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Most desired specialties and factors that influence this choice in a Brazilian public medical college

Especialidades mais desejadas e fatores que influenciam essa escolha numa faculdade pública brasileira

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ABSTRACT

Introduction: The decision of medical students to pursue a career in medicine has repercussions not only for the graduates but also for society in general since the population needs to be assisted by an appropriate mix of specialists to reverse the shortage and poor distribution of professionals in Brazil. In this sense, thinking about which areas of medicine students wish to pursue and where they intend to work becomes extremely relevant. Throughout the course, students' contact with all service levels is impacted by various aspects that positively or negatively interfere with their ability to choose their future medical specialties.

Objective: To identify the areas of activity most preferred by undergraduate students of the Medicine course at Universidade Federal de Uberlândia in the 12 semesters, and to analyze the factors that influence the choice of medical specialties during the undergraduate course.

Method: This observational, cross-sectional, descriptive exploratory study uses a quantitative questionnaire with 401 valid responses from medical students from the 1st to the 12th semester at UFU.

Results: the main specialties desired were General Surgery (9.8%), Gynecology and Obstetrics(8.7%), Cardiology (8%), Pediatrics (6.4%), Neurology (6.4), Psychiatry (6.1), and Internal Medicine (5.5). Working in primary care was the least desired (4,5%). The influence factors that mostly impacted these preferences were affinity for the area, work environment, broader or more specific knowledge, and job opportunities.

Conclusion: These findings can guide medical education policies and student decisions, and future research is needed to compare the results in different contexts and curricula.

Keywords: Education, medical; Students; Career Choice; Medicine; Specialization.

RESUMO

Introdução: *A decisão da carreira médica por parte dos(as) estudantes de Medicina repercute não apenas no(a) egresso(a) dessa graduação, mas também na sociedade em geral, já que a população deve ser assistida com uma combinação adequada de especialistas, a fim de reverter a escassez e a má distribuição de profissionais no Brasil. Nesse sentido, pensar acerca de quais áreas da medicina os(as) estudantes almejam seguir, bem como onde pretendem atuar, torna-se extremamente relevante. Ao longo do curso, o contato dos(as) estudantes com todos os níveis de serviço é impactado por diversos aspectos que interferem, positiva ou negativamente, nessa capacidade de escolherem suas futuras especialidades médicas.*

Objetivo: *Este estudo teve como objetivos identificar as áreas de atuação de maior preferência dos(as) estudantes de graduação do curso de Medicina da Universidade Federal de Uberlândia (UFU) nos 12 períodos e analisar os fatores que influenciam a escolha das especialidades médicas durante a graduação.*

Método: *Trata-se de um estudo observacional, transversal e descritivo exploratório com a aplicação de questionário quantitativo com 401 respostas válidas de discentes de Medicina do primeiro ao 12º período da UFU.*

Resultado: *As principais especialidades desejadas foram cirurgia geral (9,8%), ginecologia e obstetrícia (8,7%), cardiologia (8%), pediatria (6,4%), neurologia (6,4%), psiquiatria (6,1%) e clínica médica (5,5%). A atuação na área de atenção primária foi a menos desejada (4,5%). Os fatores de influência com maior impacto nessas preferências identificadas foram afinidade pela área, ambiente de trabalho, conhecimento mais amplo ou específico e oportunidade de emprego.*

Conclusão: *Esses achados podem orientar políticas de formação médica e decisões de estudantes, sendo necessárias pesquisas futuras para comparação em diferentes contextos e currículos.*

Palavras-chave: *Educação Médica; Estudantes; Escolha da Profissão; Medicina; Especialização.*

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INTRODUCTION

In 2002, the Program to Encourage Curricular Changes in Medical Schools[1] was the first initiative to encourage the adaptation of medical education to the needs of the Brazilian Unified Health System (SUS, *Sistema Único de Saúde*), reinforcing primary care (PC) as opposed to early specialization[2,3]. In this context, the 2014 National Curricular Guidelines (DCNs, *Diretrizes Curriculares Nacionais*) for undergraduate medical courses in Brazil established general and humanized training to change the profile of graduates to work at different levels of care, focused on comprehensive care[4].

Nevertheless, municipal managers in the country still face difficulties in hiring doctors for PC, both due to the poor distribution of professionals and their choice of other areas of practice[5]. The 2023 Brazilian Medical Demographics (DMB, *Demografia Médica Brasileira*) indicates that professionals are poorly distributed geographically, between the public and private sectors and between levels of care[6]. Less than 30% of the population that has health insurance uses it more (3.3 consultations/person/year) than those who only have access to the SUS (2.3 consultations/person/year)[6]. Furthermore, although the density of doctors per 1,000 inhabitants has increased (2.60 in 2023), the geographic concentration and the force of attraction of large centers still prevail[6]. The capitals have an average density of doctors per inhabitant (6.13) much higher than the interior (1.84) and, within some states (especially in the North and Northeast regions), this difference is even more significant (about ten-fold in states such as Sergipe, Amazonas, Maranhão and Pará)[6]. In 2022, 8% of the doctors were present in the set of cities with less than 50,000 inhabitants, where more than 30% of the population lives[6]. Thus, true "medical deserts" are configured.

In this context, the effectiveness of health services in the country becomes fragile, since it depends on the distribution of doctors in an equitable and accessible way to the population[7]. Therefore, thinking about which areas of medicine students wish to pursue, as well as where they intend to work, becomes extremely relevant.

The choice of a medical career generates influences not only for the graduates, but also for society[8]. Specialties represent the most effective way to increase knowledge in medicine[9,10], and 5,5[11] of them are currently recognized.

According to the DMB[6], the specialties with the most specialist registrations are Internal Medicine (56,979), Pediatrics (48,654), General Surgery (41,547), Gynecology and Obstetrics (37,327), Anesthesiology (29,358), Orthopedics and Traumatology (20,972), Occupational Medicine (20,804) and Cardiology (20,324), which represent more than half of the specialist registrations (55.6%). Family and Community Medicine (FCM) has 11,255 registrations (2.3%) and is one of the specialties whose number of specialists at least doubled between 2012 and 2022[6], with Primary Health Care (PHC) being the main field of activity of this specialty[12]. Moreover, based on research by Assunção et al.[9] (2019), who interviewed 463 newly graduated doctors from a public university over four years, it is possible that graduates who chose basic areas, such as Internal Medicine, General Surgery and Pediatrics, made this choice only as a prerequisite to access other specialties. The results confirm the group's low preference for working in PHC, thus distancing them from the needs of the health system[12].

This decision is influenced by several aspects. Maeyamal and Ros[5] (2018) researched graduates who actively participated in PC projects during their undergraduate studies and identified two styles of thinking that guided this choice in the group: expanded Flexnerian model, more liberal, which grouped professionals who chose focal specialties with a humanized and comprehensive perspective, showing the influence of experiences during training; in contrast, the PC style, based on the proposals systematized in Alma-Ata, 1978, which encompassed the specialty of FCM[5]. Martins et al.[11] (2019), and Corsi et al.[13] (2014) studied undergraduate students, but found divergent results. In the first study, broader or more specific knowledge, contact with the patient, place of professional practice and lifestyle after medical residency received a higher score[11]. The second found that quality of life, financial return, doctor-patient relationship and third-party influences had a greater impact[13]. These divergences justify the need for local research.

Based on that, it is worth highlighting that the objectives of the pedagogical project of the Faculty of Medicine of Universidade Federal de Uberlândia (FAMED UFU), addressed in this article, converge with the postulations of the DCNs[14]. However, no scientific evidence was found in the literature of the last 10 years on how training can influence this preference for each specialty in this University, nor about the factors that influence this choice, justifying the performance of the present research. Its performance was of great importance for the education of the students of the course, as well as for FAMED UFU, as it will promote reflections on the impact of the formal, informal and hidden medical curriculum on the future professional's career, allowing curricular adaptations aligned with the demands of the local and national reality, with benefits to the community in general. Thus, this article is part of a mixed-method umbrella research and the objectives of this article are: to identify the areas of activity most preferred by undergraduate students of the Medicine course at Universidade Federal de Uberlândia in the 12 semesters, and to analyze the factors that influence the choice of medical specialties during the undergraduate course.

METHOD

This article represents the quantitative analysis of a mixed quantitative-qualitative study that focused on students from the 1st to the 12th semesters of the medical course at FAMED UFU. This is an observational, cross-sectional, descriptive and exploratory study. This project was submitted to the Research Ethics Committee (REC) of Universidade Federal de Uberlândia (UFU) and followed the standards in force in Brazil.

Participants

All 595 students enrolled at the time the project was written were invited to participate in the census-type research[15].

Data Collection Instruments

The data collection instrument[16] predominantly comprised objective questions, except in three moments, created by the researchers themselves and adapted based on the questions from the studies: Corsi et al.[13] (2014), Sousa et al.[17] (2014), Assunção et al.[9] (2019) and Martins et al.[11] (2019). The questionnaire is divided into: (Part I) Identifying sociodemographic data; (Part II) Identifying the areas of practice of greatest preference, change or not of the choice of specialty and related individual factors; (Part III) Characterizing the factors that influence preferences in choosing a medical specialty.

Collection procedures

The collection of the questionnaires began in the second half of 2021. Students were contacted via an online platform, where they were invited to participate in the survey and a moment during class was made available for online self-administration.

Inclusion Criteria

Students enrolled in the undergraduate course in Medicine from the 1st to the 12th semesters at UFU, who were over 18 years old, were included. All participants were enrolled under the same pedagogical project of the course.[14]

Exclusion Criteria

The responses of all participants who met the inclusion criteria were analyzed, with no exclusions.

Analysis of results

Excel, Power BI and RStudio were used for data analysis and testing. Descriptive Statistics methods were applied to organize, summarize, describe or compare characteristics between groups. Statistical tests were performed using logistic regression[18] and adjusted within the range -2.5 and 2.5. This model was verified by the Hosmer-Lemeshow test and is adjusted to the data (null hypothesis). From this, univariate and bivariate analyses were performed.

RESULTS

A total of 401 valid responses were obtained; 191 respondents registered as male (47.63%) and 210 as female (52.37%). The minimum age of the students was 18 years, maximum 50, mean 23.13 (± 3.37). The age range 18 |- 21 received 125 responses (31.17% relative frequency); 22 |- 27, 232 (57.86%); 27 |- 32, 33 (8.23%); 32 |- 37, 8 (2.00%); and 37 |- 42, 42 |- 47 and 47 |-| 50, 1 answer each (0.25% each). A total of 253 respondents declared themselves as white (63.09%); 28, black (6.98%); 106, brown (26.43%); 3, yellow (0.75%); 0 indigenous (0.00%); and 11 did not respond (2.74%).

As for the semester of the course, 57 students were in the first (14.21%); in the second, 45 (11.22%); in the third, 51 (12.72%); in the fourth and fifth, 55 each (13.72% each); in the sixth, 26 (6.48%); in the seventh, 35 (8.73%); in the eighth, 15 (3.74%); in the ninth, 14 (3.49%); in the tenth, 22 (5.49%); in the eleventh, 20 (4.99%); and in the twelfth, 6 (1.50%).

Regarding the question of whether they had relatives who were doctors, 270 (67.33%) students answered yes; and 131 (32.67%) answered no. Regarding income, 11 (2.74%) declared having a family income of up to 1 minimum wage (MW); 52 (12.97%), from 1 to 3 MW; 144 (28.43%), from 3 to 5 MW; 103 (25.69%), from 5 to 10 MW; 79 (19.70%), from 10 to 20 MW; and 42 (10.47%), more than 20 MW.

In the first question, when asked if they had already decided on the medical specialty they would like to pursue, 10.5% (6) of the first semester said they had not yet decided, compared to 31.1% (14) of the second; 27.5% (14) of the third; 36.4% (20) of the fourth; 34.5% (19) of the fifth; 36.7% (7) of the sixth; 28.6% (10) of the seventh; 13.3% (2) of the eighth; 21.4% (3) of the ninth; 13.5% (3) of the tenth; and 0% of the eleventh and twelfth semesters. This meant 24.5% (98) of the total sample. Of these, 64.3% had no relatives who were doctors, while 35.7% did. Among those who had already made their choice, the most mentioned specialties were: General Surgery, with 52 responses (9.8%); Gynecology and Obstetrics, with 46 (8.7%); Cardiology, with 42 (8.0%); Pediatrics and Neurology, with 34 (6.4%) each; Psychiatry, with 32 (6.1%); Medical Clinic with 29 (5.5%); Orthopedics and Traumatology, and Neurosurgery, with 25 (4.7%) each; Cardiovascular Surgery and Anesthesiology, with 18 (3.4%) each; FCM and Endocrinology with 16 (3.0%) each; Gastroenterology, with 14 (2.7%); Internal Medicine, Dermatology and Plastic Surgery, with 12 (2.3%) each; Pediatric Surgery, with 11 (2.1%); Otorhinolaryngology, with 10 (1.9%); Intensive Care, with 9 (1.7%); Geriatrics, with 8 (1.5%); Nephrology and Digestive Tract Surgery, with 7 (1.3%)

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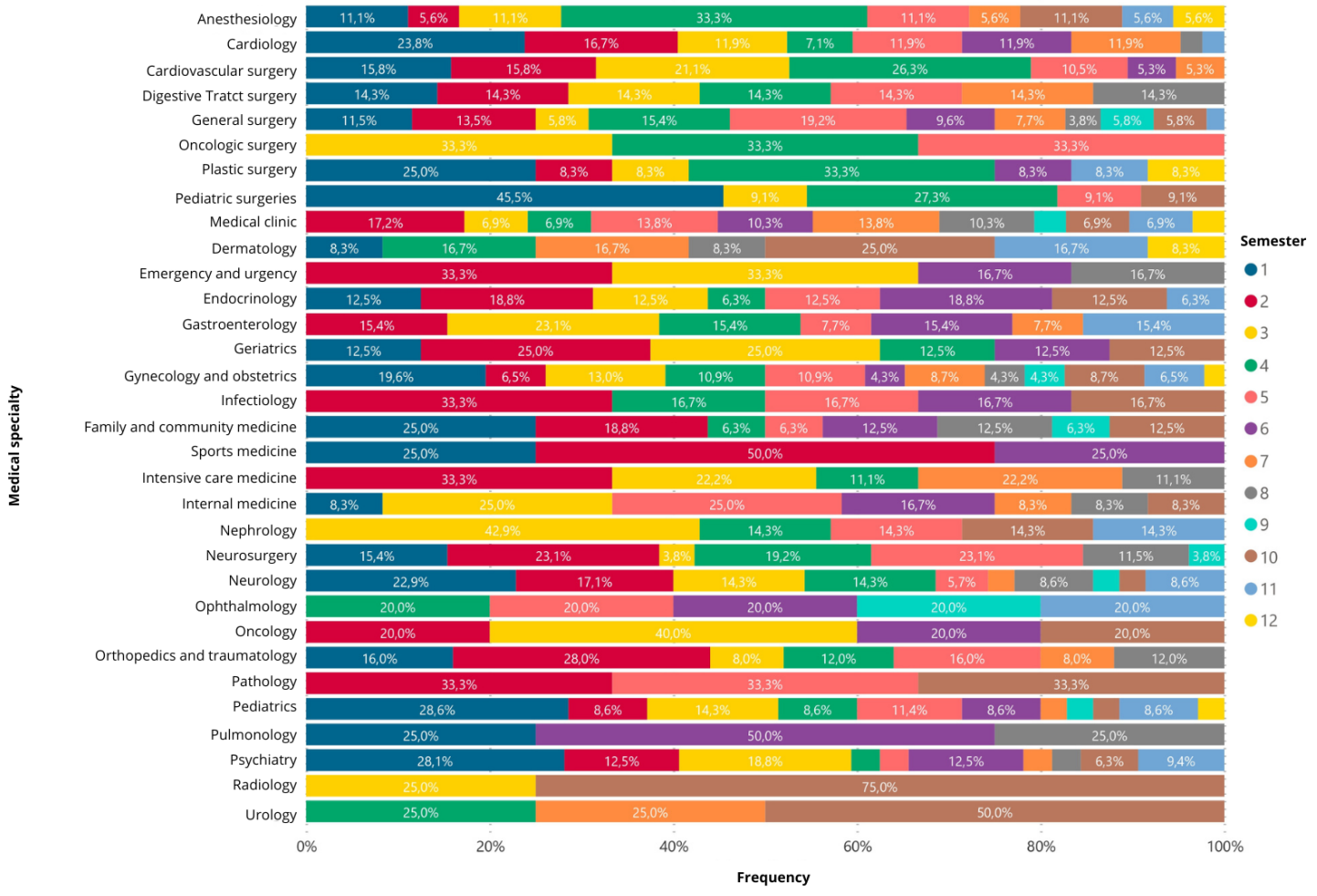
each; Infectious Diseases and Urgency and Emergency (UE), with 6 (1.1%); Urology, Oncology and Ophthalmology, with 5 (0.9%); and Radiology, Pneumology and Sports Medicine, with 4 (0.8%). Palliative Care, Forensic Medicine, Neonatology, Neuropediatrics and Nutrology had 2 responses each; while Academic Career, Head and Neck Surgery, Renal Transplant Surgery, Hematology, Procedures and Rheumatology had 1 response each. These frequencies were also evaluated by semester in Graph 1. Each color in the graph corresponds to a specific semester.

Graph 2 shows the combination between the semester and the 5 most chosen medical specialties of current interest with the addition of FCM, considering its importance as a field of activity in PHC.

In the topic "Medical specialty you would least like to pursue", 722 counts were obtained, excluding those that do not apply (5) and those of low frequency (12). The most cited specialty was Pediatrics (16.2%), followed by Gynecology and Obstetrics (8.9%), Orthopedics and Traumatology (8.3%), Neurology (7.6%), Dermatology (7.2%) and General Surgery (7.1%). Moreover, other specialties mentioned were Ophthalmology (6.5%), FCM (5.8%), Psychiatry (4.2%), Geriatrics (3.3%), Oncology (2.8%), Radiology (2.4%), Anesthesiology (2.4%), Urology (2.2%), Endocrinology (1.9%), Cardiology (1.9%), Pulmonology (1.8%), Neurosurgery (1.7%), Pathology (1.1%), Internal Medicine (1.1%), and Plastic Surgery (1%). The specialties with less than 1% of response were Otorhinolaryngology (0.8%), Infectious Diseases (0.8%), Hematology (0.7%), Nutrology (0.6%), Nephrology (0.6%), Rheumatology (0.4%), Forensic Medicine (0.4%), and Genetics (0.4%). The frequency by semester is shown in Graph 3.

When asked whether they changed their desired specialty during the course, 239 (59.6%) answered no; and 162 (40.4%) answered yes. When analyzing the frequency of responses to this question based on the semester the respondent was attending in the course, the following data were found: in the first semester, 52 (91.23%) students did not change their specialty and 5 (8.77%) did; in the second, 39 (86.67%) did not change and 6 (13.33%) did; in the third, 39 (76.47%) did not change and 12 (23.53%) did; in the fourth, 36 (65.45%) did not change and 19 (34.55%) did; in the fifth, 30

Graph 1. Current medical specialty of interest x Frequency per semester.



Source: the authors, 2024.

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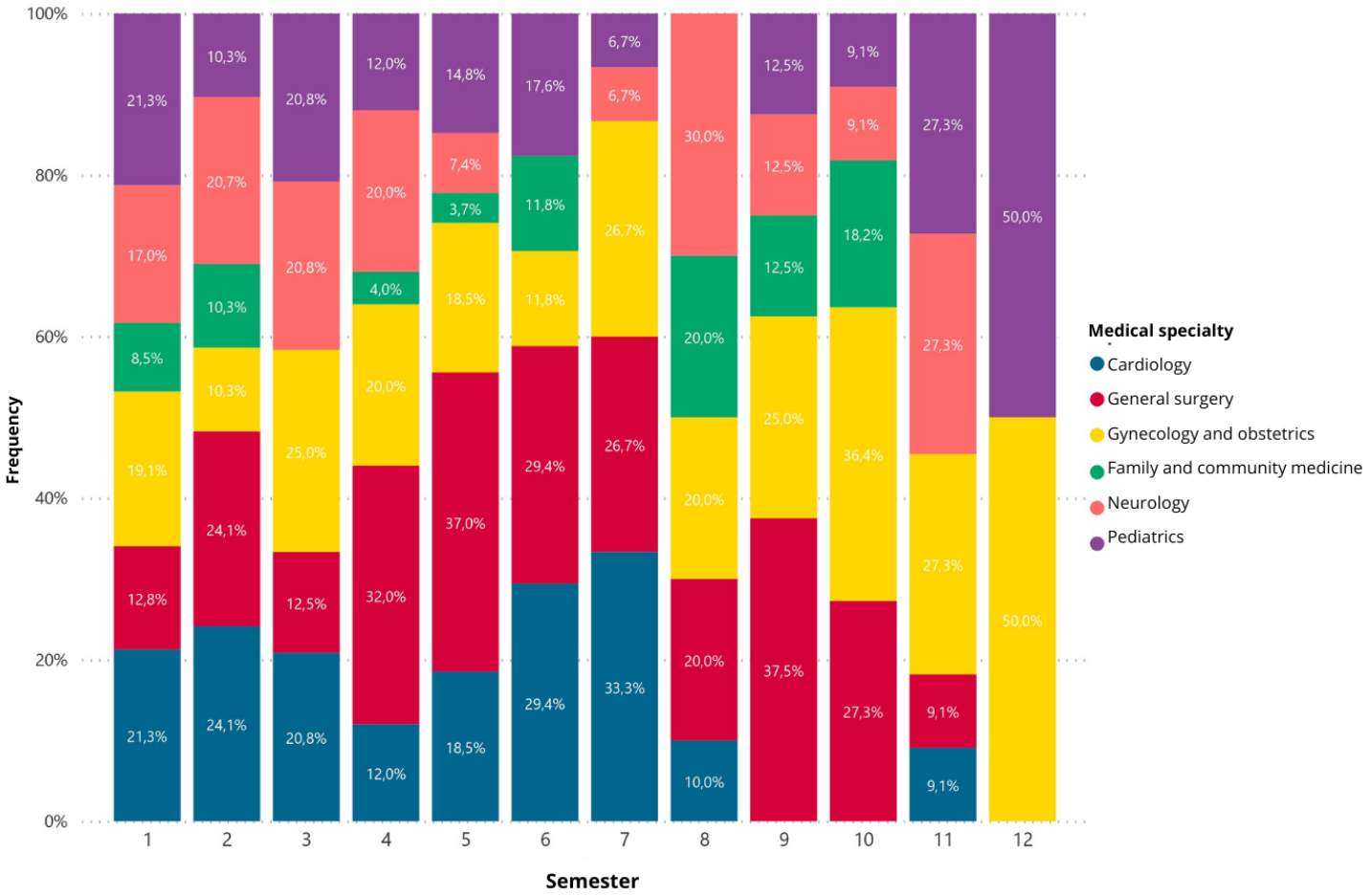
(54.44%) did not change and 25 (45.45%) did; in the sixth, 15 (57.69%) did not change and 11 (42.31%) did; in the seventh, 15 (42.86%) did not change and 20 (57.14%) did; in the eighth, 1 (6.67%) did not change and 14 (93.33%) did; in the ninth, 4 (28.57%) did not change and 10 (71.43%) did; in the tenth, 4 (18.18%) did not change and 18 (81.82%) did; in the eleventh, 3 (15.00%) did not change and 17 (85.00%) did; and, in the twelfth, 1 (16.67%) did not change and 5 (83.33%) did.

Regarding the question of which medical specialty the respondent was interested in pursuing, if they indicated that they changed their choice during the course, it was found: 32 (13.1%) answered Pediatrics; 24 (9.8%), General Surgery; 20 (8.2%), Neurology; 17 (7.0%), Psychiatry; 16 (6.6%), Internal Medicine; 14 (5.7%), Oncology, Cardiology and Gynecology and Obstetrics each; 9 (3.7%), Neurosurgery, Endocrinology and Dermatology each; 8 (3.3%), Infectology and Orthopedics and Traumatology each; 7 (2.9%), Ophthalmology; 6 (2.5%), Plastic Surgery and Urgency and Emergency each; 5 (2.0%), Urology, Geriatrics, Cardiovascular Surgery and Anesthesiology each; 4 (1.6%), Pediatric Surgeries and FCM each; and 3 (1.2%), Gastroenterology. The specialties Kidney Transplant Surgery, Thoracic Surgery, Hematology, Sports Medicine, Neonatology, Nutrology, Pediatric Oncology, Otorhinolaryngology, Pathology, Ultrasonography, Neonatal ICU and Procedures had 2 (0.8%) records each. Academic Career, Pediatric Cardiovascular Surgery, Head and Neck Surgery, Digestive System Surgery, Trauma Surgery, Oncological Surgery, Orthopedic Surgery, Vascular Surgery, Palliative Care, Emergency Urgency, Genetics, Homeopathy, Immunology, Intensive Medicine, Internal Medicine, Forensic Medicine, Pediatric Neurosurgery, Pediatric Neurology, Pulmonology, Proctology, Radiology and Rheumatology had 1 (0.4%) mention each. It is possible to state that Pediatrics is the specialty with the highest decrease in interest, since it appears in large proportion in almost all semesters. The TOP 5 of those that were previously desired were evaluated by semester in Graph 4, with the addition of FCM, considering its importance as a field of action in PHC.

Graph 2. TOP 5 Medical specialties of current interest x Semester.



Source: the authors, 2024.

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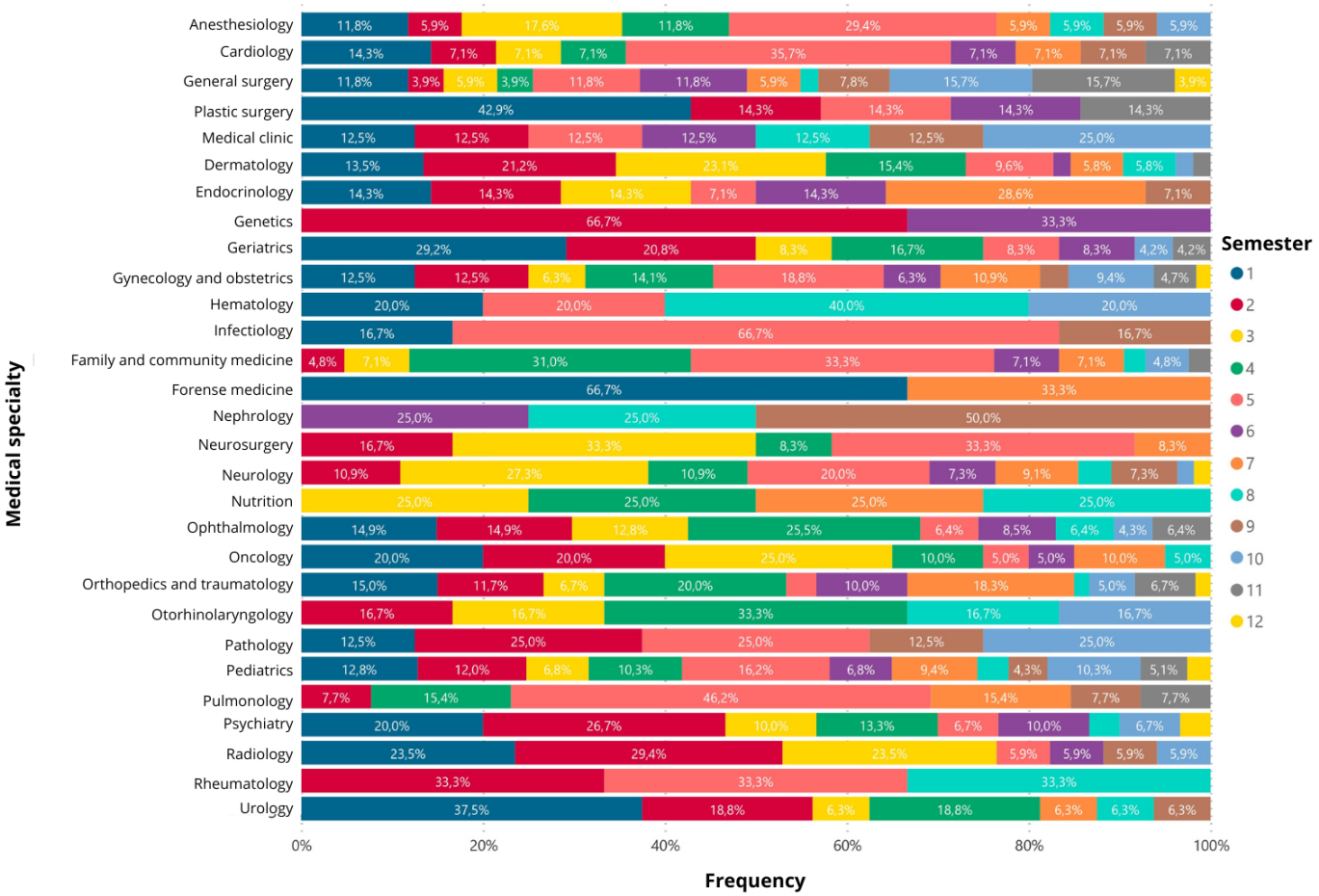
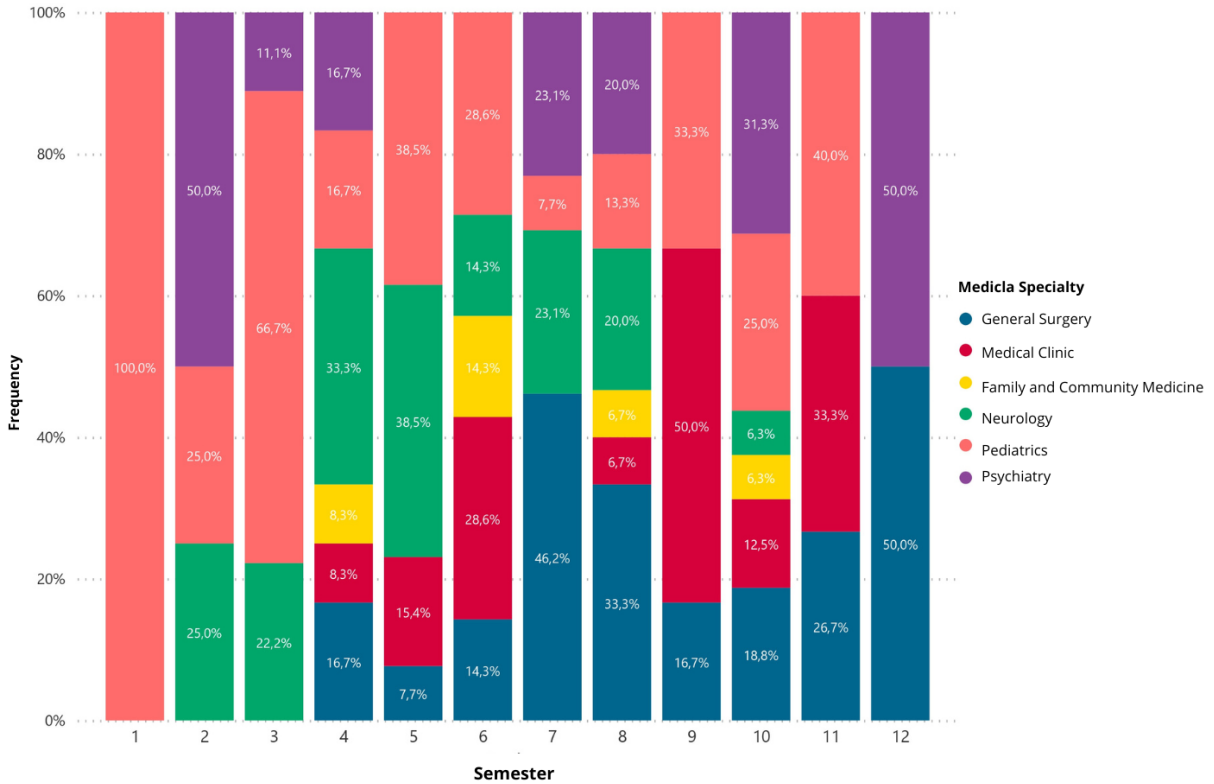
Graph 3. Medical specialty you would least like to pursue x Semester.



Source: the authors, 2024.

Graph 4. TOP 5 Medical specialties that you have previously been interested in x Semester.



Source: the authors, 2024.

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In the question about the levels of care that they would like to work in, secondary care was the most frequently chosen (38.4%), followed by "all options" (31.7%), tertiary care (25.4%) and PHC (4.5%).

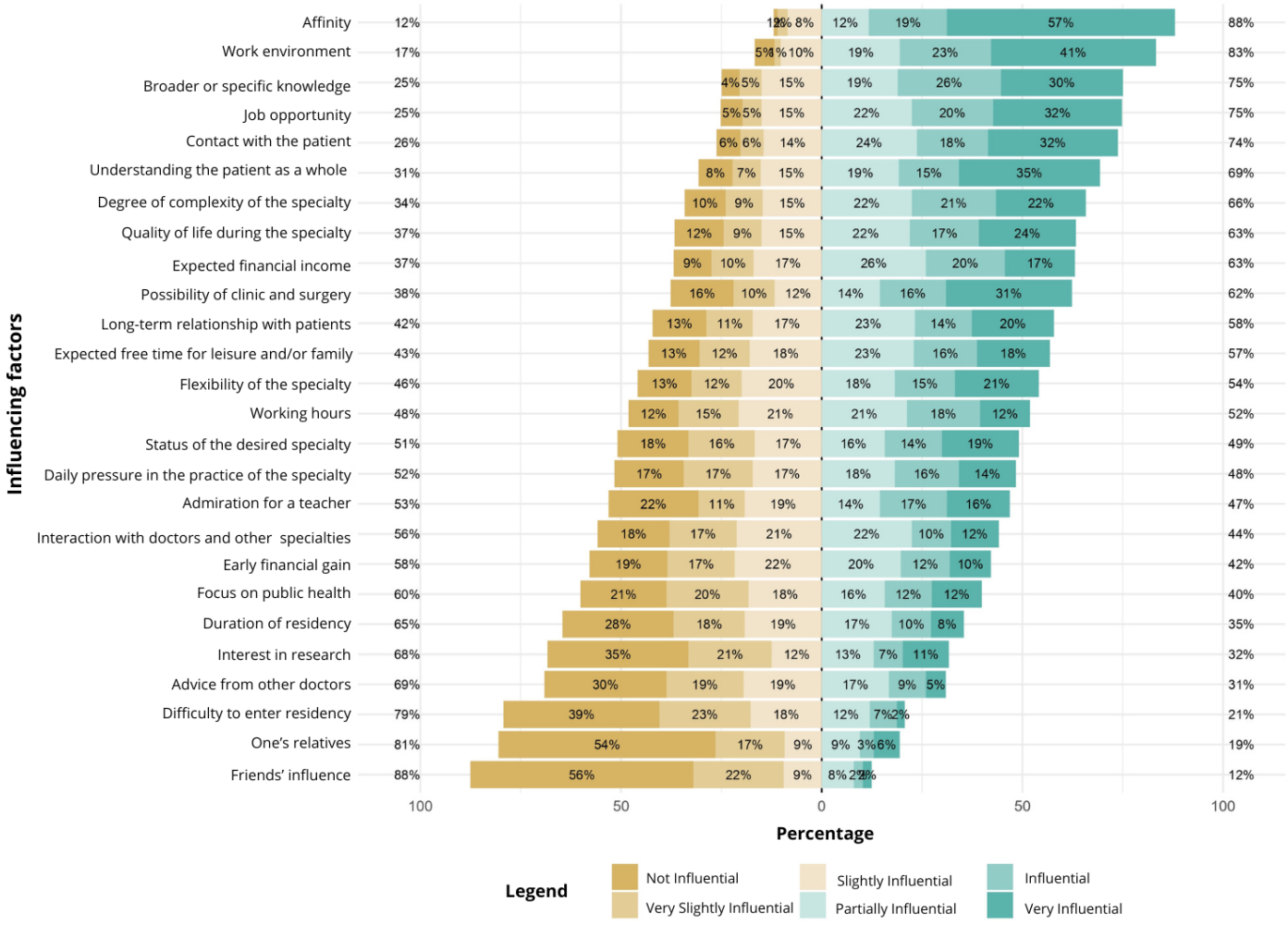
In relation to the desired income from their professional practice, 49.1% chose the option "more than 20 minimum wages"; 36.7% wanted 10 to 20 MW; 12.7% wanted 5 to 10 MW and only 1.5% chose 3 to 5 MW.

The answers about the factors that influence the preference for choosing a specialty were prepared using a Likert scale. Graph 5 illustrates the results obtained. For each factor, there are 100% of the answers and the percentages mentioned below refer to the sum of the categories in the legend.

Finally, the odds ratio was used to assess which factors influence an individual's decision to change specialty. The results indicate that:

- Those who stated that admiration for a teacher exerts a great deal of influence on the decision to change specialty are approximately 3 times more likely to do so compared to those who consider this influence to be low.
- Those who stated that the length of residency has a great influence on the decision to change specialty are approximately 2 times more likely to do so compared to those who consider this influence to be low.
- Those who stated that the long-term relationship with the patient has little influence on the decision to change specialty are approximately 3 times more likely to do so compared to those who consider this influence to be high.
- Those who stated that broader or more specific knowledge has a great influence on the decision to change specialty are approximately twice as likely to do so compared to those who consider this influence to be low.

Graph 5. Factors that influence the choice of specialty.



Source: the authors, 2024.

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DISCUSSION

Regarding the profile of the obtained sample, with an average of 23 years and the range between 22 and 27 years representing more than half of the respondents, the data are in line with those of other studies. Moreira et al.[19] (2006) and Sousa et al.[17] (2014) found an average age of 22 ± 2 years among students in medical courses; Assunção et al.[9] (2019) found an average age of 26.4 ± 3.9 years; and in Corsi et al.[13] (2014), it ranged from 18 to 43 years, with 62.3% between 21 and 24 years. These data corroborate the trend of young age in the physician population identified in the DMB[6], which projects that by 2035, more than 85% of the professionals will be between the ages of 22 and 45.

The majority of the sample declared themselves to be female, which, although lower than the percentage of female physicians identified in the DMB (in 2022, it was approximately 48.5%)[6], is in line with the trend of a global increase in the number of female physicians, with an increase of approximately 10% in the proportion of women since the year 2000 on average in the countries[6].

Regarding race, 63.09% declared themselves to be white, followed by 26.43% brown and approximately 7% black. This is in line with national data from DMB[6], which identified that medical students in Brazil are predominantly white (representing, nationally, 69.7% of students in the first year of the course in 2019, for example).

Only 15.71% of the students have up to 2 MW as their family income; 54.12% have between 3 and 10, while just over 30% have more than 10 MW. These figures show a lower income profile than studies in private institutions, such as Sousa et al.[17] (2014), in which the majority had a family income above ten MW, and Corsi et al.[13] (2014), in which 63.2% declared a family income of more than 10,000 reais.

The tendency for a significant proportion of students to have relatives who are doctors was also observed in the studies by Corsi et al.[13] (2014) (43.6%), Sousa et al.[17] (2014) (55%) and Cruz et al.[20] (2010) (42.5%).

The preference for medical specialties varied in the literature. The medical specialties that, together, represented half of the sample's preference were General Surgery (9.7%), Gynecology and Obstetrics (8.4%), Cardiology (8.0%), Pediatrics (6.4%), Neurology (6.4%), Psychiatry (6.1%) and Internal Medicine (5.5%). General specialties also corresponded to the majority of choices in the study by Corsi et al.[13] (2014), in which 43.6% chose general specialties and/or prerequisites (such as General Surgery, Pediatrics, Internal Medicine and Gynecology and Obstetrics) and 19.3% chose focal specialties. In the study by Sousa et al.[17] (2014), the main specialties chosen were Plastic Surgery (10.4%), Endocrinology (15.7%), and Ophthalmology (14.0%) in the first, fourth and sixth years, respectively. When comparing the results obtained with the DMB[6] data, it is clear that five of the seven main specialties chosen are among those with the highest number of registrations in Brazil, which include Internal Medicine (56,979 doctors), Pediatrics (48,654), General Surgery (41,547), Gynecology and Obstetrics (37,327), Anesthesiology (29,358), Orthopedics and Traumatology (20,972), Occupational Medicine (20,804) and Cardiology (20,324).

The specialties cited as most rejected by students were Pediatrics (16.2%), Gynecology and Obstetrics (8.9%), Orthopedics and Traumatology (8.3%), Neurology (7.6%), Dermatology (7.2%), General Surgery (7.1%), Ophthalmology (6.5%) and FCM (5.8%), totaling 67% of valid responses. It is worth noting that General Surgery, Pediatrics, Obstetrics and Gynecology, and Neurology are also among the most desired specialties. This apparent ambiguity occurred because, in this case, these are not the ones that were least cited as desired specialties, but rather those the students said they would never do at that time. This aspect of the data found may be a consequence of the divergence between what is culturally desired, as verified in DMB[6], and what is experienced during the training period. When focusing on FCM, none of the 11th and 12th-semester students want it, but when compared to the other specialties, it has a higher acceptance rate among students in the 1st and 2nd semesters.

Also in relation to preference for choosing a specialty, 37.1% of students had not yet chosen a specialty in the study by Corsi et al.[13] (2014). In the present study, this percentage was 24.5%, and approximately ⅔of the participants did not have relatives who were doctors, which is in opposition to the total sample (32.67%). This frequency was low in the first semester (10.5%), higher from the 2nd to the 7th semesters (26.9-36.5%), and then decreased again. In the 11th and 12th semesters, all participants had chosen. This variation may mean a moment of doubt after a period of contact with the curriculum or culture of this university and may indicate the moments of greatest influence of these aspects. The early choice of specialty, observed in both studies, is a problem that is little discussed during training, but which imposes a kind of determinism on the choice of specialty, often influenced by the medical environment and the influence of teachers[21]. This becomes evident, for example, in this research, in the fact that almost all (89.5%) of the students in the first semester had already chosen the specialty they wanted to pursue. In contrast, a total of ⅖ of the students had already changed their desired specialty during the course, which may indicate that the structure of the curriculum and the academic environment influence this choice. Among those who changed, the majority

left Pediatrics (12.4%), General Surgery (9.3%) and Neurology (7.7%). FCM represents a small portion of the previous choices (1.6%), but when compared by semester (Graph 2), it increases from a frequency of 8.5% in the first semester to 20% in the eighth semester.

When investigating the levels of care in which UFU students would like to work, secondary care was the most frequently chosen (38.4%), followed by "all options" (31.7%), tertiary care (25.4%) and PHC (4.5%). As the communication center of the Health Care Network (RAS, *Rede de Atenção à Saúde*), PHC plays a key role in the organization of the RAS, in the coordination of care[22] and is the main workplace of the Family and Community Doctor, which is why this specialty was included in specific analyses of this study. Secondary Care, on the other hand, consists of specialized services at the outpatient and hospital levels, including specialized medical services, diagnostic and therapeutic support, and urgency and emergency care[9]. Tertiary Care designates the set of highly specialized therapies and procedures and procedures that involve high technology and/or high cost[9].

This low intention to remain in PHC is not an isolated result of this study. In the study by Assunção et al.[9] (2019), carried out with graduates from Universidade Federal do Pará (UFPA), it was identified that PHC was the place where medical graduates worked for the shortest amount of time in four consecutive years, being occupied mainly by recent graduates. The reason for this result is a factor to be investigated, since the DCNs advocate the need for community outreach, prevention activities, and health promotion. In this sense, outpatient and home care activities are those where these activities can be developed the most. Regarding this, when investigating interest specifically in PHC in the United States, Band et al.[23] (1995) observed that this interest decreases throughout the course, which was also observed in this sample when we consider FCM as a PHC specialty, whose frequency started at 25% in the 1st semester and ended with 12.5% in the 10th semester. This may be related to institutional culture, with the relative representation of reliable PHC teachers within academic governance being important[23]. Furthermore, mandatory general practice internships and longitudinal PHC experiences are associated with an increase in this interest[23], a reality only in the 12th semester of UFU, at the time of data collection. Assunção et al.[9] (2019) also hypothesize that these findings are justified because there is a belief that salary and quality of life expectations are more easily achieved in focal specialties. Although salaries were not the most influential factor in this research (9th place), 85.7% aimed to earn at least 10 MW (R$12,120.00)[24], and 49.1% intended to earn more than 20 MW (R$24,240.00)[24], an amount that can be achieved after 15 years of specialization, according to the 2022 strategic plan[25]. Thus, the data from this sample are limited to confirm or deny this belief.

Regarding secondary and tertiary care, Assunção et al.[9] (2019) found the opposite result to the present study. Among UFPA graduates, they remained longer in tertiary care, which goes against the desire of UFU students to work mainly in secondary care.

Regarding the factors that influence the choice of medical specialty, affinity for the area (76%), work environment (64%), broader or more specific knowledge (56%) and job opportunities (52%) are the main factors that influence the choice of medical specialty at the studied moment. These results are in line with a previous study conducted in Curitiba, Paraná[11], which also highlighted the importance of broader or more specific knowledge, contact with patients, place of professional practice and lifestyle after medical residency. Affinity for the area also had an impact in other studies[17], as did job opportunities[13], which was related to the increase in rules imposed by health care systems, such as intense work pace and workload.

On the other hand, the influence of friends (78%), relatives (71%), difficulty in entering residency (62%) and interest in research (56%) were considered as factors that had little or no influence on the choice of specialty at the studied moment. However, other studies have observed an important impact of relatives - mainly students with parents who are doctors and in the first year of the course - and advice from friends[17,26]. Furthermore, as in a study carried out in Belém, Pará, the influence of teachers was intermediate in professional choice, a fact that deserves attention since teachers are fundamental in the formation of the student's professional identity[17].

Regarding income, a growing preference was observed as income increased, and 37% of responses on the Likert scale rated this factor as very influential or influential. Another study also observed a predominance of higher salary ranges, starting at 10.1 MW[9]. The DMB study found that the average monthly income of doctors declared in the Personal Income Tax (IRPF) in 2020 was R$30,196 (around 21 MW)[6].

This study has some limitations: the data come from an open and adapted questionnaire[16]. To mitigate possible errors and biases, filters were applied to the variables of interest, requiring specific and non-empty answers; the results presented in the "odds ratio" section reflect the perceptions and answers provided by the participants at the time of data collection, considering the academic stage of each group; Since this study had undergraduate students as the target audience, the choice of specialties does not represent the final decision and may change during the course, but their responses provide

an initial view of factors that may already have an influence in the future. It is worth noting that, since each factor of interest was identified in previous studies on the topic and presented to the current target population, there may be factors that have not yet been identified, which can be clarified in the qualitative data analysis; the students' opinion about the areas offered in the course was restricted to students in the 12th semester, resulting in a sample of only 6 observations, which limited the representativeness of the results. Additionally, students from the last 4 semesters represented 15.46% of the sample, which may impact the data analysis. These limitations should be considered when extrapolating the findings to other populations and can be minimized in future studies with those who are already attending the residency program.

CONCLUSIONS

The most desired medical specialties were General Surgery, Obstetrics and Gynecology, and Pediatrics, while working in the PHC area was the least desired among the participants. This suggests the need for strategies to encourage and value this area, considering its fundamental role in the health system.

The most influential factors at the studied moment were affinity for the area, work environment, broader or more specific knowledge, and job opportunities. These results can help guide medical training policies and medical students' decision-making.

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AUTHORS' CONTRIBUTION

Igor Barreto Leite, Beatriz Propheta Falleiros, Gabriel Junes Mendes, Gabryella Londina Ribeiro Lima and Layanne Cintra Soares actively participated in conducting the research and investigation process, collecting data, developing the study design, applying statistical techniques to analyze the data, verifying the overall reproducibility of the results and preparing the manuscript. Stefan Vilges de Oliveira actively participated in supervising the performance of the research activities, also providing external guidance to the main team according to their needs.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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DATA AVAILABITY

Research data is only available upon request.

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