



Understanding of medical students regarding the clinical scope of the plastic surgery specialty

Entendimento dos estudantes de medicina a respeito da abrangência clínica da especialidade da cirurgia plástica

PEDRO FREIRE GUERRA BOLDRIN ^{1*} 
JÚLIA ALVES NASCIMENTO RODRIGUES ¹ 
LAÍNE RIBEIRO ANTONELLI ¹ 
MARIA LUÍSA PERES VILELA ² 
GIOVANA ALCINO CARNEIRO ² 
PAULO PAULA PICCOLO ¹ 

■ ABSTRACT

Introduction: Plastic surgery is popularly known for its performance in body aesthetics. Besides, it includes burns, microsurgery, hand and craniomaxillofacial surgery. Due to the diversity of medical specialties, many of the procedures in which plastic surgeons are trained are also performed by other specialists, which may justify the population's lack of knowledge regarding the rich plastic work. The objective is to understand the Brazilian medical students' comprehension of the plastic surgery clinical scope. **Methods:** Cross-sectional study, applying an online questionnaire with Google Docs platform using the inclusion criteria of being a medical student and over eighteen years old. It consisted of twelve clinical cases sent to participants through social networks. At the end of 99 days after the link's release, the questionnaire was closed, and the answers were counted with Windows Excel. **Results:** Sample composed of 423 participants, with a female majority and an average age of 22.23 years, with a higher prevalence of the third year of the academic clinical cycle. It was noticed that students are familiar with plastic surgeons' actions in the aesthetic field, breast reconstruction after carcinoma, and reparative treatment of burns. Academics poorly indicated the treatment of fractures in the craniomaxillofacial complex and the palmar tendons' laceration approach. **Conclusion:** Students have a good understanding of the role of plastic surgeons in the aesthetic field.

Keywords: Medical students; Plastic surgery; Understanding; Medicine; Knowledge.

Institution: Pontifical Catholic University of Goiás, Goiânia, GO, Brazil.

Article received: May 10, 2020.
Article accepted: July 19, 2020.

Conflicts of interest: none

DOI: 10.5935/2177-1235.2020RBCP0077

¹ Pontifical Catholic University of the Goiás, Department of Medicine, Goiânia, GO, Brazil.

² University of the Rio Verde, Department of Medicine, Aparecida de Goiânia, GO, Brazil.

■ RESUMO

Introdução: A cirurgia plástica é popularmente conhecida pela atuação na estética corporal. Além disso, engloba queimaduras, microcirurgia, cirurgia de mão e craniomaxilofacial. Devido à diversidade de especialidades médicas, muitos dos procedimentos em que os cirurgiões plásticos são capacitados, são também realizados por outros especialistas, o que pode justificar o desconhecimento da população em relação à rica atuação plástica. O objetivo é compreender o entendimento dos estudantes brasileiros de medicina sobre a abrangência clínica da cirurgia plástica.

Métodos: Estudo transversal, com aplicação de questionário online pela plataforma Google Docs com critérios de inclusão ser estudante de medicina e possuir mais de dezoito anos. Composto por doze casos clínicos, enviado aos participantes por meio das redes sociais. Ao final de 99 dias com o link sendo divulgado, o questionário foi encerrado e as respostas contabilizadas com Windows Excel.

Resultados: Amostra composta por 423 participantes, sendo maioria feminina e média de 22,23 anos, com maior prevalência do terceiro ano pertencente ao ciclo clínico acadêmico. Percebeu-se que os estudantes estão familiarizados com a ação dos cirurgiões plásticos no campo estético, reconstrução mamária após carcinoma e tratamento reparador de queimaduras. Já o tratamento de fraturas no complexo craniomaxilofacial e a abordagem da laceração dos tendões palmares foi pouco indicada pelos acadêmicos.

Conclusão: Os estudantes apresentam um entendimento satisfatório da atuação dos cirurgiões plásticos no campo estético.

Descritores: Estudantes de medicina; Cirurgia plástica; Compreensão; Medicina; Conhecimento.

INTRODUCTION

Plastic surgery is popularly known for its performance in body aesthetics. Also, its area includes microsurgery, burn treatment, hand, and craniomaxillofacial surgery.

Due to the diversity of medical specialties, many of the procedures in which plastic surgeons are trained are also performed by other specialists, which may justify the population's lack of knowledge concerning the rich plastic performance. For example, we have rhinoplasty with correction of a deviated septum, a surgery that is also performed by otolaryngologists. Since the areas of operation of plastic surgery are little known by the general public and also by the medical public, there is a risk that plastic surgeons, qualified in dealing with a vast range of clinical-surgical problems, are forgotten and overlooked in cases that escape the aesthetic area, thus alienating competent professionals and overloading professionals from other specialties.

OBJECTIVES

Understand the comprehension that Brazilian medical students from different years and faculties have of the clinical scope and plastic surgery operation areas.

METHODS

The procedure for conducting the research was divided into two parts: first, the questionnaire link was sent to the participants in which it contained the intentions of the project and the Free and Informed Consent Term (FICT), asking students to contribute with the participation in our study and, right after, started the questionnaire with the clinical cases. At the end of 99 days with the link being released, the questionnaire was closed; responses were verified on the Google Docs platform and counted. The questionnaire was sent for the first time through social networks on 28/8/2019 and was circulated until 05/1/2020 when we started analyzing the responses.

All research follows Resolution No. 510, of April 7, 2016, promulgated by the Ministry of Health, which ensures ethics and respect for human dignity in scientific research. Under this resolution, the work was submitted and approved by the Research Ethics Committee of the *Pontifícia Universidade Católica de Goiás*, with the following number 3,517,269.

RESULTS

Considering the variables studied, 426 medical students responded to the questionnaire, but two

participants were excluded for not having marked the agreement field with the Free and Informed Consent Term (FICT) and one participant for being under 18 years old. Therefore, the sample was composed of 423 participants, most of whom were female (69.5%). The age of the participants varied widely from 18 to 46 years. The mean age was 22.23 years, with a standard deviation of 3.60. As for the age group, the interval between 20 and 23 years was the predominant (60.3%).

Regarding the distribution of students across Brazilian territory, the present study had the participation of all Brazilian states, except Espírito Santo. The Midwest region stood out with 253 (59.8%), followed by the Southeast with 54 (12.7%) and the North with 55 (13%). The state of Goiás was the most representative with 206 participation (48.7%)

Regarding the year attended by medical students, it was observed that the third year comprised the majority, with 119 (28.1%) participants. The second year represented 21.5%, and the fourth year 19.8%. When grouping the participants by basic (first and second year), clinical (third and fourth year), and internship (fifth and sixth year) cycles, it was observed that 203 (48%) belonged to the clinical cycle, 130 (30.7%) to the basic cycle and 91 (21.5%) to the boarding school.

In addition to the questions that addressed plastic surgery areas, other questions were elaborated on acute pancreatitis and abdomen trauma to divert biased responses.

From the analysis of clinical cases, it is clear that students are familiar with the action of plastic surgeons in the aesthetic field (as, for example, in the resolution of “facial aging,” “reduction of breasts,” and “flapping ears”). In the question that addressed facial aging, dermatology was the area most cited as apt for such an approach, with 53.7%. Plastic surgery and aesthetics occupied the second and third place with 38.3% and 7.32%, respectively. Plastic surgeons were the professionals mentioned by 372 (87.95%) students as trained professionals to perform otoplasty, followed by pediatric surgeons (5.43%) and otorhinolaryngologists (4.96%). As for the question on the theme of facial surgery, plastic surgery was mentioned by 349 (82.5%) of the participants. The dermatology area was remembered by 313 (74%) of the students as the most suitable medical specialty for applying botulinum toxin for facial rejuvenation.

In the question about the treatment of deviated septum and aesthetic correction of the nose, there was a predominance of otorhinolaryngologists (63.8%), followed by plastic surgeons (33.3%), the most suitable to approach the case.

As for the issue that addressed the topic of breast reconstruction after breast cancer, 373 (88.2%) of the participants indicated the plastic surgeon as a

professional capable of performing the procedure. Mastology and oncology surgery were indicated by 37 (8.74%) and 13 (3.07%) of the students, respectively. In the question about basal cell carcinoma, there was a division of the answers regarding the medical specialties indicated for the treatment, being dermatology (46.8%), cancer surgery (37.1%) and plastic surgery (7.8%) as the most pointed out by the research participants. Regarding the evaluation of the participation of plastic surgery as an area also indicated for the treatment of fractures in the craniomaxillofacial complex, this was mentioned by 46 (10.9%) of the students, with the maxillofacial surgeon being the most remembered by 342 (80.8%) of academics. As for the question that addressed the health professional most apt to intervene in cases of laceration of the palmar tendons, the orthopedist with 273 (64.5%) of the answers was the most mentioned by the participants. Then, general surgeons (15.1%) and plastic surgeons (11.1%) were mentioned. The evaluation of the participation of plastic surgery as an area indicated in the reparative treatment after burns was made through the question about great loss of soft tissues after an accident with high electrical tension. Students pointed out plastic surgeons as the most indicated by 260 participants (61.4%), followed by orthopedists with 23.4% and vascular surgeons with 7.8%. Relating the issues with themes that address the areas of plastic surgery that are not linked to the aesthetic field, such as the craniomaxillofacial area, and the cycle in which the participants were grouped, it was possible to observe that among the 294 students of the basic cycle only 8 (2.72%) mentioned plastic surgeons as indicated to intervene. Among the 203 students in the clinical cycle, 29 (14.3%) pointed out plastic surgery as a specialty able to approach the case and 9 (9.9%) of the total of 91 students at the boarding school mentioned plastic surgeons. Another area of plastic surgery with little knowledge about the possibility of action is microsurgery. In the present study, 29 (22.3%) of the basic cycle students indicated the plastic surgeon for the treatment of laceration of the palmar tendons, followed by 11.8% of the students of the clinical cycle and 3.3% of the students at the boarding school.

DISCUSSION

According to data from “Medical Demography 2018”, there are 6,304 plastic surgeons in Brazil, and 2% of recent graduates have plastic surgery as their first medical option¹. Data from the *Sociedade Brasileira de Cirurgia Plástica* (SBCP), Brazil disputes with the United States of America the first position

in the number of professionals. Such data reinforce the interest of undergraduate medical students in the specialty². However, the fact that Brazilian universities concentrate their curricula in general clinical specialties, such as gynecology, pediatrics, and general surgery, may justify the lack of knowledge about the plastic surgeon's operation areas by academics.

According to SBCP, plastic surgery is the surgical specialty in charge of reconstructing body structures that present changes in their shape or function. However, for the lay population, knowledge about this specialty is restricted to its aesthetic application. This fact can be reinforced from the media analysis involved with plastic surgery: 68.94% were classified as aesthetic, 21.33% as repairers, and 9.73% as not classifiable³.

It was expected that medical students, unlike the lay population, would have more in-depth knowledge about this specialty. However, from the questionnaire analysis, it is clear that Brazilian medical students also associate the plastic surgeon's role, mainly with the aesthetic area.

CONCLUSION

The work showed that students have adequate knowledge of plastic surgeons' actions in the aesthetic field. However, in situations considered more complicated, these professionals are little remembered by academics. It was also observed that students in

more advanced stages in the medical course do not have greater knowledge about plastic surgery fields.

COLLABORATIONS

PFGB	Project Administration, Validation
JANR	Conceptualization, Realization of operations and/or trials
LRA	Analysis and/or data interpretation, Formal Analysis
MLPV	Methodology
GAC	Writing - Original Draft Preparation, Writing - Review & Editing
PPP	Project Administration, Resources, Supervision

REFERENCES

1. Scheffer M, Cassenote A, Guilloux AGA, Biancarelli A, Miotto BA, Mainardi GM. Demografia médica no Brasil 2018. São Paulo (SP): Departamento de Medicina Preventiva da Faculdade de Medicina da USP (FMUSP)/Conselho Regional de Medicina do Estado de São Paulo (CREMESP)/Conselho Federal de Medicina (CFM); 2018.
2. Fernandes JW. O ensino da cirurgia plástica na graduação em medicina no contexto da realidade brasileira. *Rev Bras Educ Méd.* 2016;40(2):286-94.
3. Lima DSC, Mata FSR, Oliveira FCC, Zenaide PV, Ziolkowski AA, Meneses JVL. A cirurgia plástica na mídia: o conceito da especialidade veiculado pelos meios de comunicação impressos no Brasil. *Rev Bras Cir Plást.* 2015;30(1):93-100.

*Corresponding author:

Pedro Freire Guerra Boldrin

Rua Pedro Rattes Fernandes, 168, Setor Central, Rio Verde, GO, Brazil

Zip Code: 75901-280

E-mail: pedrofbguerra@gmail.com