (0.34)	4.25 (0.11)	3.88 (0.63)	4.55 (0.41)
No	4.10 (0.46)	4.27 (0.55)	4.38 (0.63)	4.22 (0.73)	3.93 (0.63)	3.58 (0.85)	4.21 (0.67)
p ^a	0.586	0.704	0.798	0.644	0.132	0.416	0.305

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Table 3. Continuation.

Sociodemographic and curricular characteristics	Mean total PPOS (SD)	Caring Mean (SD)	Caring -psychosocial context Mean (SD)	Caring - patient perspective Mean (SD)	Sharing Mean (SD)	Sharing information Mean (SD)	Sharing power and responsibility Mean (SD)
<i>Family illness</i>							
Yes	4.09 (0.49)	4.18 (0.56)	4.40 (0.67)	4.08 (0.72)	3.99 (0.60)	3.58 (0.85)	4.33 (0.64)
No	4.12 (0.42)	4.35 (0.52)	4.33 (0.61)	4.36 (0.69)	3.90 (0.64)	3.61 (0.85)	4.13 (0.68)
p ^a	0.949	0.162	0.357	0.083	0.256	0.931	0.096
<i>Parental level of schooling</i>							
Primary	4.04 (0.48)	4.17 (0.74)	4.27 (0.83)	4.12 (0.80)	3.91 (0.56)	3.57 (0.83)	4.20 (0.68)
Secondary	4.16 (0.31)	4.23 (0.45)	4.23 (0.52)	4.22 (0.70)	4.09 (0.50)	3.72 (0.72)	4.38 (0.52)
Higher	4.09 (0.51)	4.21 (0.55)	4.45 (0.64)	4.23 (0.72)	3.88 (0.68)	3.55 (0.91)	4.16 (0.72)
p ^a	0.339	0.782	0.082	0.904	0.842	0.663	0.950
<i>Parent with a medical degree</i>							
Yes	4.01 (0.65)	4.31 (0.63)	4.44 (0.27)	4.24 (0.84)	3.72 (0.73)	3.33 (0.97)	4.03 (0.66)
No	4.11 (0.44)	4.26 (0.54)	4.36 (0.66)	4.21 (0.71)	3.96 (0.61)	3.62 (0.84)	4.24 (0.67)
p ^a	0.993	0.486	0.500	0.602	0.537	0.764	0.386

^a Data for p ≤ 0.05 statistically. Source: created by the authors.

Table 4. Association between PPOS score domains and religion of 83 medical students.

PPOS score domains	Catholic (n=44) n (%)	Evangelical (n=22) n (%)	Spiritualist (n=10) n (%)	Buddhist (n=01) n (%)	Others (n=02) n (%)	None (n=04) n (%)	p ^d
<i>Total PPOS scores</i>							
<4.57 ^a	39 (54.9)	21 (29.6)	08 (11.3)	0 (0)	01 (1.4)	02 (2.8)	0.05
4.57-4.99 ^b	05 (41.7)	01 (8.3)	02 (16.7)	01 (8.3)	01 (8.3)	02 (16.7)	
≥5.00 ^c	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	
<i>Caring</i>							
<4.57 ^a	37 (57.8)	15 (23.4)	08 (12.5)	01 (1.6)	01 (1.6)	02 (3.1)	0.063
4.57-4.99 ^b	03 (25.0)	07 (58.3)	01 (8.3)	0 (0)	01 (8.3)	0 (0)	
≥5.00 ^c	04 (57.1)	0 (0)	01 (14.3)	0 (0)	0 (0)	02 (28.6)	
<i>Caring - psychosocial context</i>							
<4.57 ^a	30 (50.8)	16 (27.1)	09 (15.3)	01 (1.7)	01 (1.7)	02 (3.4)	0.171
4.57-4.99 ^b	12 (70.6)	04 (23.5)	0 (0)	0 (0)	01 (5.9)	0 (0)	
≥5.00 ^c	02 (28.6)	02 (28.6)	01 (14.3)	0 (0)	0 (0)	02 (28.6)	
<i>Caring patient's perspective</i>							
<4.57 ^a	35 (60.3)	11 (19.0)	08 (13.8)	01 (1.7)	01 (1.7)	02 (3.4)	0.005
4.57-4.99 ^b	05 (27.8)	11 (61.1)	0 (0)	0 (0)	0 (0)	02 (11.1)	
≥5.00 ^c	04 (57.1)	0 (0)	02 (28.6)	0 (0)	01 (14.3)	0 (0)	
<i>Sharing</i>							
<4.57 ^a	39 (52.7)	22 (29.7)	08 (10.8)	0 (0)	01 (1.4)	04 (5.4)	0.102
4.57-4.99 ^b	03 (60.0)	0 (0)	01 (20.0)	01 (20.0)	0 (0)	0 (0)	
≥5.00 ^c	02 (50.0)	0 (0)	01 (25.0)	0 (0)	01 (25.0)	0 (0)	
<i>Sharing information</i>							
<4.57 ^a	38 (52.8)	21 (29.2)	08 (11.1)	0 (0)	01 (1.4)	04 (5.6)	0.087
4.57-4.99 ^b	02 (40.0)	01 (20.0)	0 (0)	01 (20.0)	01 (20.0)	0 (0)	
≥5.00 ^c	04 (66.7)	0 (0)	02 (33.3)	0 (0)	0 (0)	0 (0)	

Continue...

Table 4. Continuation.

PPOS score domains	Catholic (n=44) n (%)	Evangelical (n=22) n (%)	Spiritualist (n=10) n (%)	Buddhist (n=01) n (%)	Others (n=02) n (%)	None (n=04) n (%)	p ^d
Sharing power and responsibility							
<4.57 ^a	29 (60.4)	12 (25.0)	05 (10.4)	0 (0)	01 (2.1)	01 (2.1)	0.304
4.57-4.99 ^b	14 (43.8)	09 (28.1)	05 (15.6)	01 (3.1)	0 (0)	03 (9.4)	
≥5.00 ^c	01 (33.3)	01 (33.3)	0 (0)	0 (0)	01 (33.3)	0 (0)	

^a PPOS scores < 4.57 = physician-centered and disease-centered attitudes;

^b PPOS scores between 4.57 and 4.99 = moderately patient-centered attitudes;

^c PPOS scores ≥ 5.00 = patient-centered attitudes;

^d Data for p ≤ 0.05 statistically significant;

Source: created by the authors.

The research carried out by Pereira⁷, PEIXOTO et al.²⁸, and Ribeiro et al.¹⁶ showed a prevalence of medical students with mean PPOS scores associated with moderately patient-centered attitudes (mean PPOS score: 4.57–4.99). This difference may be related to the sample size and the period of the course in which the students were enrolled, since the sample evaluated by the current study consisted of fourth-semester students and the other national studies analyzed students from different undergraduate periods. Ribeiro et al.¹⁶ and Ahmad et al.¹⁷ demonstrated that student scores at the end of undergraduate school tend to be positively associated with patient-centered attitudes.

When considering that the humanization of care can be achieved from the centralization of attention and care on the patient^{9,29}, it is noteworthy that in the present study, the Patient-Practitioner Orientation Scale, translated and validated into Portuguese in Brazil and called *EOMP*, allowed an assessment of the humanized attitudes in medical care provided by medical students in relation to the domains of caring and sharing information with the patient^{7,10,11,14}.

It should be noted that in this research, the scores related to the caring domain of the PPOS scale were higher than the scores of the sharing domain, as observed in previous national studies^(7,16) and differing from the study by Dockens et al.¹⁸ carried out in Sweden, possibly because these countries have different socioeconomic and cultural aspects.

In several evaluated samples^{22,23,27,28} the female sex showed a positive association with PPOS scores, as well as higher communication and empathy attitudes compared to males. However, in the current study, male participants paradoxically showed higher mean scores than females, with emphasis on the analysis of the caring domain from the perspective of the patient, showing a statistically significant difference (p ≤ 0.05) between the genders in the study sample.

Although not described in previous national studies^{27,28}, this study showed that the family income variable showed a positive association (p ≤ 0.05) with the caring domain, as well as the variable related to having a student grant for financial aid with the caring domain according to the understanding of the patient's psychosocial context. Students with a family income between US\$ 4,280 and US\$ 8,560 and those who declared not receiving a scholarship had the highest average scores.

For Jakovljevic³⁰, religion is seen as the search for meaning in complex and dynamic pathways related to the sacred; therefore it is recognized as part of the cultural context of the experience of the health-disease process. In the present study, and in the research by Vidal et al.²⁷, a positive association (p ≤ 0.05) was observed between the religion variable and the mean PPOS scores related to patient-centered attitudes.

This study has limitations related to the self-reported data during the completion of the questionnaires, which may underestimate or overestimate the practical attitudes of humanization of care. In addition, the impossibility of establishing a relationship between cause and effect between dependent and independent variables is also described, due to the cross-sectional design of the study.

CONCLUSION

The current study showed that the medical students evaluated herein had attitudes physician-centered and disease-centered attitudes, with mean PPOS scores below the range related to attitudes towards humanized medicine. Variables such as gender, family income, student financial aid scholarship, and religion showed to be determinant factors of patient-centered attitudes.

AUTHORS' CONTRIBUTION

Higor Chagas Cardoso, Viviane Soares, Guilherme Antônio Ferreira de Sena Soares, Vinicius Chagas Cardoso, Edna

Regina Silva Pereira and Marcelo Fouad Rabahi: participated in the study conception and design, collection, analysis and interpretation of results and writing of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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