

Rural internship in medical schools in Brazil

Internato rural nos cursos de Medicina no Brasil

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ABSTRACT

Introduction: The consolidation of rural internship programs is not a simple phenomenon, although its importance is currently recognized by students and teachers as a differentiated activity in their training itineraries. Medical schools still face considerable challenges in carrying out this type of activity. The existence of evidence that recruiting students to rural internships, offering meaningful experiences during undergraduate school and implementing a specific training program for rural areas after graduation, are the most effective interventions for recruitment and retention.

Objective: Identify the rural internship programs in operation in Brazil, through the evaluation of Curricular Pedagogical Projects (PPCs,) of medical courses, fostering the debate on medical training for rural and remote areas, as well as emphasizing the importance of this type of training.

Method: Cross-sectional, descriptive and documentary analysis study, with a quantitative characteristic, with a sampling of the access to the Curricular Pedagogical Projects (PPCs) of medical schools in Brazil with rural internships in the curriculum.

Result: Of the 357 Medical Schools in Brazil, the authors found 18 programs with rural internships, corresponding to 5% of the institutions. The Southeast Region, when compared to the North region, concentrates the largest number of medical schools in Brazil (148), but the largest number of PPCs with rural internship is in the North Region of Brazil, totaling 6 (16%) in relation to medical schools in the region. Furthermore, of the 47 medical schools in the Southeast Region, in Minas Gerais, 2 rural internship programs were identified by the authors, in relation to other states in the same region.

Conclusion: There are few rural internship programs identified in the PPCs in Brazilian medical schools. Changes are needed in the PPCs, with the inclusion of rural internships, with the inclusion of well-defined competencies and based on people's health needs; construction of knowledge and development of skills and attitudes to solve problems, consistent with the reality of Brazil.

Keywords: Curriculum; Medical education; Rural health.

RESUMO

Introdução: A consolidação de programas de internato rural não é um fenômeno simples, embora sua importância atualmente seja reconhecida por alunos e professores como uma atividade diferenciada em seus itinerários formativos. As escolas médicas ainda enfrentam desafios consideráveis para concretizar esse tipo de atividade. Há evidências de que o oferecimento de experiências significativas durante a graduação e a implementação de um programa específico de treinamento para a zona rural, após a formação, são as intervenções mais efetivas para o recrutamento de estudantes para o internato rural e a retenção deles.

Objetivo: Este estudo teve como objetivo identificar os programas de internato rural em atividade no Brasil, por meio da avaliação dos projetos pedagógicos curriculares (PPC) dos cursos de Medicina, de modo a fomentar o debate sobre a formação médica para áreas rurais e remotas, e ressaltar a importância desse tipo de formação.

Método: Trata-se de um estudo transversal, descritivo e de análise documental, com caráter quantitativo, com uma amostragem do acesso aos PPC de escolas médicas do Brasil com a existência de internato rural no currículo.

Resultado: Nas 357 escolas médicas existentes no Brasil, os autores encontraram 18 programas com internato rural, o que representa 5% das instituições. A Região Sudeste, quando comparada com a Região Norte, concentra o maior número de escolas médicas no Brasil (148), porém o maior número de PPC com internatos rurais fica no Norte, totalizando seis (16%) em relação às escolas médicas da região. Ainda, nas 47 escolas médicas do Sudeste, identificaram-se, em Minas Gerais, apenas dois programas de internato rural.

Conclusão: Nos PPC das escolas médicas brasileiras, identificaram-se poucos programas de internato rural. Por conta disso, são necessárias mudanças nos PPC, como inclusão de internato rural, inserção de competências bem definidas e baseadas nas necessidades de saúde das pessoas, construção do conhecimento e desenvolvimento de habilidades e atitudes para resolver problemas; tudo isso de forma condizente com a realidade do Brasil.

Palavras-chave: Currículo; Educação Médica; Saúde Rural.

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INTRODUCTION

The field of medical education in Brazil is undergoing a transformation process. In the 1990s, the National Interinstitutional Commission for the Evaluation of Medical Education project brought together several medical entities in a process aimed at evaluating medical schools in Brazil, based on the assumption that we were not training doctors according to the needs of our society. population. Several actions followed this process, including the 2001 National Curriculum Guidelines (DCN, *Diretrizes Curriculares Nacionais*), which created possibilities for the emergence of new methodologies and new teaching and learning scenarios. In this process, some experiences of rural internships, already underway in some universities, found better possibilities for their improvement and development. In 2014, with the publication of the new DCN, there was a guarantee of at least 30% of internships in the urgency and emergency network and in Primary Health Care (PHC), with priority for PHC^{1,2,3}.

There is robust evidence that providing meaningful experiences during undergraduate school, as well as offering specific training programs for the rural area, as well as recruiting students from rural areas after graduation, constitute the most effective interventions for the recruitment and retention of professionals to work in rural and remote areas. Training programs for rural practice must involve the community, aiming at developing a socially responsible curriculum. Isolation and rurality mean that the health needs are different from those observed in urban areas, which imposes additional health care challenges for professionals who are dedicated to providing the necessary services in these areas. Therefore, properly trained family and community physicians or general practitioners are required for rural health care, who should have an extensive and comprehensive range of certified skills to meet the specific challenges they will encounter on a daily basis in their work routine. On the other hand, sending newly trained health professionals, without adequate support and without the appropriate skills to work in rural areas, ends up generating frustration, leading young professionals away from choosing a career in rural health, in addition to putting patient lives at risk².

In many poor rural communities, family physicians are responsible for the majority of medical services, providing care for residents from conception to the end of life. Rural communities rely on trained family doctors to provide comprehensive care in resource-poor areas, a task that requires familiarity with the rural systems, as well as comprehensive training. In fact, more than 90% of primary care capacity in rural areas is provided by family medicine and general practitioners³.

The consolidation of rural internship programs is not a simple phenomenon, although its importance is currently

recognized by students and teachers as a differentiated activity in their training itineraries. Medical schools still face considerable challenges in carrying out this type of activity, as it involves issues from different spheres, such as pedagogical, logistical, bureaucratic, administrative, among others⁴.

In spite of Brazil's continental dimensions and its enormous cultural diversity, only a few medical schools in the country offer students the opportunity to acquire professional experience focusing on rural or remote areas⁵. This can generate a distortion between the curricular content of Brazilian medical schools and the population's health needs.

The aim of this study is to identify the rural internship programs in operation in Brazil, through the evaluation of the Pedagogical Curricular Projects (PPCs, *Projetos Pedagógicos Curriculares*) of the medical schools, encouraging the debate on the medical training for rural and remote areas, as well as highlighting the importance of this type of training.

METHOD

This is a cross-sectional descriptive study with documental analysis, with a quantitative characteristic, carried out through a sampling of access to Curricular Pedagogical Projects (PPCs) of medical schools in Brazil that include rural internships in the curriculum.

It should be noted that according to the Ministry of Education (MEC) Normative Ordinance N. 40, of December 12, 2007, PPCs are documents of public domain⁶. Therefore, it was not necessary to submit this research to the approval by the Research Ethics Committee, in accordance with Resolution N. 510, of April 7, 2016, of the National Health Council⁷.

According to data from the Medical Demography of Brazil (2020), there are 357 public and private Medical Schools in Brazil, with a large increase in this number mainly after the year 2013⁸.

Thus, the present study was based on the search for rural internship programs included in the curriculum of medical courses at public and private universities. To find the possible programs, a search was made in the Virtual Health Library (VHL) database, using the descriptors (DeCS) between quotation marks: "undergraduate medical education" and "rural internship" without any limitation. A total of 215 articles were found and, subsequently, the "Main Subject" filter was applied to the search, which included "Undergraduate Medical Education", "Internship and residency" and "Rural population health", limiting the search to articles published in the last 10 years (2011 to 2021), which resulted in the identification of 62 articles.

The articles were read, which allowed building a first list of possible medical schools that had a rural internship program in their PPC. The search for the respective PPC and additional

information were collected from the websites of the respective courses. As for the courses that did not have the respective curricular pedagogical project on their websites, this information was requested through direct contact with those responsible for the internship programs, via e-mail or telephone call.

This initial list was sent by e-mail to the Rural Working Group of the Brazilian Society of Family and Community Medicine (*Grupo de Trabalho Rural of the Sociedade Brasileira de Medicina de Família e Comunidade*) and to the e-mail list of the Foundation for the Advancement of International Medical Education and Research (FAIMER do Brasil) to request the PPCs from the medical schools from the initial list that were not found on the websites, as well as investigate the existence of a rural internship program that was not in the list created by reading the researched articles. Sixteen responses were received about the existence of rural internship programs.

For better data quantitative analysis, a comparison was made between the existing medical schools in Brazil and the rural internship programs identified by the authors, divided into the 5 regions of Brazil: North, Northeast, Southeast, South and Midwest regions.

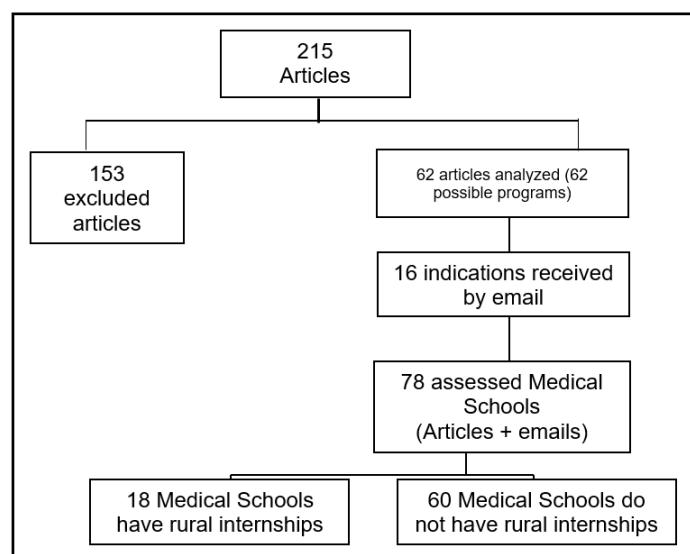
RESULTS

Seventy-eight Medical Schools and their respective PPCs were analyzed, 62 of which were included in the scientific articles with the aforementioned descriptors and 16 were added by indication of the Rural Working Group of the Brazilian Society of Family and Community Medicine and the Foundation for the Advancement of International Medical Education and Research (FAIMER do Brasil) (Figure 1).

There are 357 medical schools in Brazil, of which the authors found 18 with rural internship programs, corresponding to 5% of the institutions. With a division by regions of Brazil to facilitate the demonstration of results and discussion, the total numbers of medical schools in Brazil and the numbers of rural internships found by the authors were described, as shown in Graphic 1.

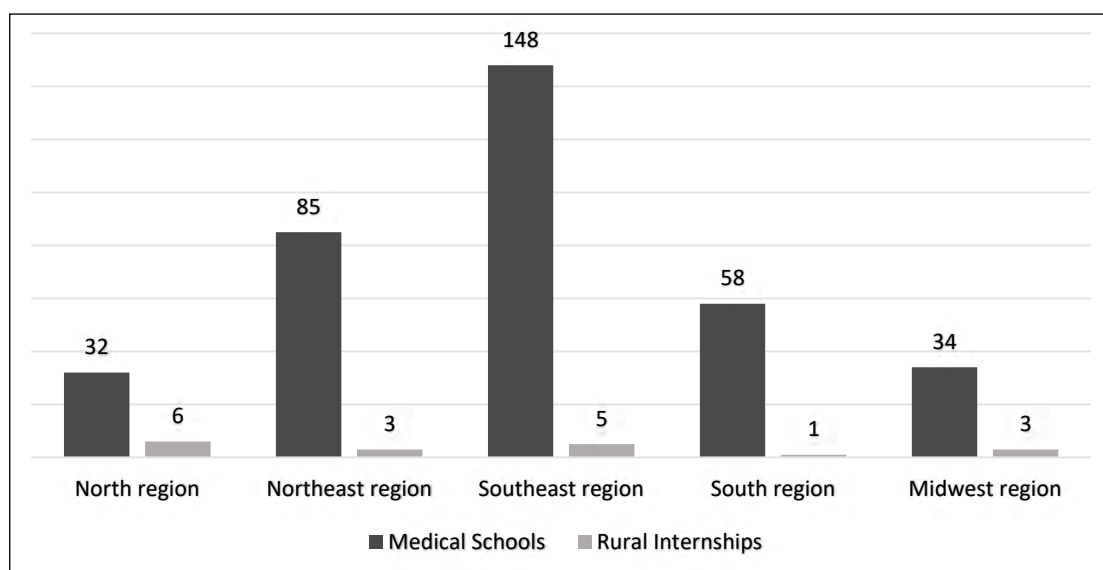
It can be observed that the Southeast region, when compared to the North region, concentrates the largest number

Figure 1. Quantitative description of Medical Schools with Rural Internship programs in medical courses in Brazil researched by the authors.



Source: prepared by the authors.

Graphic 1. Comparison of numbers of Medical Schools in Brazil (2020) and Rural Medical Internship programs found by the authors.



Source: prepared by the authors.

of medical schools in Brazil (148), but the largest number of PPCs with rural internships is found in the North Region of Brazil, totaling 6 (16%) related to medical schools in the region. Only 5 rural internship programs were found in the Southeast region, corresponding to 3% of medical schools in the region.

The state of Bahia has the largest number of medical schools in the Northeast region, and the authors found only one PPC with rural internships, as shown in Figure 2; when comparing medical schools and rural internships, they also found rural internships in the states of Ceará (1) and Alagoas (1).

The creation of the Rural University Center for Community Training and Action (CRUTAC, *Centro Rural Universitário de Treinamento e Ação Comunitária*), created at the university of Brazil in 1965, based on Resolution N. 259 of 09/28/1972, started at the Federal University of Ceará, with the overall objective of the training of professionals suited to the demands of countryside areas and with promotions and benefits for rural populations. Historically, it was considered the entity that most effectively allowed the extension/interiorization of the university in Brazil⁹.

The program currently includes Nursing, Medicine and Dentistry courses, providing adequate training to the demands of regions that are outside the metropolitan area of the state of Ceará, with a policy of interiorization by the Federal University of Ceará¹⁰.

The program aims, among others, to allow students to better understand the epidemiological profile and organization of health services in municipalities in the interior of the state, to promote training in preventive and curative care activities,

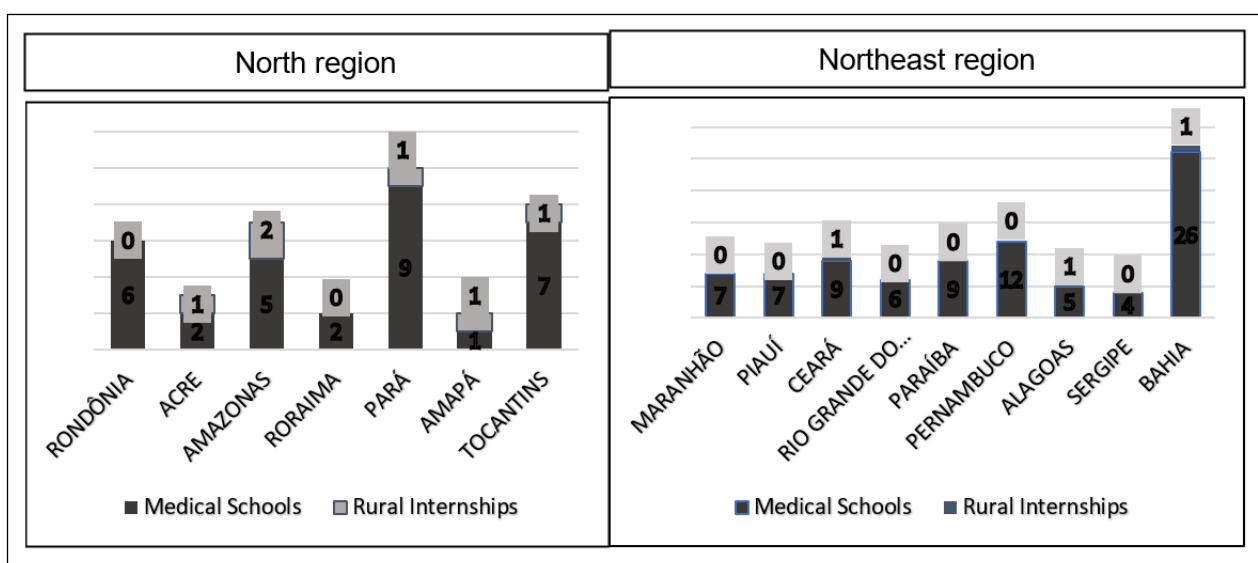
compatible with the reality of demands and resources of health services in medium and small municipalities, allowing students to get in contact with realities and cultures that are different from those experienced in the metropolitan region and allowing experiences in health education in different cultural contexts. The rural internship lasts one month¹⁰.

In the North region, the Curricular Pedagogical Projects (PPCs) with a rural internship program in each region, shows that in the state of Acre, of the 2 existing medical schools, one has a rural internship; in the state of Amapá, which has only one medical school, the PPC showed a rural internship program, and of the 7 medical schools in the state of Tocantins, one PPC showed a rural internship program. Thus, it is observed that of the 32 medical schools in the region, 16% have PPCs with rural internship programs.

The rural internship is currently present in 42 municipalities in the North region, most of which with to 50,000 inhabitants, considering possible fluctuations related to the local situation. The group of students stays for a period that ranges from three weeks to four months, normally without interruptions, immersing themselves in the reality of the municipality⁴.

Figure 2 shows 32 medical schools and the authors identified 6 rural internship programs, with 2 of them taking place in the state of Amazonas. The rural internship identified in the Amazon region started with experiences, such as the Rondon Project, a pioneer in university extension in our country, carried out in the 1970s and 1980s, which aimed at bringing students in contact with the interior of the Amazon region and working for the benefit of disadvantaged communities in that region⁵.

Figure 2. North and Northeast regions of Brazil: comparison of numbers of medical schools according to data from Medical Demography in Brazil (2020) and Rural Medical Internships found by the authors.



Source: Prepared by the authors.

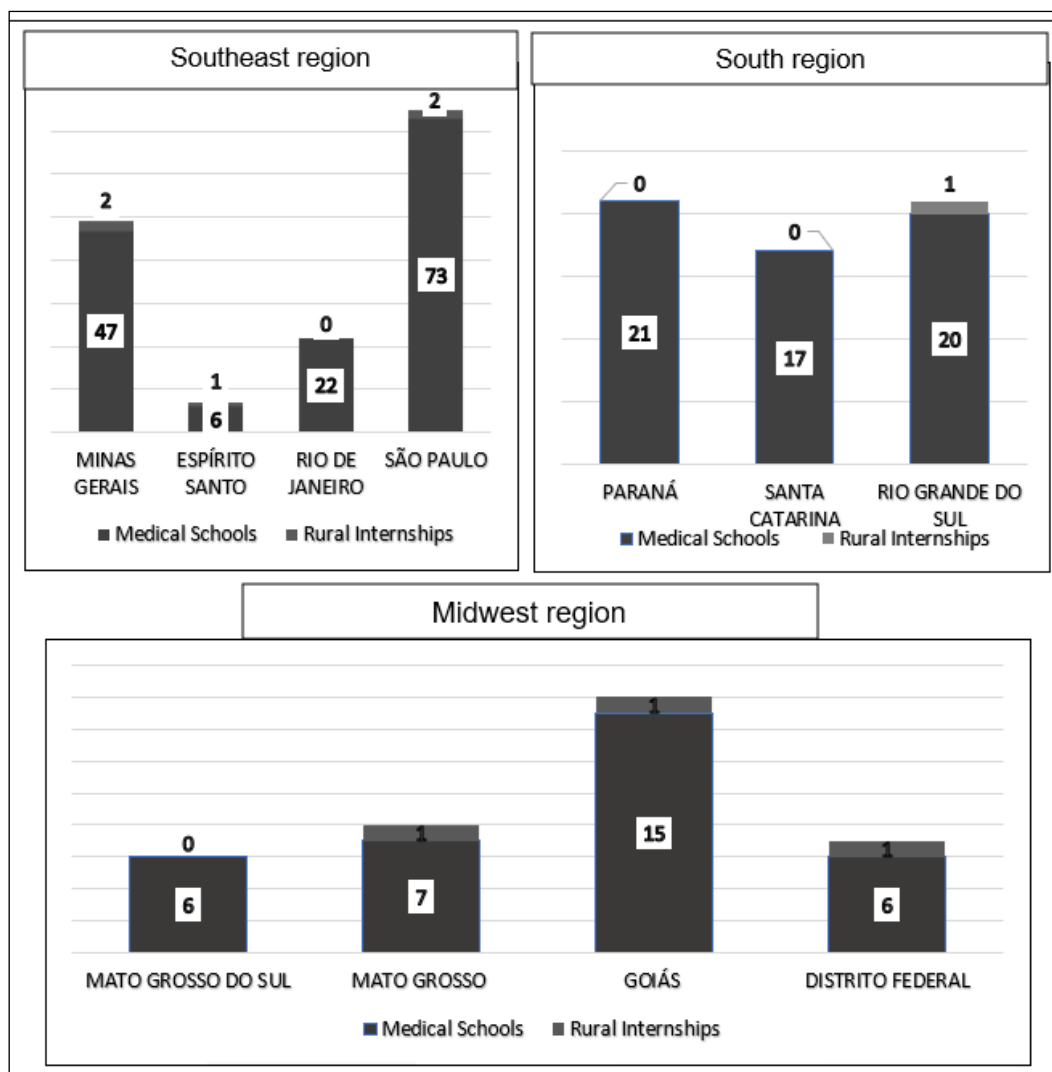
Figure 3 shows that of the 47 medical schools in the Southeast Region, 2 rural internship programs were identified by the authors in the state of Minas Gerais, one of which started in 1978, being one of the pioneering experiences in the interiorization of undergraduate school in Brazil. This program provided the most complete data regarding the Pedagogical Curricular Project, addressing the work plan, drafts of agreements between public and private health providers, municipal registration forms, among other information.

In São Paulo, the Internship in Community Medicine aims to insert sixth-year medical students into primary care services in small municipalities. It constitutes an in-service training under permanent medical supervision with a practical workload of 210 hours. Attendance is mandatory and includes performance evaluation during the internship activities and with presentation and discussion of the final report. The internship has well-established objectives, general

organization, necessary materials and its own regulations.

Figure 3 also shows the South region has 58 medical schools, and the authors found only 1 rural internship program in the state of Rio Grande do Sul (RS), which started in 2007, when students from the medical course asked to attend a voluntary internship program, during school vacation, in Nova Petrópolis (RS), at the Pinhal Alto Health Unit, generating a continuous flow of students in the last two years of the undergraduate medical course (interns) and formalizing financial support from the University to interns. The rural internship in family health in Rio Grande do Sul is an opportunity for medical training at the undergraduate level, on a voluntary basis. It aims to offer medical students an experience in the Brazilian Unified Health System (SUS, *Sistema Único de Saúde*) in a scenario of relative isolation from the rest of the system and with smaller teams. It is part of the Family and Community Medicine internship, which is one of the six mandatory areas of curricular internship for

Figure 3. Southeast, South and Midwest regions of Brazil: comparison of numbers of medical schools according to data from Medical Demography in Brazil (2020) and Rural Medical Internships found by the authors.



Source: prepared by the authors.

undergraduate medical students. The internship in the area of Family and Community Medicine lasts approximately 95 days. The interns follow and actively participate in all the activities performed by a physician at a Family Health Unit (FHU) in a rural area, who is also a specialist professor in family and community medicine (FCM). These activities include supervised medical consultations, home visits, outpatient surgical procedures, health education activities, planning and territorialization, and team and health secretariat meetings. The internship lasts, on average, 4 weeks (ranging from 3 to 6 weeks) and the workload is from Mondays to Thursdays in the morning and afternoon shifts; in accordance with the provisions of the current Internship Law, it follows the established 30 hours of weekly activity¹¹.

In the Midwest region, the only state that did not have an internship program was Mato Grosso do Sul. With 34 Medical Schools in this region, there are 3 rural internship programs, one in each of the other states (Mato Grosso, Goiás and the Federal District), corresponding to 8% of the institutions.

In the state of Goiás, the rural internship is a multidisciplinary one and includes Nursing, Medicine, Nutrition and Dentistry students; the Internship in Collective Health, known as Rural Internship, started in 1978 and aims to allow students to understand how a municipal health system works, and collaborate with its development through assistance projects and activities¹². The weekly workload is 32 hours, which can be divided into different activities by agreement with the Municipal Health Secretariat. The teachers in charge of the supervision come to the municipality every 15 days on average, in a total of 4 to 5 times during the trimester. Students must carry out activities in Primary Care, including direct assistance, situational diagnosis, planning and programming of actions, prevention projects, health education, etc. A referral medical professional is always present at the unit¹³.

Thus, a great difference was identified between Medical Schools in Brazil in relation to the presence of rural internship programs as seen in their Pedagogical Curricular Projects.

DISCUSSION

Rural internships are part of a set of actions related to the training process that contributes to the recruitment of physicians to rural and remote areas, as well as their retention in these areas. The programs have explored their pedagogical potential, particularly in reflections on the life context of the Brazilian population, which allow a closer relationship between doctors and the reality of those inhabitants⁵.

The importance of differentiating rural and urban internships is what prompts research in this area from a multidisciplinary perspective, which must be open to broadening

its angle of vision and revising concepts. It is important to consider multiple factors, as isolated interpretations tend to be superficial, since they fail to capture deeper issues related to the countryside and the city¹⁴. The Rural Working Group of the Brazilian Society of Family and Community Medicine considered that Brazil uses a municipalized political criterion to determine rural and urban areas, which is highly imprecise, debatable and influenced by tax issues and that, historically, the way 'rural' is defined in Brazil tends to overestimate its urban population¹⁵. This group is one of the oldest and one of the most active and productive groups in this society and its creation had, as one of its objectives, to promote, together with Higher Education Institutions, the inclusion of rural health in undergraduate curricula²⁵. In Brazilian rural areas, we deal with a massive territorial extension, transportation difficulties and lack of human resources. Most physicians are trained in urban areas of large cities and require adaptation to the peculiarities of rural health services¹⁶. We see, therefore, that different scenarios require their own approach and targeted actions, which requires specific training.

The proportion of households registered in a family health unit in Brazil was 53.4%, with a higher proportion being found in rural areas (70.9%) than in urban areas (50.6%). As for the proportion of people living in households registered in a family health unit, it was 56.2% in Brazil, also higher in rural areas (72.3%) than in urban areas (53.3%). Therefore, more than half of the Brazilian population reports being registered in family health units, with almost two-thirds of the population living in rural areas¹⁷.

When considering this context and knowing that family health units are places where the recently graduated professionals work, we should be really concerned with the training of competent physicians to work in these scenarios.

The inequality in the geographic distribution of health professionals is a worldwide problem, and with the scarcity of these professionals in rural areas, it is a multifactorial problem, related to professional isolation, lack of job security, low wages, lack of prospects for career progression, difficulty in accessing continuing education and lack of structure in the work environment and in the community¹⁸.

Therefore, it is imperative to have rural internship programs in Brazilian medical schools, considering the particularities of the rural setting and the large number of inhabitants in these areas. Although we have seen well-established and long-lived programs, as well as new medical schools implementing rural internship programs, we have also seen programs being deactivated.

The internship is the last stage of medical education at the undergraduate level and is, by definition, a mandatory

curricular in-service training internship. When we talk about rural internships, we are talking specifically about internships that take place in municipalities located in the countryside, or even in areas far from larger municipalities, as part of the undergraduate training period designated as medical internships. Internships in rural areas are part of what the literature has called the 'rural pipeline', which represents a set of actions related to the training process that contributes to the recruitment of physicians to rural or remote areas and their retention in these areas¹. In Brazil, the structuring of the discipline called "Rural Internship", included in undergraduate courses and developed as internships in the communities and services of the Unified Health System, stood out in the field of Teaching– Service Integration¹⁹.

The confluence between clinical practice and collective health in the curriculum of medical courses has the potential to align with the health needs and epidemiological reality of populations and communities²⁶.

Sanitary practices, organization of the health system and the labor market influence the profile and content of medical training. In the process of changing the health sector, efforts should be made to influence training at all times and at all opportunities¹⁹.

Interiorization experiences constitute an important part of medical training, although they are not common in Brazilian medical curricula. When moving to smaller municipalities, students are able to compare the operation of the health system in the countryside, which in some aspects can even be better than in the large cities¹⁰.

Doctors with rural training are more likely to remain in rural areas. Studies show that the greater the rural training in medical graduation, the higher the probability of working in a rural area after graduation²⁰.

FINAL CONSIDERATIONS

The results of this study may not accurately reflect the number of existing rural internship programs in Brazil, which in some cases may be included in Collective Health or Primary Health Care internships, which would not be perceived solely in the analysis of PPCs. The follow-up of this study, including new information collection sources, may complement these findings.

However, although the rural internship may be included in other internship experiences, the existence of specific competences and their relevance in clinical practice should be discussed with greater emphasis in PPCs. Other studies have already observed the scarcity of human resources ready for the rural scenario¹⁶.

In the last three decades, the training of health professionals in Latin America has been suffering from problems

directly associated with teaching strategies and the adequacy of these professionals to the reality of health systems, especially the medical professional. This occurs even in a reality in which, in recent years, has had the need for changes in the management and training of human resources widely recognized, focusing mainly on medical undergraduate school, when carried out as an integration between health services and training centers⁸.

The Brazilian Society of Medical Education has highlighted the need for changes in the internship, such as the inclusion of well-defined competences based on people's health needs; the construction of knowledge and development of skills and attitudes to solve problems, considering their previous learning, cultural and life experiences; of and teachers trained in medical education²¹.

The rural internship makes the medical student understand the extra biological cause of diseases and the relativity of the role of medicine in their solution, in a sociologically simpler reality than that of large capitals. With few resources, students realize that medical technology could be used more judiciously and give them more autonomy in decision-making²².

We observed that there are few rural internship programs identified in the PPCs of Brazilian medical schools. Changes are needed in the PPCs, with the inclusion of rural internships and well-defined competences based on people's health needs; construction of knowledge and development of skills and attitudes to solve problems, consistent with the reality of Brazil.

For the negotiation process aimed at the the implementation of a rural internship program, one observes the formal interest in implementing it; however, operational issues are privileged, to the detriment of establishing a joint work plan that meets the interests of the institutions and the integration itself. Thus, the discussion and debate of Curricular Pedagogical Projects (PPCs) of medical schools in Brazil²⁴ is evident.

AUTHORS' CONTRIBUTION

Ricardo de Lima Lacerda contributed to the study design, data curation, methodology, writing, review and editing of the manuscript. Simone Appenzeller contributed to the methodology, administration, writing, review and editing of the manuscript.

CONFLICTS OF INTEREST

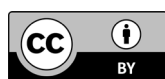
The authors declare no conflicts of interest.

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