

## ORIGINAL ARTICLE

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# Analysis of medical students' knowledge about the Comprehensive Geriatric Assessment (CGA)

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## ABSTRACT

**Introduction:** Population aging brings to light a health system full of elderly people who are more vulnerable to health stressors. Thus, the Comprehensive Geriatric Assessment (CGA) is an instrument capable of assessing the functional status, mobility, cognition, and mood of elderly patients, aiming at an early diagnosis of health problems, a better quality of health, functionality and independence from geriatric syndromes, besides allowing the development of a care plan with the findings. **Objectives:** To analyze the knowledge that medical students from the 4th to the 6th year of a Medical College have about CGA. **Method:** Cross-sectional study including 125 medical students. An online questionnaire created by the authors of this study based on the knowledge necessary for the application of the CGA was applied. The Kruskal-Wallis comparison test and Fisher's exact test were used, considering  $p < 0.05$ . **Results:** Students who had gone through the Elderly's Health Internship reported greater confidence in the area and greater knowledge about CGA and its components. **Conclusion:** Most geriatric knowledge is typically acquired only after completing the Elderly's Health Internship, which highlights a deficit in the Medical Course's approach to teaching this area, as reported by students' self-perception.

**Keywords:** Geriatric Assessment; Health of the Elderly; Geriatrics; Health Education.

## INTRODUCTION

In recent years, Brazil has been undergoing a population aging process, following a trend that can be observed worldwide, initially occurring in developed countries<sup>1</sup>. The demographic transition process is mainly due to two factors: a reduction in fertility rates and an increase in life expectancy, resulting from advances in health-care<sup>1,2</sup>. According to IBGE data, in 2017 the number of elderly people, aged 60 and over, had surpassed the 30 million mark<sup>3</sup>. By 2020, the number had already risen to 37.7 million, representing 17.9% of the Brazilian population<sup>4</sup>. The life expectancy for Brazilians in 2019 was 80.1 years for women and 73.1 years for men. Thus, the healthcare system is increasingly faced with elderly patients<sup>5,6</sup>.

These elderly patients form a heterogeneous population in terms of physiological changes and life expectancy, which can interfere with the treatment and prognosis of various diseases<sup>7,8</sup>. The greater presence of this patient group brings to light discussions about more common disabling events in this age group, such as fractures,

falls, and chronic diseases like hypertension, diabetes, and even cancer<sup>9</sup>. Additionally, the elderly are more vulnerable to neuropsychiatric disorders such as dementia and depression, which have become more frequent during the period of social isolation due to the Covid-19 pandemic<sup>12,13</sup>. Moreover, this geriatric age group is the one that consumes the most healthcare services<sup>6</sup>.

In this regard, it is extremely important for medical students to be instructed in specific care for elderly patients<sup>12,13</sup>. For this purpose, it is necessary to teach means and techniques in undergraduate education that aim to screen early for frailties, risks, comorbidities, and functional declines in this population<sup>15,16</sup>.

The Comprehensive Geriatric Assessment (CGA) can be understood as a set of assessments composed of comprehensive clinical and neurological examinations, scales, and tests, aimed at evaluating the clinical, functional, mobility, cognitive, mood, and psychosocial conditions of elderly patients, thus aiming at the early diagnosis of health problems, prioritized referrals, and guidance of support services when necessary. As a benefit of its use, there is the possibility of identifying and treating disease before the need for hospitalization or placement in a long-term care institution, with the intention of keeping people in their homes<sup>16,18</sup>. Through this strategy, it is also possible to avoid saturation of the healthcare system with expenses that could be avoided. Thus, the CGA is an efficient and objective, as well as cost-effective method for comprehensively evaluating an elderly individual, identifying geriatric syndromes and potentially reversible situations that could lead to their frailty<sup>19, 20</sup>.

The present study aimed to evaluate the knowledge of medical students from the 4th to the 6th year of medical school regarding the Comprehensive Geriatric Assessment (CGA)<sup>21</sup>. Thus, the results enable us to analyze whether the topic is being addressed satisfactorily

during the early years of the course and, thereby, contribute to the formulation of potential improvements in the course aimed at providing the best possible training for future physicians.

## METHODS

This is an observational, cross-sectional study conducted at a private medical school in the city of Belo Horizonte.

The sample size calculation was performed using the Bolfarine and Bussab formula<sup>22</sup>, considering the significance level, quantile of the Standard Normal distribution corresponding to the significance level, estimated proportion, and maximum allowable error. Considering a 5% significance level, 9% error, and a conservative approach (considering it as 50%), the minimum sample size is 119 participants.

Data collection was carried out from October 2022 to March 2023 through the application of an online questionnaire in Forms format. The questionnaire was authored by the researchers and was based on the CGA form model produced by the Brazilian Society of Geriatrics and Gerontology<sup>19</sup> and basic concepts of Geriatrics<sup>6</sup>. It was set up on the Google Forms platform with a first part containing an Informed Consent Form (ICF) and information on gender, age, semester of the Medicine course, and whether the participant had already completed the Elderly Health Internship. The second part of the questionnaire consisted of 25 questions about the students' knowledge of the CGA, their knowledge of major geriatric syndromes, their self-perception of preparedness for caring for elderly patients, and whether, during the consultations conducted so far, the domains involved in the CGA were actively sought. The research questionnaire was self-completed by the students only after reading, agreeing to, and signing the informed consent form, which the student could accept or refuse to partici-

pate in the research. The questionnaire was offered to all students enrolled in the 4th to 6th year through dissemination in the official WhatsApp groups of the classes. The inclusion criteria were: being enrolled in Medicine at the specified college, being aged 18 years or older, and being enrolled in the 4th to 6th year, i.e., 7th to 12th semesters. The exclusion criteria were not studying Medicine and not being a student at the selected college.

Data analysis was conducted using R software version (4.2.3) and Microsoft Excel as the database modeler. Independent categorical variables were modeled through another distribution since data normality was not achieved; thus, the Kruskal-Wallis median comparison test was used to determine equality between the medians of the different semesters. Association assessments for qualitative variables were performed using Fisher's exact test to test the association between variables at a significance level of 5%. Data are presented as: median (1st quartile, 3rd quartile).

## RESULTS

Of the research participants, 125 medical students were considered eligible according to the inclusion and exclusion criteria. Below, in Table 1, are the characteristics of the participant sample.

It is noticeable that the research sample, in terms of gender, was predominantly composed of female individuals. Several hypotheses can explain this scenario: 1) a higher presence of female students in medical schools; 2) greater female involvement in extracurricular/research activities; 3) increased female interest in the field of Geriatrics and Gerontology.

**Table 1 - Participants' Sociodemographic Characteristics and Information on Semester and Participation in the Elderly Health' Internship (n=125)**

Analyzed variables	n(%)
Age	
Less than 24 years old	96 (77%)
Between 25-29 years old	25 (20%)
30 years old and older	4 (3,2%)
Gender	
Female	98 (78%)
Male	27 (22%)
Semester in Med School	
7th	50 (40%)
8th	21 (17%)
9th	14 (11%)
10th	19 (15%)
11th	6 (4,8%)
12th	15 (12%)
Did you already participate in the Elderly Health' Internship?	
No	84 (67%)
Yes	41 (33%)

n: sample / %: sample' percentage

Regarding the academic semesters, there was a decline in student participation as the course progressed. Some hypotheses to explain this scenario are: 1) less dissemination of the research to students as the academic semester increases; 2) students becoming busier as they progress through the course, resulting in less willingness to participate in extracurricular activities; 3) an increase in the number of students who have decided on their specialization area, reducing their interest in other fields.

Table 2 below presents the cross-tabulation between the variable (Semester) and the main variables associated with the study. The last column represents the values in relation to the total sample of research participants (n = 125).

Table 2 - Answers of the questionnaire about CGA according to the semester in Med School (n= 125)

Analyzed Variables	Semester in Med School							Total n=125 <sup>1</sup>
	7 <sup>th</sup> , N = 50 <sup>1</sup>	8 <sup>th</sup> , N = 21 <sup>1</sup>	9 <sup>th</sup> , N = 14 <sup>1</sup>	10 <sup>th</sup> , N = 19 <sup>1</sup>	11 <sup>th</sup> , N = 6 <sup>1</sup>	12 <sup>th</sup> , N = 15 <sup>1</sup>	p <sup>2</sup> value	
1) Did you already participate in the Elderly Health' Internship?								
No	50 (100%)	21 (100%)	8 (57%)	5 (26%)	0 (0%)	0 (0%)		84 (67%)
Yes	0 (0%)	0 (0%)	6 (43%)	14 (74%)	6 (100%)	15 (100%)		41 (33%)
2) Rate your Geriatric Gerontologic Knowledge.								
Great	6 (12%)	4 (19%)	5 (36%)	11 (58%)	4 (67%)	7 (47%)		37 (30%)
Regular	31 (62%)	12 (57%)	5 (36%)	8 (42%)	2 (33%)	8 (53%)		66 (53%)
Bad	13 (26%)	5 (24%)	4 (29%)	0 (0%)	0 (0%)	0 (0%)		22 (18%)
3) Rate your readiness for Geriatric Care.								
Great	6 (12%)	4 (19%)	6 (43%)	9 (47%)	4 (67%)	10 (67%)		39 (31%)
Regular	34 (68%)	12 (57%)	7 (50%)	10 (53%)	2 (33%)	5 (33%)		70 (56%)
Bad	10 (20%)	5 (24%)	1 (7.1%)	0 (0%)	0 (0%)	0 (0%)		16 (13%)
4) Which of the following is NOT one of the geriatric syndromes?								
Iatrogenesis	10 (20%)	1 (4.8%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)		11 (8.8%)
Impaired Cognition	0 (0%)	1 (4.8%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)		1 (0.8%)
Heart failure	34 (68%)	16 (76%)	14 (100%)	19 (100%)	6 (100%)	15 (100%)		104 (83%)
Family Insufficiency	6 (12%)	3 (14%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)		9 (7.2%)
Instability	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)		0 (0%)
5) Do you know CGA? <0.001								
No	31 (62%)	11 (52%)	4 (29%)	1 (5.3%)	0 (0%)	0 (0%)		47 (38%)
Yes	19 (38%)	10 (48%)	10 (71%)	18 (95%)	6 (100%)	15 (100%)		78 (62%)
6) Do you know the clinical importance of CGA? <0.001								
Não	29 (58%)	10 (48%)	4 (29%)	1 (5.3%)	0 (0%)	0 (0%)		44 (35%)
Sim	21 (42%)	11 (52%)	10 (71%)	18 (95%)	6 (100%)	15 (100%)		81 (65%)
7) What is CGA? 0.4								
A bunch of geriatric tests	5 (10%)	2 (9.5%)	1 (7.1%)	0 (0%)	0 (0%)	0 (0%)		8 (6.4%)
Assessment tool to complement the medical history and examination of the elderly	43 (86%)	16 (76%)	13 (93%)	19 (100%)	6 (100%)	15 (100%)		112 (90%)
The name of the medical appointment by a geriatric doctor	2 (4.0%)	3 (14%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)		5 (4.0%)
8) Do you know how to use CGA? <0.001								
No	39 (78%)	13 (62%)	6 (43%)	2 (11%)	1 (17%)	1 (6.7%)		62 (50%)
Yes	11 (22%)	8 (38%)	8 (57%)	17 (89%)	5 (83%)	14 (93%)		63 (50%)

Analyzed Variables	Semester in Med School							Total n=125 <sup>1</sup>
	7 <sup>th</sup> , N = 50 <sup>1</sup>	8 <sup>th</sup> , N = 21 <sup>1</sup>	9 <sup>th</sup> , N = 14 <sup>1</sup>	10 <sup>th</sup> , N = 19 <sup>1</sup>	11 <sup>th</sup> , N = 6 <sup>1</sup>	12 <sup>th</sup> , N = 15 <sup>1</sup>	p <sup>2</sup> value	
9) Which option contains domains of CGA?								0.8
Sociability.	49 (98%)	20 (95%)	14 (100%)	19 (100%)	6 (100%)	15 (100%)		123 (98%)
Weight, Height and Body Mass Index (BMI)	1 (2.0%)	1 (4.8%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)		2 (1.6%)
10) Do you believe you have enough information for elderly' patients care?								
No	47 (94%)	18 (86%)	9 (64%)	6 (32%)	1 (17%)	1 (6.7%)		82 (66%)
Yes	3 (6.0%)	3 (14%)	5 (36%)	13 (68%)	5 (83%)	14 (93%)		43 (34%)
11) How should CGA be applied?								
At clinician's discretion...	28 (56%)	13 (62%)	10 (71%)	16 (84%)	4 (67%)	10 (67%)		81 (65%)
Any elderly' appointment	8 (16%)	2 (9.5%)	2 (14%)	0 (0%)	1 (17%)	1 (6.7%)		14 (11%)
In its entirety and in every elderly person' consultation	4 (8.0%)	4 (19%)	1 (7.1%)	1 (5.3%)	1 (17%)	1 (6.7%)		12 (9.6%)
In its entirety and necessarily at the first appointment	7 (14%)	1 (4.8%)	1 (7.1%)	1 (5.3%)	0 (0%)	3 (20%)		13 (10%)
Apply all tests	3 (6.0%)	1 (4.8%)	0 (0%)	1 (5.3%)	0 (0%)	0 (0%)		5 (4.0%)
12) Do you use CGA or a simplified version in your daily practice?								<0.001
No	39 (78%)	17 (81%)	6 (43%)	4 (21%)	1 (17%)	2 (13%)		69 (55%)
Yes (CGA)	11 (22%)	4 (19%)	8 (57%)	15 (79%)	5 (83%)	13 (87%)		56 (45%)
13) Do you inquire about family support?								0.11
No	9 (18%)	7 (33%)	3 (21%)	2 (11%)	0 (0%)	0 (0%)		21 (17%)
Yes	41 (82%)	14 (67%)	11 (79%)	17 (89%)	6 (100%)	15 (100%)		104 (83%)
14) Do you inquire about falls in the last year?								0.014
No	22 (44%)	10 (48%)	4 (29%)	4 (21%)	0 (0%)	1 (6.7%)		41 (33%)
Yes	28 (56%)	11 (52%)	10 (71%)	15 (79%)	6 (100%)	14 (93%)		84 (67%)
15) Do you inquire about mood?								0.2
No	12 (24%)	7 (33%)	1 (7.1%)	1 (5.3%)	1 (17%)	4 (27%)		26 (21%)
Yes	38 (76%)	14 (67%)	13 (93%)	18 (95%)	5 (83%)	11 (73%)		99 (79%)
16) Do you inquire about hearing and vision?								0.7
No	9 (18%)	6 (29%)	3 (21%)	5 (26%)	0 (0%)	4 (27%)		27 (22%)
Yes	41 (82%)	15 (71%)	11 (79%)	14 (74%)	6 (100%)	11 (73%)		98 (78%)
17) Do you inquire about cognition?								0.002
No	15 (30%)	12 (57%)	1 (7.1%)	3 (16%)	0 (0%)	1 (6.7%)		32 (26%)
Yes	35 (70%)	9 (43%)	13 (93%)	16 (84%)	6 (100%)	14 (93%)		93 (74%)
18) Do you inquire about incontinence (urinary and fecal)?								0.9
No	8 (16%)	4 (19%)	2 (14%)	1 (5.3%)	1 (17%)	2 (13%)		18 (14%)
Yes	42 (84%)	17 (81%)	12 (86%)	18 (95%)	5 (83%)	13 (87%)		107 (86%)

Analyzed Variables	Semester in Med School							p <sup>2</sup> value	Total n=125 <sup>1</sup>
	7 <sup>th</sup> , N = 50 <sup>1</sup>	8 <sup>th</sup> , N = 21 <sup>1</sup>	9 <sup>th</sup> , N = 14 <sup>1</sup>	10 <sup>th</sup> , N = 19 <sup>1</sup>	11 <sup>th</sup> , N = 6 <sup>1</sup>	12 <sup>th</sup> , N = 15 <sup>1</sup>			
19) Do you inquire about nutritional status?								0.2	
No	4 (8.0%)	2 (9.5%)	1 (7.1%)	0 (0%)	2 (33%)	2 (13%)			11 (8.8%)
Yes	46 (92%)	19 (90%)	13 (93%)	19 (100%)	4 (67%)	13 (87%)			114 (91%)
20) Do you usually classify the frailty degree?								0.019	
No	31 (62%)	17 (81%)	6 (43%)	7 (37%)	3 (50%)	5 (33%)			69 (55%)
Yes	19 (38%)	4 (19%)	8 (57%)	12 (63%)	3 (50%)	10 (67%)			56 (45%)
21) Do you ever evaluate functionality?								0.004	
No	18 (36%)	13 (62%)	3 (21%)	5 (26%)	0 (0%)	1 (6.7%)			40 (32%)
Yes	32 (64%)	8 (38%)	11 (79%)	14 (74%)	6 (100%)	14 (93%)			85 (68%)
22) Do you inquire about bone densitometry or perform osteoporosis screening in elderly women?								0.7	
No	28 (56%)	10 (48%)	7 (50%)	7 (37%)	2 (33%)	8 (53%)			62 (50%)
Yes	22 (44%)	11 (52%)	7 (50%)	12 (63%)	4 (67%)	7 (47%)			63 (50%)
23) Do you know about FRAX (Fracture Risk Assessment Tool)?								0.019	
No	28 (56%)	8 (38%)	5 (36%)	7 (37%)	2 (33%)	1 (6.7%)			51 (41%)
Yes	22 (44%)	13 (62%)	9 (64%)	12 (63%)	4 (67%)	14 (93%)			74 (59%)
24) Do you know the Mini-Mental State Examination (MMSE)?								0.6	
No	5 (10%)	2 (9.5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			7 (5.6%)
Yes	45 (90%)	19 (90%)	14 (100%)	19 (100%)	6 (100%)	15 (100%)			118 (94%)
25) Do you know how to apply MMSE?								0.008	
No	13 (26%)	4 (19%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)			17 (14%)
Yes	37 (74%)	17 (81%)	14 (100%)	19 (100%)	6 (100%)	15 (100%)			108 (86%)

Caption: <sup>1</sup>n (%); Median (IQR); <sup>2</sup>Fisher's exact test; Kruskal-Wallis test.

Table 2 represents the questions of the proposed questionnaire with the options below. The responses are shown by semester, in absolute and percentage values. On the right side, the p-value representation and the total responses are displayed.

Questions 2-3 of the questionnaire assessed the students' self-perception regarding their geriatric knowledge and readiness for geriatric care. Through the analysis of the results, it was possible to perceive that the majority of students rated their knowledge as average, and concerning the course progression, it was no-

ticed that none of the students in the 10th, 11th, and 12th semester rated their geriatric knowledge as poor, while in the 7th, 8th, and 9th semester, the majority of students rated their knowledge as average or poor.

In the question "How do you rate your readiness for comprehensive care of the elderly?", regarding the course progression, there was an increase in the incidence of "good" according to the semester increase, with no students in the 10th, 11th, and 12th semesters rating their readiness as poor.

When asked whether they received sufficient information about the care of elderly patients and their specificities, most survey participants answered no. Additionally, in the question “In your opinion, what was lacking in your medical course to provide you with adequate preparation to assist elderly patients, regardless of medical specialties?” (each student could select more than 1 option), the following responses were observed: (1) Nothing, I feel completely prepared - 7%; (2) I don't know how to opine - 5%; (3) Lack of space for practice of Comprehensive Geriatric Assessment (CGA) and application of geriatric tests - 44%; (4) Lack of approach to the subject before the Elderly Health Internship - 59%; (5) Lack of content inclusion in the clinical cycle addressing specific elderly issues, similar to child and adolescent health and women's health, for example - 73%.

Questions that addressed general knowledge about the CGA were questions 5 to 9 and 11-12. It was observed that only 38% of 7th-semester students who participated in the survey knew what CGA was, while 95% of students in the 10th semester and all students in the 11th and 12th semesters were familiar with CGA. Finally, among the students who, in the questionnaire, expressed interest in using CGA or a simplified version of it in their clinical practice, the majority were beyond the 8th semester.

Questions addressing general geriatric knowledge and mastery of CGA components were questions 4 and 13 to 25. In the question about the 7 geriatric syndromes (question 4), 83% of participants marked the correct answer (Heart Failure), with 100% of students in the 9th, 10th, 11th, and 12th semesters selecting the correct answer.

Regarding the domains of the CGA, 83% of the total students stated that they inquire about Family Support, whereas 100% of 11th and 12th semesters students include this inquiry in their consulta-

tions. Regarding Falls, 67% of all participants inquire about the topic, whereas the percentage rises to 100% and 93% respectively for 11th and 12th semesters. Regarding Mood and Hearing and Vision of the elderly, 79% and 78% of students address these issues respectively, with no progression observed across semesters. Questions about Urinary and Fecal Continence are asked by 86% of interviewed students, and about Nutritional Status by 91%. 45% of students assess Frailty Grade in the elderly, and 68% evaluate Functionality, with higher percentages observed in later semesters. Regarding Osteoporosis, only 50% of students inquire about bone densitometry and screening for osteoporosis, and 59% stated familiarity with FRAX (Fracture Risk Assessment Tool). Regarding Cognitive assessment, 74% of students investigate this domain, with a higher average observed from the 10th semester onwards; 94% are familiar with the Mini-Mental State Examination (MMSE), with 86% overall claiming to know how to administer the test, a percentage that rises to 100% from the 9th semester onwards.

## DISCUSSION

The research sample, regarding gender, was mostly composed of female individuals, and some hypotheses to explain this scenario are: 1) presence of more female students in medical schools; 2) greater involvement of females in extracurricular/research activities; 3) greater interest of females in the field of Geriatrics and Gerontology.

Regarding the academic semesters, a decline in student participation was observed as the course progressed, which constitutes a limitation of the present study. Some hypotheses to explain this scenario are: 1) less dissemination of research to students as the academic semester increases; 2) students becoming busier as the semesters progress, resulting in less willingness to participate in extracurricular activities; 3) an increase

in the number of students who have decided on their specialty area, decreasing their interest in other areas.

Furthermore, the present study was conducted only at one medical school, which also limits its analysis. The current literature lacks studies related to medical students' knowledge of geriatric assessment tools such as the Comprehensive Geriatric Assessment (CGA), the Mini-Mental State Examination (MMSE), and the Fracture Risk Assessment Tool (FRAX). No studies evaluating knowledge of CGA were found.

The study in question is pioneering in assessing medical students' knowledge of the Comprehensive Geriatric Assessment and other tools such as the MMSE and FRAX. Therefore, this factor makes it difficult to compare with other studies, which limits the discussion of the present research. Regarding the use of the tools, studies in the literature have been found that address their use by general practitioners or specialist physicians.

According to Toba et al (2001)<sup>23</sup>, a study based in Japan, two-thirds of participating attending physicians were knowledgeable about the Comprehensive Geriatric Assessment, and 40% used at least part of the assessment. Concerning the present study, approximately 60% of students are aware of CGA and its importance, and only 50% know how to apply it, like the cited study.

Regarding FRAX, according to Bruyère et al (2016)<sup>24</sup>, the assessment tool was known by only 33% of Belgian general practitioners who participated in the study and used by only 20% of them. Concerning the sample of medical students analyzed in the present study, it was observed that 59% of the evaluated students were knowledgeable about FRAX.

Based on the results obtained in this study, there is an evolution in geriatric knowledge among students according to the progression in the course. Self-

perception of knowledge and preparedness for geriatric and gerontological care evolved with the semesters, with students who had already completed the Elderly Health Internship feeling more prepared and knowledgeable than others.

It is noted that the initial contact of most students with Geriatrics topics occurs during the Elderly Health Internship. Conversely, subjects such as Pediatrics and Women's Health are offered from the early years of the Clinical Cycle in most medical schools. Thus, there is a disparity between the demographic profile of most health centers, with most elderly patients, and the subjects prioritized in the medical school curriculum.

The hypotheses that may explain this scenario include: 1) prioritization by curricula of specialties working in primary care; 2) perception of the elderly as adults with more diseases, without considering the particularities of these patients; 3) understanding geriatrics as a new and less accessible/explored area.

Furthermore, even in the final semesters of the course, when asked whether they had received sufficient information about caring for elderly patients and their particularities, most research participants answered no.

Regarding students' self-perception, it is observed that those who had already completed the Elderly Health Internship felt more prepared and knowledgeable than students who had not yet completed this internship. Additionally, the majority of students believe they have not received sufficient information about caring for elderly patients and their particularities, indicating a deficit in the medical curriculum overall. Finally, it is noticed that most students believe that content related to elderly care was lacking in the clinical cycle and that the subject was not addressed before the Elderly Health Internship.

Regarding general knowledge about CGA, it was observed that knowledge was much higher in the final semesters of the course, after the Elderly Health Internship, with disparate values in the responses of students in the 7th semester compared to those in the 10th, 11th, and 12th semesters. This underscores the importance of intermediate semesters, especially the 9th and 10th, for students' geriatric knowledge.

Concerning students' knowledge of the concept of CGA, its structure and means of application, and its importance for clinical practice, similar results to the above were observed, with a predominance of correct answers in the final semesters. Regarding knowledge of the domains involving CGA, there was less disparity in responses between final and initial semesters.

Finally, among students who expressed interest in using CGA or a simplified version of it in their clinical practice, the majority were above the 8th semester, demonstrating once again the relevance of the Elderly Health Internship for understanding and raising awareness of the importance of this tool.

Regarding general geriatric knowledge and mastery of CGA components, it is noted that most students have some geriatric knowledge, with the highest rate of correct answers to questions on this topic coming from the later semesters of the course, especially after the Elderly Health Internship.

The current curriculum of the medical school includes more prominent clinical care starting from the clinical cycle that begins in the 4th semester with Medical Semiology. In addition to medical clinic care, which is introduced from the 6th semester when students begin direct contact with outpatient consultations, with most patients being over 60 years old. Throughout the course, there are subjects such as Women's Health and Child and Adolescent Health that introduce the particularities of these groups before future practi-

cal contact and internship. The same happens with Medical Clinic and Surgery, but not with Elderly Health, which may be one of the factors contributing to the students' knowledge gap. A proposal is to include Geriatrics topics, especially concerning CGA, in the basic subjects of the course such as Semiology, Clinic, and Surgery<sup>25</sup>.

## CONCLUSION

It is concluded that most of the geriatric knowledge is indeed acquired after completing the Elderly Health Internship, and that, according to students' self-perception, there is a deficit in the medical curriculum regarding the preparation for attending to this population. This is evidenced by the stark difference in knowledge about the area between students in the early stages of the course (7th and 8th semesters) and those in the final year of the course (11th and 12th semesters), considering that the latter group has already completed the Geriatrics Internship, which is part of the curriculum in the 9th or 10th semester.

Furthermore, it was found that most students are familiar with the Mini Mental State Examination (MMSE) and know how to administer it, regardless of their semester of study and knowledge in Geriatrics.

At last, there is a demand from the students themselves for more information about the care of elderly patients and their particularities, with greater inclusion of geriatric content in the clinical cycle. We suggest classes in Semiology or Clinical Medicine focused on managing geriatric patients, as they constitute the majority in outpatient care.

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THE AUTHORS DECLARE THAT THERE IS NO CONFLICT OF INTERESTS IN RELATION TO THIS ARTICLE.