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ARTICLE

PUBLIC FUNDING (FIES AND PROUNI) FOR MEDICAL TEACHING IN BRAZIL: A LITERATURE REVIEW AND THE DISTORTIONS CREATED

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ABSTRACT: Pressure from society, following the expansion of private higher education, resulted in the creation of FIES and PROUNI. With the increase in the number of new medical schools as a result of the *More Doctors Program* Law, new pressures may occur due to vacant seats, student default, or the reduction of government incentives. The objective of this article is to map the studies on student financing for higher education in Brazil and to conduct a discussion relating the findings to the situation of undergraduate medical education in Brazil. The method used was the Scooping review of the Joanna Briggs Institute with the descriptors: government financing, privatization and academic institutions. 134 articles were found for a final selection of 11 papers. The results showed the importance of government aid for private educational organizations, encouraging the expansion of the segment. For medical education, private expansion is a cause for concern due to the questionable quality of many institutions.

Keywords: government funding, medical education, academic institutions, FIES, PROUNI.

FINANCIAMENTO PÚBLICO (FIES E PROUNI) PARA O ENSINO DE MEDICINA NO BRASIL: UMA REVISÃO DA LITERATURA E AS DISTORÇÕES CRIADAS

RESUMO: As pressões da sociedade, após a expansão do ensino superior privado, resultaram na criação do FIES e do PROUNI. Com o aumento do número de novas escolas de Medicina em decorrência da Lei do Programa Mais Médicos, novas pressões poderão ocorrer por conta de vagas ociosas, inadimplência dos estudantes ou redução dos incentivos govervanemtais. O objetivo deste artigo é mapear os estudos acerca do financiamento estudantil para o ensino superior no Brasil e realizar uma discussão relacionando os achados com a situação da graduação de medicina no Brasil. Utilizou-se como método a *Scooping review* do *Joanna Briggs Institute* com os descritores: financiamento governamental, privatização e instituições acadêmicas. 134 artigos foram encontrados para uma seleção final de 11 trabalhos. Os resultados evidenciaram a importância do auxílio governamental para a organizações privadas de ensino, incentivando a expansão do segmento. Para o ensino de Medicina, a expansão privada é motivo de alerta pela qualidade questionável de muitas instituições.

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Palavras-chave: financiamento governamental, ensino de medicina, instituições acadêmicas, FIES, PROUNI.

FINANCIAMIENTO PÚBLICO (FIES Y PROUNI) PARA LA EDUCACIÓN MÉDICA EN BRASIL: UNA REVISIÓN DE LA LITERATURA Y LAS DISTORSIONES CREADAS

RESUMEN: Las presiones de la sociedad, con la expansión de la educación superior privada, resultaran en la creación del FIES y PROUNI. Con el aumento del número de nuevas escuelas de medicina como resultado del Programa Más Médicos, pueden surgir nuevas presiones debido a vacantes, incumplimiento de estudiantes o reducción de incentivos gubernamentales. El objetive es mapear los estudios sobre financiamiento de estudiantes para la educación superior en Brasil y realizar una discusión relacionando los hallazgos con la situación del pregrado en medicina en Brasil. El método fue revisión de scooping del Instituto Joanna Briggs, con mnemónico PCC, siendo financiamiento gubernamental para la población; privatización, por concepto, e instituciones académicas, por contexto. Se encontraron 134 artículos para una selección final de 11 trabajos. Los resultados mostraron la importancia de la ayuda gubernamental para las organizaciones educativas privadas, fomentando la expansión del segmento. Para la educación médica, la expansión de la red privada es motivo de advertencia por la cuestionable calidad de muchas instituciones.

Palabras clave: Financiamiento gubernamental, Medicina de la educación, Universidades, FIES, PROUNI.

INTRODUCTION

Medical courses are highly sought after in national entrance examinations, which justifies, in part, the current expansion both in the number of medical schools (342, an increase of 48.2% in the last 10 years) and vacancies for first-year undergraduates (35,388), which represented an increase of 40.2% in the same period. Of the total number of medical courses, if we consider the courses that charge tuition, there are 1877 undergraduate vacancies, with 64.9% of the courses and 73.8% of the vacancies in the private sector (ESCOLAS MÉDICAS DO BRASIL, 2020).

The medical course lasts six years. During this period, students deal with a large number of theoretical and practical subjects in traditional or hybrid curricula, or with a greater use of active teaching learning methodologies. Besides classes in laboratories, students go through internships supervised by teachers and preceptors in hospitals, outpatient clinics, and health care units. Most of the time, these internships are made possible through agreements with health institutions, especially private ones. The structure required for a course of this amplitude influences the tuition fees. This is one of the reasons why the medical school tuition is the highest among undergraduate courses in private Brazilian institutions. Although the price varies from one institution to another, the medical school tuition varies between R$ 5 thousand and R$ 12 thousand (ESCOLAS MÉDICAS DO BRASIL, 2020).

Undergraduate teaching in Medicine has been undergoing changes in recent years as a result of ethical changes in the use of animals for teaching, difficulties in obtaining cadavers, and the increasing technological incorporation of morpho-functional mannequins, virtual platforms, and simulators of different complexities, forcing institutions to adopt alternative teaching methods at high cost (BRANDÃO; CARVALHO-FILHO; CECÍLIO-FERNANDES, 2018).

This can represent a potential compromise of profits, and pressure from the private initiative to the Union arises from this, as has occurred in the past (CHAVES; AMARAL, 2016). Pressured both by families, unable to pay tuition, and by Private Higher Education Institutions (PHEI), by the default of enrolled students and idle vacancies, the government was forced to act and take measures to mitigate the pressures received by society (CHAVES; AMARAL, 2016).

The solutions found by the government, while seeking to reduce investments in federal universities, consisted in stimulating the payment of tuition and permanence scholarships to students through tax exemptions to PHEI through the University for All Program (PROUNI), exemption from the payment of salary-education, financial loans for needy students through the Higher Education Student Financing Fund (FIES), financial loans at subsidized interest rates by the National Bank for Economic and Social Development (BNDES), among other measures with federal resources, causing a dependence of the private sector on the government (CHAVES, 2015).

FIES was created through Provisional Measure No. 1.827, of May 27, 1999, transformed into Law No. 10.260, of July 12, 2001 (BRASIL, 2001). According to the text of the law, FIES is aimed at financing students regularly enrolled in non-free higher education courses that have a positive evaluation from MEC.

The PROUNI was created in 2004 with the goal of granting full and partial scholarships to students in private higher education, being granted tax exemption by the federal government for participating institutions (BRASIL, 2005).

The FIES, unlike PROUNI, does not represent a transfer of public resources to the private sector, as it is a bank loan to be returned by the student after the completion of the course (PINTO, 2016).

The high cost of medical education, along with government restrictions imposed by Constitutional Amendment No. 95 (BRASIL, 2016) can harm the profits of PHEIs, compromising the quality of training of future physicians by the option of institutions to incorporate diversified technologies or by reducing costs, such as replacing more experienced teachers.

With the increase in the number of medical courses in recent years, especially in the private sector, there is a concern about the quality of national medical education caused by the increase in educational costs and the ability of IESP to manage this situation (NASSAR; PEREIRA JÚNIOR, 2019).

The rising costs of undergraduate medical education tie the maintenance of teaching quality to the expansion of IESP revenue, which would need to either increase the number of undergraduate slots, or raise tuition, or cut educational costs, or reorganize processes (NASSAR; PEREIRA JÚNIOR, 2019). In a scenario of expansion similar to what occurred until the 1990s, it is possible to believe that new social pressures, such as those that occurred in the past, will occur again (CHAVES; AMARAL, 2016).

In a context of financial constraints and increase in the cost of medical education, the guiding question of the research emerges: **what is the literature produced on government student financing for Brazilian higher education and the future impacts for medical education in Brazil?**

To answer the question, an integrative literature review was conducted with the objective of mapping the studies about student financing for higher education in Brazil. Then, a discussion was held relating the findings to medical education and the developments that have occurred.

METHODOLOGY

To conduct the review, the mnemonic Population, Concept and Context (PCC) to *Scoping Review* approach of the *Joanna Briggs Institute* (JBI), an international non-profit organization that makes up the *School of Translational Science of Faculty of Health Science, University of Adelaide* in Australia, was used (JBI, 2019).

Among the contexts, "Population" refers to the population or a problem which can be an individual or a group in a specific condition; "Concept" can be all the detailed and relevant elements to be considered; "Context" is determined according to the purpose and question of the review and is defined by the cultural factors. For the guiding question of the present study, the following controlled descriptors from the Health Sciences Descriptors (DeCS) were defined:

- Population: government funding;
- Concept: privatization;
- Context: Academic institutions.

The controlled and uncontrolled descriptors from the *Medical Subject Heading* (MeSH) were also used. To complement the searches, the following keywords were used: FIES, Prouni, *expansão privada, expansão*, private expansion, expansion, Brazil, Brazilian and Brazilians. The Boolean terms with the descriptors: AND, OR and NOT were also considered.

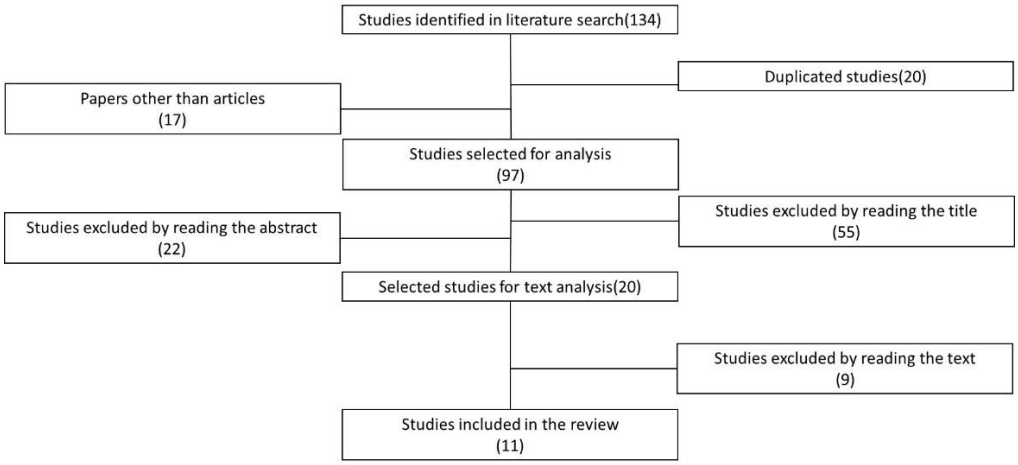
As for the search strategy, six databases were consulted: *Scientific Electronic Library Online* (SciELO), Latin American and Caribbean Literature on Health Sciences (LILACS), *PubMed, Cochrane, Scopus and Web of Science*. There was no sample limitation by the date of publication of the articles in order to find the largest number of papers available on the subject.

The literature search and selection were carried out by pairs during August 2020, guided by a script prepared by the authors with the eligibility criteria: full articles available; articles available in Portuguese, English or Spanish; full articles that answered the guiding question of the study. Regarding the time frame, we chose to use the entire period available in the databases to obtain a larger number of articles. The articles were selected using the Start software.

RESULTS

The search resulted in a total of 134 papers. Initially, duplicate papers were excluded from the sample, and then the process of reading the titles, abstracts, and contents of the articles began, always applying the eligibility criteria. If there were doubts about the exclusion of a paper, it was approved at that stage and reanalyzed in the next phase of the selection process. After applying the eligibility criteria, 11 scientific articles were selected. The selection process and the result of the review are described in Figure 1.

Figure 1 - Article selection process.



Translation: Studies identified in literature search (134), Duplicate studies (20), Different papers from articles (17), Studies selected for review (97), Studies excluded by reading title (55), Studies excluded by reading abstract (22), Studies selected for text analysis (20), Studies excluded by reading text (9), Studies included in review (11)

Source: Prepared by the authors.

In Table 1, it is possible to identify the authors, titles, objectives and years of publication of the papers.

Table 1 - Main information of the scientific articles selected for the study.

Author	Title	Objective	Year
Carvalho (2006)	PROUNI in the Lula government and the political game around access to higher education.	To understand the complex and dynamic relationship of public policy for higher education in the Lula administration, regarding PROUNI and its articulation with fiscal policy and funding through tax renunciation.	2006
McCowan (2007)	Expansion without equity: An analysis of current policy on access to higher education in Brazil	Developing a concept of equity in higher education	2007
Souza; Menezes (2014)	University for All Program (PROUNI): who gets what, how and when?	Identify which actors gained what, when and how, from the political process developed during the formulation of the program.	2014
Chaves (2015)	Funding policy and the expansion of higher education in Brazil: the public and the private in question.	Analyze the profile of funding for the expansion of higher education, aiming to discuss the public-private partnership for this purpose in the governments of Lula da Silva and Dilma Rousseff.	2015
Pinto (2016)	An analysis of the allocation of public resources, directly or indirectly, to the private education sector in Brazil.	Analyze the different mechanisms for transferring public resources to the private education sector, as well as the amounts involved.	2016

Chaves; Amaral (2016)	Higher education expansion policy in Brazil - PROUNI and FIES as funders of the private sector.	To analyze the policy of expansion of Brazilian higher education in the period 2003-2014, with emphasis on the analysis of PROUNI and FIES as funders of the private sector.	2016
Dal Poz; Couto; Franco (2016)	Innovation, development and financing of Higher Education institutions in health.	To analyze the configuration and trends of healthcare higher education institutions in their relationship as components of the Healthcare Industrial Economic Complex (CEIS).	2016
Costa; Ferreira (2017)	PROUNI in Brazilian higher education: indicators of access and permanence.	To evaluate to what extent PROUNI expands access to Higher Education, identifying the conditions of entry, enrollment, cost-student and permanence through the Course Completion Index, on a national scale.	2017
Haas; Pardo (2017)	University for All Program (PROUNI): financial effects on a private higher education institution.	To verify if the tax exemption achieved by a for-profit PHEI, after joining PROUNI, exceeded the investments in scholarships offered by the program.	2017
Pereira; Brito (2018)	The expansion of private higher education in Brazil through FIES	Discuss how federal government funding was important for both the expansion and growth of private higher education business groups in Brazil from the second half of the 1990s to the first decade of the 21st century.	2018
Silva ER et al (2019)	Governmental public policy: a study about the university for all program - PROUNI from 2005 to 2018	To conduct a bibliographic and documentary study on ProUni as a public policy for the expansion of higher education.	2019

Source: Prepared by the authors.

Carvalho (2006) analyzed the conditions of access of poorer students to PROUNI in search of a graduate degree. According to the author, since the University Reform of 1968 there has been an expansion of private education in Brazil until the number of new students was exhausted, causing uncertainty in the sector due to the high number of vacancies. The search for access to the diploma was the basis for the MEC's proposal to nationalize vacancies in PHEI in exchange for tax incentives as a response to political pressure from educational groups, leaving implicit the influence of the sector in the national education policy (CARVALHO, 2006).

The institutions that benefited most from the program at the time were the most profitable ones, with more flexible rules and with greater relative gain in tax waivers. The legal text evolved towards the loosening of the state apparatus, deregulating stricter sanctions for non-compliance with rules and stimulating opportunistic attitudes of PHEI of doubtful quality. The result was a majority of students benefiting from the program studying in low quality educational institutions (CARVALHO, 2006).

To elaborate his concept of equity in higher education, McCowan (2007) addressed the main Brazilian public policies for higher education, including incentives for students from public universities, with the quotas, and students from private courses, mentioning FIES and PROUNI. On FIES as a form

of equity in higher education, the author argued that there were a number of problems with this approach to solving the problem of equity in the long run, due to the malfunctioning of the system in the Brazilian context and the inherent limitations of a loan system (MCCOWAN, 2007). About PROUNI, McCowan (2007) presents the strong opposition to the plan by university professors, rectors and students and their respective unions, who believed that the money spent (that was left uncollected) would be better applied in public universities, with opposition also occurring from some PHEI.

The author, however, believes that the efficiency of PROUNI is good, because the vacant positions of universities are filled, the initiative would not bring high costs for the State, because the PHEI pay little tax, keeping the rapid growth of the private sector in relation to the public (MCCOWAN, 2007). Regarding FIES, the author was critical in arguing that the incentive was only available to students if the loan was guaranteed by a guarantor with an income twice the total fees, limiting the benefit to only those with some measure of financial security could obtain a loan (MCCOWAN, 2007). Finally, he concludes that government interventions such as FIES and PROUNI can increase access for low-income students, but do so in a limited way and cannot be the basis of a successful long-term policy (MCCOWAN, 2007).

The article by Souza and Menezes (2014) sought to identify the actors involved in the political process of reformulating PROUNI and the gains made by each. According to the authors, the private segment was the biggest beneficiary of the PROUNI policy, as they were able to influence the government to define mechanisms to implement the program in a context where vacancy idleness rates were over 740,000, as a result of the 1968 University Reform. The influence of privatist actors in the formulation of PROUNI made the program closer to PHEI demands than to the needs of the original target audience (SOUZA; MENEZES, 2014).

The PHEI were successful in modifying all the rules that would bring them benefits, reducing the amount of scholarships available and institutional controls, while maintaining the suppression of the rates of Corporate Income Tax (IFPJ), Social Contribution on Net Profits (CSLL), Social Integration Program (PIS) and Contribution to Finance Social Security (CONFINS) (SOUZA; MENEZES, 2014). In the absence of efficient enforcement mechanisms to obtain the waiver of revenue, the system becomes more permissive with the lack of quality of several PHEI, which generally have major pedagogical deficiencies, resulting in a low-quality educational process. Moreover, the authors emphasize that the goal of several PHEI is profit and, consequently, dividends to shareholders, with no prospect of reducing them to invest in quality education (SOUZA; MENEZES, 2014).

The study by Chaves (2015) made a reflection on the Brazilian higher education funding policy, starting from the thesis that such funding is directly related to the State's fiscal adjustment policy. With the policy of contingency of resources to ensure primary surplus and signal to creditors the government's good intentions to save, the government reduced investments in public higher education and encouraged the expansion of higher education by the private sector with state incentives such as FIES and PROUNI (CHAVES, 2015).

The work of Pinto (2016) analyzed different forms of government transfer to the private education sector, among them FIES and PROUNI, representing 56% of all federal spending on maintenance and development of education in the year 2014. By analyzing the 1988 Federal Constitution, the author emphasizes that the transfer of resources to for-profit PHEI is unconstitutional and that the granting of scholarships should be regulated. In the case of PROUNI, Pinto (2016) highlights that the program is configured as a purchase of vacancies by the federal government in the for-profit private network, violating art. 213 of the Federal Constitution that allows the allocation of public resources only for non-profit PHEI.

The creation of PROUNI was interesting for the federal government of the time because it brought it closer to a sector that was generally critical of it, but it was also an excellent deal for the private sector that would get a remuneration, albeit indirect, for the occupation of idle vacancies (PINTO, 2016). FIES also presented itself as an excellent business for the private sector, since the total number of contracts corresponded, in the year 2014, to 35% of the enrollments in the private higher education network. A significant part of the burden of paying these resources will fall on society, since many

students are receiving low quality education, with diplomas of low accreditation in the market and, in a scenario of economic recession, the conditions to afford the payment of the loan will be minimal, causing default (PINTO, 2016).

The article by Chaves and Amaral (2016) analyzed government documents to survey financial and educational data, finding that the expansion of higher education occurred both through public and private means. However, the largest portion of the expansion occurred by the private sector, mainly between the years 1995 and 2014, obtaining 74.9% of enrolled students in 2014 (CHAVES, AMARAL, 2016). In particular, the private sector received government incentives through PROUNI and FIES and, despite the caveat to be made because FIES is a loan, it increases the public debt of the Union and, historically, such types of transactions bring high rates of default (CHAVES; AMARAL, 2016).

The authors state that the volumes of resources associated with PROUNI and FIES contribute in a fundamental way to the increase of enrollments in the private sector, collaborating for profit and the provision of higher education that dissociates undergraduate education from research and extension (CHAVES; AMARAL, 2016).

The study by Dal Poz, Couto and Franco (2016) addressed the expansion of higher education as part of the transition from elite systems to mass systems that is part of phenomena such as globalization, economic transformations, emergence of new communication technologies and the emergence of an international knowledge network, reflecting in possible impacts on health training. Due to the challenges in the field of human resources faced by health systems, the World Health Organization (WHO) and other agencies have indicated the need for national states to invest in training personnel to work in health care (DAL POZ; COUTO; FRANCO, 2016). The authors point out that the increase in technological requirements in health systems is not accompanied by education where, in the Brazilian context, there is a division between a few institutions of academic excellence in the South and Southeast axis and several institutions with difficulties in obtaining minimum standards of requirements for teaching and unable to conduct research and extension, and 36% of private courses obtained concept 1 or 2 in the National Student Performance Examination (Brazilian Portuguese abbreviation: ENADE) compared to 4.5% of public courses in the year 2013 (DAL POZ; COUTO; FRANCO, 2016).

The expansion of private education, stimulated by government incentives, has not been accompanied by effective regulatory mechanisms to ensure the quality of education and reduce the imbalances between supply and demand in the health labor market and the existing geographical inequalities. The forms of regulation of higher education face difficulties because of the expansion of the private market that has increased competitiveness, changed the processes of professional training, and created new challenges for public policies (DAL POZ; COUTO; FRANCO, 2016).

The study by Costa and Ferreira (2017) used government data to estimate information about the impacts of PROUNI. According to the authors, PROUNI was responsible for an average 5.25% increase in enrollment in the private sector per year, representing an average annual student-cost of R$3,381.43/year or R$281.78/month per scholar and an average idleness of 30% and evasion was on the order of 10.4%, probably due to students' economic constraints (COSTA; FERREIRA, 2017). It was found that PROUNI provides the filling of vacant positions in the PHEI, provides tax exemption to institutions and directs students to less competitive courses that could not even enter an PHEI. According to the authors, the analyses revealed limitations of the program in controlling the occupation of the scholarships allocated between 2005 and 2009, remaining in 2012 when regulations already existed (COSTA; FERREIRA, 2017). Even with the idle scholarships, the PHEI remained fully exempt from the taxes provided by law (COSTA; FERREIRA, 2017). The authors show concern about the situation because resources ceased to be collected by the state, representing social, academic, and economic waste of resources invested without return (COSTA; FERREIRA, 2017).

The article by Haas and Pardo (2017) investigated accounting documents of an PHEI to demonstrate that the fiscal gain achieved by the institution, after its adherence to PROUNI, was higher than the investments intended for scholarships and contributed financially to the stabilization and maintenance of institutional growth over the years. The total value of the scholarships, between 2008 and 2010, represented for PHEI an investment of R$ 286,462.00, representing a gain of R$ 927,862.00 which,

in percentage terms represents 424% (HAAS; PARDO, 2017). According to the authors, PHEI stopped collecting for the Union coffers an amount of R$ 1,214,323.00 referring to federal taxes in the period studied (HAAS; PARDO, 2017).

The article by Pereira and Brito (2018) sought to show the benefits of FIES for the private higher education network, using the example of the group Union of Educational Institutions of the State of São Paulo (Brazilian Portuguese abbreviation: UNIESP), having about 77% of the 130,000 students benefited by the program in 2013. The article brought a criticism about the way FIES transformed, through the federal government, the individual, in this case, the student, into a commodity (PEREIRA; BRITO, 2018). In the authors' view, FIES was responsible for transforming Brazilian higher education into a big business for companies (PEREIRA; BRITO, 2018).

The fact that the government makes such resources available to a growing number of individuals seeking higher education makes it an enabler of the expansion of this market segment (PEREIRA; BRITO, 2018). The growing interest of the financial market with the education sector points to a transformation of education from a right to a commodity (PEREIRA; BRITO, 2018). The government priority in expanding the number of students in higher education without worrying about the quality of the student's education would be a misunderstanding on the part of public authorities (PEREIRA; BRITO, 2018).

The article by Silva et al (2019) presented a review of the literature on PROUNI between the years 2005 and 2018. The article presents a historical conceptualization about the public policy and the number of scholarships made available by the program in 2018 (SILVA et al., 2019). In conclusion, Silva et al indicate that PROUNI, besides having promoted greater access to higher education for students from the public network, was also an excellent business for PHEI by the tax waiver obtained by supporters of the program (SILVA et al., 2019).

DISCUSSION

According to Carvalho (2006) and Souza and Menezes (2014), the University Reform of 1968 was a milestone for the expansion of private higher education in Brazil. To elucidate the impact of the University Reform and the year 1968 for the segment of medicine, the study by Oliveira et al (2019) showed that between 1808 and 2018, the relevant expansion of medical education in Brazil occurred mainly in the periods of the military governments until Sarney (1964 to 1988), intensified in the governments of Fernando Henrique Cardoso (1989 to 1994) and Luís Inácio Lula da Silva (2003 to 2010), but reached the peak of this expansion after 2014, with the implementation of the *More Doctors Program* in 2013 in the Dilma-Temer government (2011 to 2018) (HAAS; PARDO, 2017). Only between 2011 and 2018, more medical schools were opened (n=119) than those that were created in 194 years of the country's history (1808 to 2002) (n=114) (eMEC, 2018). Currently, we have 342 medical schools that provide 35,388 slots for first-year undergraduates. Of the total number of medical courses, we have 64.9% of courses and 73.8% of vacancies in the private sector (ESCOLAS MÉDICAS DO BRASIL, 2020).

As PHEI can present prohibitive tuition fees for many people, the student with financial difficulties can resort to the aid of FIES and PROUNI to afford their educational expenses (CHAVES; AMARAL, 2016). The benefits are attractive to institutions, as they guarantee tax exemption via PROUNI and lower default with FIES. According to Haas and Pardo (2017), the total amount that was left uncollected by the public coffers was quite significant. For the context of the PHEI studied, the value of the tax benefit exceeded the investment made by the institution in scholarships of PROUNI by 424%, demonstrating a financial benefit by joining the program (HAAS; PARDO, 2017). However, Pinto (2016) emphasizes the importance of critically analyzing the benefits, especially FIES, due to the fact that the subsidy is significant and there is a risk of the loan being unpayable, causing negative effects for the public banks that provide the resource.

Table 2 shows a survey on the status of FIES contracts in the most popular courses with the analysis of data from June 2018. At that time, of a total of 612,226 contracts under repayment, an average of 62% were in default (FNDE, 2018). In the same period, the Ministry of Education (Brazilian

Portuguese abbreviation: MEC) showed 450,000 students defaulted, adding the outstanding balance to R$10 billion (G1, 2018).

Table 2 - Relationship of the total FIES contracts.

Course Name	Total Amortizing Contracts	% Defaulted Contracts	Contracts that are more than 1 day overdue
LAW	70.100	57%	40.081
ADMINISTRATION	60.307	65%	39.061
PEDAGOGY	38.184	74%	28.132
NURSING	36.402	62%	22.712
PHYSICAL EDUCATION	28.997	68%	19.654
ACCOUNTING SCIENCES	27.770	59%	16.299
HUMAN RESOURCE MANAGEMENT	24.386	77%	18.684
CIVIL ENGINEERING	23.531	53%	12.513
PSYCHOLOGY	16.950	56%	9.509
PHYSIOTHERAPY	15.947	61%	9.673
LOGISTICS	12.878	76%	9.806
DENTISTRY	11.508	48%	5.567
NUTRITION	11.169	61%	6.789
SOCIAL WELFARE	10.945	71%	7.817
PHARMACY	10.689	50%	5.346
PRODUCTION ENGINEERING	10.262	57%	5.814
MEDICINE	9.258	32%	2.934
ARCHITECTURE AND URBANISM	8.757	51%	4.508
SYSTEMS ANALYSIS AND DEVELOPMENT	8.098	64%	5.177
MECHANICAL ENGINEERING	8.021	51%	4.099
BIOMEDICINE	7.610	58%	4.393
BIOLOGICAL SCIENCES	7.008	61%	4.255
GASTRONOMY	6.961	67%	4.648

Source: National Fund for Education Development, 2018.

With the recent private expansion of medical education, caused by the *More Doctors Program*, it is possible that there is an increase in the idleness rates in PHEI because it is a course with high tuition fees, as occurred in the past (CHAVES; AMARAL, 2016). It is worth highlighting the large number of reports of fraud in the inclusion criteria of students in FIES and the influence of medical courses that circumvent this system in collusion with students (AGÊNCIA BRASIL, 2019).

According to Souza and Menezes (2014) and Pinto (2016), the private education sector has a high degree of influence on the federal government, forcing the State to take aid measures in a context of public spending restraint by the implementation of the PEC of Expenditures. This situation opens space for what Carvalho (2006) calls "political game", which can lead to the supplanting of public interests by private ones.

Although there are good private medical courses in Brazil, medical education is already being questioned because of its expansion by the private sector (SCHEFFER; DAL POZ, 2015). In the evaluation of the results of the last National Examination of Student Performance (ENADE) of medical

courses, which is triennial, in 2016, the performance of concluding students, evaluated by the Enade 4 Concept was 57% in the public ones against 19% in the private ones (INEP, 2016), as shown in Table 3.

Table 3 - Percentage distribution of the concepts in 75 public HEIs and 101 private HEIs in Medicine courses in ENADE 2016.

	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5
Public ENADE	0,00%	8,00%	34,67%	53,33%	4,00%
Private ENADE	6,93%	23,76%	50,50%	18,81%	0,00%

Source: INEP, 2016.

According to Souza and Menezes (2014), one of the reasons that cause the lack of quality in Brazilian PHEIs is the prioritization of profit over quality, with no prospects of reducing it for investment in teaching improvement. To balance the costs with new teaching methods and the profit desired by the private system, the PHEI may adopt the strategy of reducing teachers' salaries. According to Trelha et al (2008), teachers' salaries are the main factor for the high cost of medical education. However, reducing salaries may discourage good teachers or result in the hiring of less academically qualified teachers, culminating in a drop in the quality of the education offered.

Another point of concern for medical education is the low interest of PHEIs in conducting research. Government funding encourages the formation of institutions with interests disassociated from scientific research (CHAVES; AMARAL, 2016). With some exceptions, the PHEI do not promote the interconnection of teaching, research and extension, and 81.2% of the *strictu sensu* postgraduate students studied in public institutions in 2014. Post-graduation is the main link between teaching, research and extension and the incentive to the private education sector results in a greater number of young people in a training environment devoid of such articulation (CHAVES; AMARAL, 2016).

Investment in medical school proposals with curricula that are not only oriented, but also community-based, and with an emphasis on primary health care, should be strongly encouraged, aiming at the true transformation of local realities. However, to make this type of curriculum feasible, permanent faculty training is required, as well as much more planning time than execution of didactic activities using active methodologies. These hours are considered class hours and, therefore, are not paid for by the private courses. In public courses, research represents a greater weight in the progression of teaching careers, and teaching has no significant weight. For these reasons, few transformations have occurred in Brazilian medical education, other than one-off innovations (OLIVEIRA; LIMA; PEREIRA JÚNIOR, 2019).

An alternative increasingly sought by Brazilian students is to study medicine in neighboring countries, due to less competition and cheaper tuition, especially Paraguay, Bolivia, and Argentina. In the colleges of these countries, tuition fees are lower (varying from R$ 700 to R$ 2 thousand) and admission to the course is much easier (almost none of the institutions hold a vestibular exam) (ISTO É, 2019). As a result of this demand, medical courses have proliferated in cities on the border with Brazil, with an estimated 65,000 more Brazilians currently studying in PHEIs in surrounding countries (JORNAL H2FOZ, 2019).

In general, information about the quality of professional training is very poor, given the extensive classroom hours and precarious practical internships that do not hold the excessive number of undergraduates (ISTO É, 2019). The result of this is the very low approval of graduates of these courses in the diploma revalidation exam (free translation: Revalidate, from the Brazilian Portuguese name Revalida) conducted by the National Institute for Educational Research Anísio Teixeira (INEP), even though it is a test of moderate to low difficulty (INEP, 2020; CFM, 2020).

CONCLUSION

The findings of the review demonstrate the importance of government financial aid for reducing the idleness rate in PHEI, causing dependence of the private sector on the public sector, and

the incentive for the expansion of the segment in higher education. The primary objective of many PHEI is profit, discrediting investments in teaching if they result in negative impacts on the financial results of the institutions.

For medical education, the expansion of PEHEIs is a cause for concern, as many offer education of questionable quality and may affect the provision of medical services to the population in the future. With the increase in medical education costs due to the increasing need for the use of simulators, payment for internship sites in health services, and remuneration of teaching and non-teaching preceptors, medical education is at risk, because since the PHEIs tend to preserve profits, they have a direct impact on the quality of student education. The increasing costs and the freezing of public spending for the next twenty years with Constitutional Amendment No. 95, which may limit governmental aid, tend to put some PHEI of Medicine in a delicate administrative situation.

With public courses in medicine having a very high competition for admission exams and the high cost of tuition in private courses, which are the majority, considering the expansion of medical courses that has occurred in the last decade, many Brazilian families invest in the education of their children in very low quality courses, especially in neighboring countries, creating the dilemma of the diploma revalidation in order to get the professional registration and work as doctors in the country. This vicious cycle, which is harmful to the quality of medical education, creates a series of distortions, many times misunderstood, and the blame is placed on the essential mechanisms to control medical education in order to provide quality care to the Brazilian population, such as the Revalida and the necessary evaluation of graduates from Brazilian medical schools, both public and private, who should also have the evaluation of the quality of their education, preferably with the same instruments.

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REFERENCES

AGÊNCIA BRASIL. PF deflagra operação para coibir fraudes do Fies no interior paulista. 2019. Disponível em: https://agenciabrasil.ebc.com.br/geral/noticia/2019-09/pf-inicia-acao-para-coibir-fraudes-em-universidades-no-interior-de-sp. Acessado em 09 de agosto de 2020.

BRANDÃO, Caroline Felipe Soares; CARVALHO-FILHO, Marco Antônio; CECILIO-FERNANDES, Dario. Simulation centers and pedagogical planning: Two sides of the same coin. **Scientia Medica**, v. 28, n. 1, p. 1-7, 2018. DOI: 10.15448/1980-6108.2018.1.28709

BRASIL. Emenda Constitucional nº 95, de 15 de dezembro de 2016. Altera o Ato das Disposições Constitucionais Transitórias, para instituir o Novo Regime Fiscal, e dá outras providências. **Diário Oficial da União** - Seção 1 - 16/12/2016, Página 2

BRASIL. Lei nº 10.260, de 12 de Julho de 2001. Dispõe sobre o Fundo de Financiamento ao Estudante do Ensino Superior e dá outras providências. **Diário Oficial da União** - Seção 1 - Eletrônico - 13/7/2001, Página 2.

BRASIL. Lei nº 11.096, de 13 de janeiro de 2005. Institui o Programa Universidade para Todos - PROUNI, regula a atuação de entidades beneficentes de assistência social no ensino superior; altera a Lei nº 10.891, de 9 de julho de 2004, e dá outras providências. **Diário Oficial da União** - Seção 1 - 14/1/2005, Página 7.

CARVALHO, Cristina Helena Almeida. O PROUNI no governo Lula e o jogo político em torno do acesso ao ensino superior. **Educação & Sociedade**, v. 27, n. 96, p. 979-1000, 2006. DOI: 10.1590/S0101-73302006000300016.

CFM - Conselho Federal de Medicina. CFM reitera, em vídeo, defesa da aprovação no Revalida como critério para que formado em medicina no exterior possa atuar no Brasil. 2020. Disponível em:

https://portal.cfm.org.br/index.php?option=com_content&view=article&id=28725:2020-06-24-22-28-59&catid=3 Acessado em 02 de agosto de 2020.

CHAVES, Vera Lúcia Jacob. Política de financiamento e a expansão da educação superior no Brasil: o público e o privado em questão. **Educação temática digital**, v. 17, n. 2, p. 427-441, 2015. DOI: 10.20396/etd.v17i2.8635212

CHAVES, Vera Lúcia Jacob; AMARAL, Nelson Cardoso. Política de expansão da educação superior no Brasil - O PROUNI e o FIES como financiadores do setor privado. **Educação em revista**, v. 32, n. 4, p. 49-72, 2016.

COSTA, Danielle Dias; FERREIRA, Norma-Iracema Barros. O PROUNI na educação superior brasileira: indicadores de acesso e permanência. **Avaliação** (Campinas), v. 22, n. 1, p. 141-163, 2017. Doi: 10.1590/s1414-40772017000100008.

DAL POZ, Mário Roberto; COUTO, Maria Helena Costa; FRANCO, Thais Andrade Vidaurre. Inovação, desenvolvimento e financiamento das instituições de Ensino Superior em saúde. **Cadernos de Saúde Pública**, v. 32, supl. 2, e00139915, 2016. DOI: 10.1590/0102-311X00139915

e-MEC. Cadastro e-MEC de Instituições e Cursos de Educação Superior. Disponível em: http://emec.mec.gov.br/ Acesso em: 30 de novembro de 2018.

ESCOLAS MÉDICAS NO BRASIL. Todas as escolas médicas. 2020. Disponível em: https://www.escolasmedicas.com.br/escolas-medicas-todas.php Acessado em 02 de agosto de 2020.

FNDE – FUNDO NACIONAL DE DESENVOLVIMENTO DA EDUCAÇÃO. **Portal da transparência**. Aceso à informação (Detalhamentos sobre FIES Detalhamentos sobre FIES - Protocolo 23480013306201811). Brasília: Portal da transparência, 2018.

G1. Inadimplência gerou uma dívida de R$ 10 bilhões no Fies, diz MEC. 2018. Disponível em: https://g1.globo.com/educacao/noticia/inadimplencia-gerou-uma-divida-de-r-10-bilhoes-no-fies-diz-mec.ghtml. Acessado em 28 de agosto de 2020.

H2FOZ. Incerteza e angústia: a situação dos brasileiros que estudam Medicina no Paraguai. 2019. Disponível em: https://www.h2foz.com.br/noticia/incerteza-e-angustia-a-situacao-dos-brasileiros-que-estudam-medicina-no-paraguai Acessado em 02 de agosto de 2020.

HAAS, Celia Maria; PARDO, Rosangela Silva. Programa Universidade para Todos (PROUNI): efeitos financeiros em uma instituição de educação superior privada. **Avaliação** (Campinas), v. 22, n. 3, p. 718-740, 2017. DOI: 10.1590/s1414-40772017000300008.

INEP - INSTITUTO NACIONAL DE ESTUDOS E PESQUISAS EDUCACIONAIS ANÍSIO TEIXEIRA. Exame Nacional de Revalidação de Diplomas Médicos Expedidos por Instituição de Educação Superior Estrangeira (Revalida). Disponível em: http://portal.inep.gov.br/web/guest/educacao-superior/revalida Acessado em 02 de agosto de 2020.

INEP - INSTITUTO NACIONAL DE ESTUDOS E PESQUISAS EDUCACIONAIS ANÍSIO TEIXEIRA. Relatório síntese de área medicina no exame nacional de desempenho dos estudantes. Disponível em: http://download.inep.gov.br/educacao_superior/enade/relatorio_sintese/2016/medicina.pdf Acessado em 02 de agosto de 2020.

ISTOÉ. 65 mil brasileiros se aventuram para cursar Medicina em países vizinhos. 2019. Disponível em: https://istoe.com.br/65-mil-brasileiros-se-aventuram-para-cursar-medicina-em-paises-vizinhos/ Acessado em 02 de agosto de 2020.

JOANNA BRIGGS INSTITUTE - Methodology for JBI Scoping Reviews. 2020. Disponível em: https://reviewersmanual.joannabriggs.org/display/MANUAL/Chapter+11%3A+Scoping+reviews. Acesso em: 15 de junho de 2019.

MCCOWAN, Tristan. Expansion without equity: An analysis of current policy on access to higher education in Brazil. **Higher Education**, v. 53, n. 1, p. 579-598, 2007.

NASSAR, Leonardo Maso; PEREIRA JÚNIOR, Gerson Alves. Custos do ensino de medicina no Brasil: uma revisão sistematizada da literatura. **Revista de Administração Hospitalar e Inovação**, 16, n. 3, p 85-98, 2019.

OLIVEIRA, Bruno Luciano Carneiro Alves; LIMA, Sara Fiterman; PEREIRA, Mariana Uchoa Lopes; PEREIRA JÚNIOR, Gerson Alves. Evolução, distribuição e expansão dos cursos de medicina no Brasil (1808-2018). **Trabalho, Educação e Saúde**, v. 17, n. 1, e0018317, 2019. DOI: 10.1590/1981-7746-sol00183.

PEREIRA, Tarcísio Luís; BRITO, Silvia Helena Andrade de. The expansion of private higher education in Brazil through FIES. **ECCOS - Revista Científica**, v. 47, n. 1, p. 337-354, 2018.

PINTO, José Marcelino de Resende. Uma análise da destinação dos recursos públicos, direta ou indiretamente, ao setor privado de ensino no Brasil. **Educação & Sociedade**, v. 37, n. 134, p. 133-152, 2016. DOI: 10.1590/ES0101-73302016157682.

SCHEFFER, Mário César; DAL POZ, Mário Roberto. The privatization of medical education in Brazil: Trends and challenges. **Human Resources for Health**, v. 13, n. art. N° 96, 2015. DOI: 10.1186/s12960-015-0095-2

SILVA, Eduardo Reis; BELFORT, Camila Raquel Nunes; SILVA, Thiago Sousa; SILVA, Wagner Vinícius Oliveira; MACEDO, Maíra Aassunção; ANDRADE, Gabriela Paula. Governmental public policy: a study about the university for all program- PROUNI 2005 to 2018. **Humanidades e Inovação**, v. 6, n. 9, p. 187-216, 2019.

SOUZA, Márcio Rodrigo de Araújo; MENEZES, Monique. Programa Universidade para Todos (PROUNI): quem ganha o quê, como e quando? **Ensaio: Avaliação e Políticas Públicas em Educação**, v. 22, n. 8, p. 609-634, 2014. DOI: 10.1590/S0104-40362014000300003.

TRELHA, Celita Salmaso; CASARIM, Luís Fernando; ALMEIDA, Marcio José; GORDAN, Pedro Antônio. Cursos de Medicina com currículos inovadores são mais caros? Análise de custos do Curso Integrado de Graduação em Medicina da Universidade Estadual de Londrina. **Revista brasileira de educação médica**, v. 32, n. 2, p. 160-173, 2008

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