

Profile of Brazilian Dental Undergraduates who participated of Science Without Borders Program and their perceptions on sandwich course

Marina Lua Vieira de Abreu Costa*; Thais Santos Martins**; Alexandre Henrique de Melo Simplicio***; Regina Ferraz Mendes****; Fabio Solon Tajra*****; Lynn Austin***** Marcoeli Silva de Moura***

- * Master student in Dentistry, Department of Pathology and Dental Clinic, Federal University of Piauí
- ** Graduated Dentist, Department of Pathology and Dental Clinic, Federal University of Piauí
- *** PhD, Professor, Department of Pathology and Dental Clinic, Federal University of Piauí
- **** PhD, Professor, Department of Restorative Dentistry, Federal University of Piauí
- ***** PhD, Professor, Department of Community Medicine, Federal University of Piauí
- ***** PhD, Professor, Department of Allied Health, Western Kentucky University

Received June 18, 2018. Approved June 15, 2019.

ABSTRACT

The Science without Borders (SwB) program was created in 2011 aiming to internationalizing education in Brazil and providing highly qualified training abroad. However, in 2015, it ended the offer of scholarships for undergraduates, which allowed several opportunities. The objective of this study was to evaluate the profile of Dental undergraduate students who participated in the SwB program and their perceptions about this experience. This is an evaluative research developed with students who participated in SwB in the sandwich modality, in which the student continues being enrolled in his university of origin, while studying for period in another institution abroad. Semi structured questionnaire was developed using the GoogleDocs® digital platform, addressing the sociodemographic and academic profile of participants and aspects related to the organization and operation of the program. From 745 former SwB Dental students, 109 (14.6%) answered the questionnaire. Most of them were female (65.1%), from public institutions (89%), located in the Northeast (34.9%) and Southeast (26.6%), with proficiency in English (82.6%), and intention to become a researcher (51.4%). The fellows indicated that the program's objectives were partially fulfilled (59.63%). They considered themselves more qualified, professionally, due to the sandwich course offered by SwB. However, they pointed out several limitations: lack of organization of development institutions, use of disciplines and control and inspection mechanisms. It was possible to outline the profile of program participants, as well as to characterize the functioning of SwB for Dental students, according to their perceptions.

Descriptors: Dental Education. International Educational Exchange. Higher Education.

1 INTRODUCTION

International student mobility is a recent phenomenon that makes it possible to develop essential knowledge, skills and attitudes to the new global economy, as well as to promote worldwide collaboration. These benefits are considered critical to continued growth and development, especially in countries that lack the capacity and infrastructure to foster national talent¹⁻².

In 2011, the Brazilian government, together with its development institutions, the National Council for Scientific and Technological Development (CNPq) and the Coordination for the Improvement of Higher Education Personnel (CAPES), launched a proposal for student mobility, of unprecedented extension and complexity in the country, pledging to provide more than 100,000 scholarships for university students between 2012 and 2015. The program was entitled Science Without Borders (SwB) and had as its main goal *"to provide training and qualification of people with high qualification in universities, professional and technological education institutions and highly qualified foreign research centers in areas of priority knowledge"*³.

According to CAPES data, as of April 2016, 73,353 students were awarded scholarships of sandwich course abroad. The sandwich modality occurs when the student continues to be registered at their home university, while studying for a period at other institution abroad, and after this, returns to conclude the undergraduate course. Biology, Biomedical and Health Sciences areas had 14.44% (n = 10,595) of these scholars, of whom 5.8% (n = 615) were Dental students sponsored by CAPES, while CNPq sent 130 undergraduate Dental students abroad. At the cost of almost 3 billion dollars (11 billion reais) total, the government initiative had no precedent in Brazil and found few parallels

around the world⁴.

In this period, due to the economic and political crisis that plagued the country, the end of the offer of SwB scholarships for undergraduates was announced⁵. The Ministry of Education (MEC) clarified that the international scholarship program would continue to "fully function", although only in the postgraduate modalities⁶.

SwB was the object of criticism by Brazilian scientific societies. It is possible that the launch of the program with its huge goals and the lack of careful selection, evaluation and monitoring parameters, as well as the focus on undergraduate scholarships, may have caused a serious waste of public resources⁶.

This study aimed to evaluate the profile of Brazilian Dental undergraduates who participated of SwB program and their perceptions on this experience.

2 METHODS

Study Design and Population

This is an evaluative research project, utilizing a quantitative approach and cross-sectional design, approved by the Research Ethics Committee of the Piauí Federal University (Registry 1.875.980). The research was developed with students of Dental schools in Brazil who participated in SwB Program in the modality sandwich undergraduate course in all countries and all calls/notices. According to CAPES Communication Advisory data, 615 scholarships were awarded for Dental students. CNPq provided a Lattes Platform link for manual access to the individual information of the fellows and, in this data collection, 130 participants from Dentistry area were located. At the CNPq platform, information of all participants, such as full name, institutions and e-mails, was available, while CAPES only provided the total number of grantees. The location of the other former SwB Fellows was

carried out through the social network Facebook® in a closed group 'CsF Odontologia'. Contact was made with all former CNPq grantees and all 590

members of the Facebook® group within the group and individually on the participant's personal pages (chart 1).

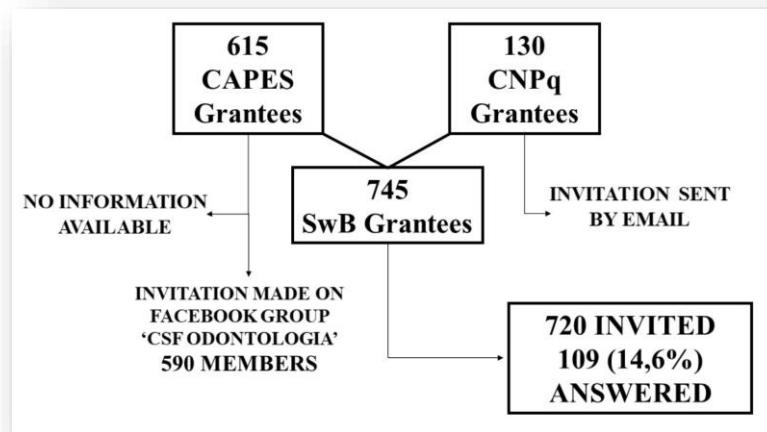


Chart 1. Study design and population

Data collection

A semi structured questionnaire was developed addressing the participant's profile (age, sex, macroregion, type of institution). Other aspects including the motivation to join the program; achievement of foreign language proficiency in Brazil and abroad; internship; taking advantage of study abroad courses in Brazil; maintaining professional contacts; assessment of the teaching and structure of institutions of destination; and, general assessment of dentistry and oral health in Brazil compared to the country of destination were also included.

The participants were questioned if they believe that the program's objectives were fulfilled. To avoid possible memory bias, the objectives set by the program organization were made available shortly after the question. At the end of the questionnaire, an open question about the weaknesses of the program was added. It is worth mentioning that the questionnaire was pre-

tested with 12 SwB participants to evaluate the comprehension of the questions and adjust the possible answers. No adjustments were necessary.

The questionnaire was applied using the GoogleDocs® digital platform. In order to send the questionnaire link, e-mails obtained on CNPq platform were used, all participants of the Facebook® group were invited and the community was encouraged to spread the link through the social network WhatsApp®. The social networks' use made it possible to propagate the link throughout the country.

Data analysis

Data were analyzed using the Statistical Package for Social Science (SPSS), version 20.0. The open variables were categorized to become closed for the viability of the statistical analysis. Initially, a descriptive analysis and a bivariate analysis using the Chi-square test were carried out. Independent variables for the study included

gender, type of original institution (public or private), macro-region, participation in scientific initiation before the exchange, participation in internship, evaluation of the teaching in the institution of destination in relation to the institution of origin, evaluation of Dentistry and Oral Health in the country of destination in relation to the institution of origin to Brazil, and if the participant considers himself a professional or future professional more qualified for having participated in SwB. A significance level of $\alpha = 5\%$ was established.

3 RESULTS

One hundred and nine (14.6%) former SwB Fellows participated in this study (chart 1). Of the 590 contacted via Facebook, 92 (15.59%) responded. Of 130 e-mails sent from the CNPq platform, 17 (13.08%) replied.

The sociodemographic profile of the participants pointed that they were mostly female (65.1%), 21 to 25 years old by the time of the sandwich course (69.7%), from public institutions (89.0%), which are in Northeast (34.9%) and Southeast (26.6%) of Brazil. Motivation, language proficiency and allocation were also addressed (table 1).

Academic performance before and during the exchange period was investigated through activities as scientific initiation before the exchange, courses taken on destination institution and academic training (table 2). The participants evaluated the exchange period and were questioned about their professional perspectives. Only 27.5% does not consider the idea of becoming a researcher in the future (table 3).

Bivariate analysis was performed, and association was found between the students' perception in relation to the fulfillment of the objectives of the SwB and their ideas about qualification after participation in the SwB

program ($p = 0.018$); and the exchange period ($p = 0.026$) (table 4).

4 DISCUSSION

The SwB program was launched by the Federal Government as an innovative proposal for student exchange that involved a great deal of public investment. However, there is few studies regarding the achievement of goals and the achievement of scholarship holders⁷. In this aspect, this quantitative study is innovative when involving Dental students who participated in this Program.

The highest proportion of SwB alumni were young women. This fact followed the trend of the feminization of the profession of Dentistry, which has been ongoing for 40 years⁸⁻⁹. Additionally, most participants came from institutions in the Northeast and Southeast regions. This can be explained by the fact that more than half of the Brazilian Dental Colleges are in these regions¹⁰.

When SwB was launched, the Federal Government was hopeful that a high number of undergraduates would become proficient in the language of the destination country. Many of the vacancies, however, were not filled due to lack of language fluency of the students¹¹. Most of the participants undertook an overseas proficiency course and the predominant language was English. One of the main challenges in the development of social capital in higher education in Brazil is related to the lack of linguistic proficiency in English, which hinders the process of internationalization of education and the inclusion of the country in the globalized world¹².

The results also indicated that the main motivations of the students to join SwB were related to the desire to live abroad, with the need to learn and or become fluent in another language, investment in the future professional

Table 1. Sociodemographic profile of Dental students participating in SwB Program in the sandwich modality and motivation to participate in the exchange between 2012 and 2016

CATEGORY	N	%
Age at the sandwich course		
Less than 21 years old	33	30.3%
21 to 25 years old	76	69.7%
Gender		
Male	38	34.9%
Female	71	65.1%
Region of the Institution of Origin		
North	11	10.1%
Northeast	38	34.9%
Midwest	17	15.6%
Southeast	29	26.6%
South	14	12.8%
Institution of Origin		
Public	97	89.0%
Private	12	11.0%
Exchange Time		
Up to 12 months	60	55.0%
More than 12 months	49	45.0%
Proficiency Course in Brazil		
Yes	75	68.8%
No	34	31.2%
Proficiency Course in Brazil		
Public	13	11.9%
Private	62	56.9%
Did not	34	31.2%
Proficiency Course Abroad		
Yes	83	76.1%
No	26	23.9%
Which language?		
English	90	82.6%
Spanish	5	4.6%
Italian	10	9.2%
French	1	0.9%
Dutch	1	0.9%
Other	2	1.8%
Motivation for the exchange (more than one available option)		
Living abroad	78	71.6%
Invest in the future professional career	54	49.5%
Get to know another culture	53	48.6%
Better quality of teaching	36	33.0%
Increase independence and self-confidence	28	25.7%
Establish a network of academic relationships	9	8.3%
Country of exchange		
USA	56	51.4%
Australia / New Zealand	14	12.8%
Italy	10	9.2%
United Kingdom	10	9.2%
Spain	6	5.5%
Canada	4	3.7%
Netherlands	3	2.8%
Germany	2	1.8%
South Korea	1	0.9%
Sweden	1	0.9%
Portugal	1	0.9%
Hungary	1	0.9%

Table 2. Academic performance before and during the exchange period of Dental students participating in Science Without Borders Program (SwB) in the sandwich modality between 2012 and 2016

CATEGORY	N	%
Participation in scientific initiation before exchange		
Yes	50	45.9%
No	59	54.1%
Have coursed disciplines related to the curriculum of the institutions of origin during the Program?		
Yes	89	81.7%
No	20	18.3%
Use of disciplines in the institution of origin		
Yes	30	27.5%
No	79	72.5%
Proportion of credits of courses taken abroad used by the University of origin		
None	78	71.6%
Up to 25%	18	16.5%
Up to 50%	7	6.4%
Up to 75%	2	1.8%
From 76% to 100%	4	3.7%
Reason for not using credits (more than one available option)		
Disciplines already taken by the student in the Brazilian High Education Institution	62	56.9%
Disciplines that are not part of the curriculum in Brazilian High Education Institution	61	56.0%
Disciplines with different format / content	55	50.5%
Unsatisfactory performance / student disapproval	1	0.9%
Academic Training		
Yes	79	72.4%
No	30	27.5%
Place where you completed the internship		
Internship in a teaching or research institution	40	50.6%
Internship in a private practice or clinic	37	46.9%
Internship in industry or company	2	2.5%

Table 3. Evaluation of the exchange and professional perspectives of Dental students participating in Science Without Borders Program (SwB) in the sandwich modality between 2012 and 2016

CATEGORY	N	%
How do you consider teaching in the institution of destination in relation to the institution of origin		
On the same level	47	43.1%
Better	34	31.19%
Worse	28	25.69%
How do you consider the infrastructure in the target institution in relation to the home institution		
On the same level	7	6.4%
Better	100	91.7%
Worse	2	1.8%
From the re-reading of the objectives of the Program, do you consider that they were fulfilled?		
Yes	43	39.45%
No	1	0.92%
In part	65	59.63%
Did you keep professional contacts abroad?		
Yes	68	62.4%
No	41	37.6%
Did you or did you wish to enroll in a postgraduate program?		
Yes	73	66.9%
No	9	8.3%
Perhaps	27	24.8%
Are you interested in becoming a researcher?		
Yes	56	51.4%
No	30	27.5%
Perhaps	23	21.1%
Did you participate in scientific events abroad?		
Yes	46	42.2%
No	63	57.8%
Have you been in contact with new technologies (materials. instruments. techniques and equipment)?		
Yes	95	87.2%
No	14	12.8%
Do you want to go back to live and work professionally abroad?		
Yes	60	55.1%
No	6	5.5%
Perhaps	43	39.4%
Do you consider yourself to be a professional or qualified professional future because you have participated in the SwB program?		
Yes	101	92.7%
No	8	7.3%

Table 4. Bivariate analysis of the factors associated with the perception of Dental students participating in Science Without Borders Program (SwB) in the sandwich modality between 2012 and 2016 in relation to the fulfillment of the objectives of the SwB

Variable	Compliance with SwB objectives		
	Yes (%)	Partially (%)	P
Brazilian Macroregion			
North	18.2	81.8	0.354
Northeast	42.1	57.9	0.162
Midwest	23.5	76.5	0.737
Southeast	51.7	48.3	0.069
South	42.9	57.1	0.207
Gender			
Female	38.0	62.0	
Male	42.1	57.9	0.678
Institution of origin			
Public	37.1	62.9	
Private	58.3	41.7	0.156
Exchange Time			
Up to 12 months	30.0	70.0	
More than 12 months	51.0	49.0	0.026
Participation in scientific initiation before the exchange			
Yes	46.0	54.0	
No	33.9	66.1	0.198
Participation in internship			
Yes	41.8	58.2	
No	33.3	66.7	0.421
Evaluation of the teaching of the institution of destination			
On the same level	52.9	47.1	0.156
Better	32.1	67.9	0.103
Worse	34.0	66.0	0.150
Evaluation of the Brazilian Dentistry in relation to the Dentistry of the country in which it lived			
Better	40.0	60.0	0.081
Worse	64.3	35.7	0.107
Same level	28.6	71.4	0.069
Perception of qualification after participation in the SwB program			
Yes	42.6	57.4	
No	0.0	100.0	0.018*

career and knowledge of another culture. In fact, when analyzing the effectiveness of scholarship programs, the main benefits include expanding the understanding of other cultures, greater knowledge of content in their field of study, and

learning another language¹³.

When conducting academic exchange, it is expected that participants will take advantage of courses at the destination institution. The percentage of achievement of subjects was

generally nil, which was one of the worrying aspects. For the SwB undergraduates, this occurred mainly because the subjects taken abroad had already been taken by the student in the Higher Education Institution of origin, because it has a difference between the curricular structure or because they have different format/contents¹⁴.

In order to achieve the greatest success for this program and similar programs, the courses should be planned according to the needs of the territories where they are offered to meet the singularities. The greatest differences were perceived among the curricular model of Brazilian universities when compared to North American and European universities¹⁵. This compatibility must be one of the criteria for the choice of the institution of destination. However, information is lacking to ascertain whether the problem was related to the home institutions or even by each of the candidates for the scholarship.

Another item analyzed was participation in internships during the SwB program. Most of the fellows participated in internships during the exchange, only half of which were held in educational and research institutions. Many participants completed their internships in private clinics and practices, mainly as observers, and a small part in industries. Dental students were more easily able to enter stages in practices, because in many universities this modality of internship was included in the curricular matrix¹⁴. However, in most countries, the activity in the office was limited to observation because the clinical practice of the exchange students had not been authorized and the American and European institutions did not allow the care of patients by students who were not enrolled at that institution¹⁶.

Regarding survey questions pertaining to the research internship, more interest was

required from the scholarship holder, since many institutions were not aware of the SwB objectives or even the program itself. Participants also reported that they did not have enough support to participate in a scientific program, according to the data which were collected in the open answers of the questionnaire. This little percentage difference between those who did research and clinical internships can be attributed to the lack of communication between the university of origin and destination, the lack of orientation services to the new social environment and of host institutions, as well as the lack of a student matching system to study the destination through a comprehensive monitoring system¹⁷.

About the quality of teaching in the institutions of destination, data revealed that, from the perception of the exchange students in relation to the institutions of origin, choices for participants were "At the same level", "Better" and "Worse". Regarding infrastructures, most of the participants reported that the institutions of destination were superior to the Brazilian ones. Since a significant minority, however, evaluated the institutions of destination as inferior to the Brazilian ones, from the analysis of SwB objectives, the investment is not acceptable to continue to send undergraduates to these schools¹⁸.

Some of the objectives presented by SwB were to increase the presence of researchers and students of various levels in institutions of excellence abroad and to promote the international insertion of Brazilian institutions by opening similar opportunities for scientists and foreign students³. It was observed that more than half of the participants are interested in becoming researchers after the program.

When questioned about the possibility of returning abroad to live or perform professionally, most participants revealed that

they had this desire. This was not one of the identified or anticipated objectives of the program. The structure and characteristics of international government grant programs define how the program helps to promote critical benefits that help develop human capital. In addition, they can play a critical role in deciding whether the program will lead to brain drain or encourage a better distribution of science talent among countries¹⁷.

An association between the duration of the exchange and the perception of the interviewees about the fulfillment of the objectives of SwB was observed. Participants whose exchange lasted 12 months or less were more likely to consider that the program partially met the objectives. In its initial design, sandwich course would last 12 months and could be extended by up to 18 months when it included a language course. The language course term would then be presented in each call, varying from country to country and in agreement with universities abroad¹⁹. Fellows who spent less time abroad were already proficient in the target language and did not need the language course. This influenced respondents to consider the objectives of the program as partially fulfilled, since the achievement of proficiency proved to be one of the main merits of SwB.

At the end of the questionnaire, participants were asked about the weaknesses of the program at an optional open question. Among the respondents (n=94), responses were standardized in a few areas: absence of clinical practice and contact with patients, failure to take advantage of the disciplines studied abroad, lack of planning by the organizing institutions, as well as control and inspection mechanisms. For the students, these problems were the result of poor planning, which did not consider the characteristics of Dentistry teaching in Brazil, such as the prevalence of early clinical practice

in undergraduate courses¹⁴.

This study had as a limitation the low rate of response, which can be explained by the non-presence aspect of the questionnaire, the absence of official data from the scholarship holders served by CAPES and the location of possible respondents, distributed throughout the country. With the use of the digital platform GoogleDocs®, the intention was to facilitate the access of the exchangers to the questionnaires and to improve the adherence to the research.

The SwB program for society would have as short or medium term impact the internationalization of the academic production and the integration of the national research centers with the rest of the world, considering that the returned students could act as vectors in the dissemination of the knowledge acquired abroad. In the long term, the main impact would be to increase productivity and the development of human capital in the economy²⁰. Almost all the participants in this study considered themselves professionals or future professionals more capable after the exchange.

5 CONCLUSION

It was possible to outline the profile of the participants of the Dentistry area in the governmental initiative SwB Program: most were female, coming from public institutions, located in the Northeast and Southeast, with proficiency in English and intentions to become a researcher. According to the participants, the program's objectives have been partially achieved. The participants considered themselves more qualified, professionally, because of the sandwich course offered by SwB. However, they pointed several weaknesses such as lack of organization of development institutions, failure to take advantage of the courses taken abroad back in the institution of origin, and the absence of control and inspection

mechanisms.

RESUMO

Perfil dos estudantes de Odontologia brasileiros que participaram do Programa Ciência sem Fronteiras e suas percepções sobre a graduação

O programa Ciência sem Fronteiras (CsF) foi criado em 2011 com o objetivo de internacionalizar a educação no Brasil e prover treinamento altamente qualificado no exterior. Entretanto, em 2015, encerrou a oferta de bolsas de estudo para alunos de graduação, que permitiam diversas oportunidades. O objetivo deste estudo foi avaliar o perfil de graduandos de Odontologia que participaram do programa CsF e suas percepções sobre essa experiência. Trata-se de uma pesquisa avaliativa desenvolvida com estudantes que participaram do CsF na modalidade sanduíche, em que o estudante continua matriculado em sua universidade de origem enquanto estuda por período em outra instituição no exterior. Um questionário semiestruturado foi desenvolvido utilizando a plataforma digital GoogleDocs®, abordando o perfil sociodemográfico e acadêmico dos participantes e aspectos relacionados à organização e ao funcionamento do programa. Dos 745 estudantes de Odontologia participantes do CsF, 109 (14,6%) responderam ao questionário. A maioria era do sexo feminino (65,1%), oriundos de instituições públicas (89%), localizadas no Nordeste (34,9%) e Sudeste (26,6%), com proficiência em inglês (82,6%) e intenção de se tornar pesquisador (51,4%). Os bolsistas indicaram que os objetivos do programa foram parcialmente cumpridos (59,63%). Consideraram-se mais qualificados, profissionalmente, devido à graduação sanduíche oferecida pelo CsF. No entanto, apontaram várias limitações: a falta de organização das instituições de fomento, de aproveitamento de disciplinas e de mecanismos de controle e inspeção. Foi possível traçar o perfil dos participantes do programa, bem como caracterizar o funcionamento do CsF para os estudantes de Odontologia, de acordo com suas percepções.

Descritores: Educação em Odontologia. Intercâmbio Educacional Internacional. Educação Superior.

REFERENCES

1. Knight J. An internationalization model: meaning, rationales, approaches, and strategies. In J. Knight, Higher Education in Turmoil: The Changing World of Internationalization. Rotterdam, The Netherlands: Sense Publishers. 2008: 19-38
2. Sehnem PR. Os programas Erasmus e Ciência sem Fronteiras como materialização da internacionalização universitária. Brazilian J Dev. 2019;5(1):533-55.
3. Brasil. Decreto nº 7642, December 13, 2011. Institui o Programa Ciência Sem Fronteiras. Diário Oficial, Brasília, DF: Dec 13 2011.
4. Ministério da Educação. Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira-INEP. Indicadores Financeiros Educacionais - INEP [Internet]. 2015 [cited 15 February, 2015]. Available from: <http://portal.inep.gov.br/indicadores-financeiros-educacionais>
5. Editorial Estadão. O fim do Ciência sem Fronteiras. O Estado de São Paulo. São Paulo, SP: September 25, 2015. [cited 25 June, 2017]. Available from: <http://www.estadao.com.br/noticias/geral,o-fim-do-ciencia-sem-fronteiras,10000000076>
6. Menino F. O fim do Ciência sem Fronteiras - Geral - Estadão [Internet]. Estadão. 2015 [cited 25 June, 2017]. Available from: <http://www.estadao.com.br/noticias/geral,o-fim-do-ciencia-sem-fronteiras,10000000076>
7. McManus C, Nobre CA. Brazilian scientific mobility program - Science without borders – Preliminary results and perspectives. An Acad Bras Cienc. 2017;89(1):773-86.
8. Morita MC, Haddad AE, Araújo ME. Perfil atual e tendências do cirurgião dentista

- brasileiro. Maringá: Dental Press, 2010. 96p.
9. McKay JC, Quiñonez CR. The Feminization of Dentistry: implications for the Profession. *J Can Dent Assoc.* 2012;78:c1.
 10. Schmidt A, Martin S, Chisini LA, Martelli S, Morello LR. Distribuição dos cursos de Odontologia e de cirurgiões-dentistas no Brasil: uma visão do mercado de trabalho. *Rev ABENO.* 2018;18(1):63-73.
 11. Idioma é o maior obstáculo para Ciência sem Fronteiras; inscrição vai até 24 de janeiro. UOL Educação. UOL. São Paulo, SP: January 08, 2013. [cited 25 June, 2017]. Available from: <https://educacao.uol.com.br/noticias/2013/01/04/idioma-e-o-maior-obstaculo-para-ciencia-sem-fronteiras-inscricao-vai-ate-14-de-janeiro.htm>
 12. Finardi KR, Rojo ARO. Globalization, internationalization and education: what is the connection? *Int E-Journal Adv Educ.* 2015; I(1):18-25.
 13. Perna LW, Orosz K, Jumakulov Z et al. Understanding the programmatic and contextual forces that influence participation in a government-sponsored international student-mobility program. *High Educ.* 69: 173. 2015.
 14. Pithan SA, Nunes MF, Pires LC. Science without Borders in professional training: perceptions of Dental students from UFSM. *Rev ABENO.* 2018;18(1):2-14.
 15. Fulbright. Brazilian Education System. [cited 4 Sept, 2016]. Available from: <http://www.fulbright.org.br/content/view/68/97/>
 16. Mendonça A, Santana H. Estágio no Departamento de Odontopediatria da Universidade da Flórida: um relato de experiência. *Rev ABENO.* 2018;18(1):93-102.
 17. Grieco JA. Fostering cross-border learning and engagement through study abroad scholarships: Lessons from Brazil's Science Without Borders Program. 2015. 149. (Order No. 1604503). University of Toronto (Canada), Ann Arbor: 2015.
 18. Martinez KL. Dilemas na implementação do programa Ciência sem Fronteiras: análise do perfil socioeconômico dos acadêmicos do campus da UFSC [dissertation]. Florianópolis: Universidade Federal de Santa Catarina, 2018.
 19. Capes. Manual de Candidatura Programa de Graduação Sanduíche. Diretoria de Relações Internacionais – DRI, Coordenação-Geral de Bolsas e Projetos – CGBP, Coordenação de Candidaturas a Bolsas e Auxílios no Exterior – CCE. Brasília, DF: April 2015.
 20. Rivas RM, Mullet S. Countervailing institutional forces that shape internationalization of science: an analysis of Brazil's Science without Borders program. *RAI Rev Adm Inov.* 2016;13(1):12-21.

Correspondence to:

Dr. Marcoeli Silva de Moura, PhD,
e-mail: marcoeli-moura@uol.com.br
Rua Estudante Danilo Romero 1776, Horto
64.052-510, Teresina/Piauí Brazil