

Medical students' perception of the access to ethnic-racial education in medical graduation

Percepção de estudantes de Medicina sobre o acesso à educação étnico-racial na formação médica

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ABSTRACT

Introduction: Although the influence of Black culture has been undeniable in shaping Brazil's current population, ethnic-racial relations are rarely or almost never discussed in educational settings. In the context of medicine, for example, the Black population is often made invisible in various aspects of the health curriculum, as their representation in medical literature is scarce, and courses addressing the topic are either insufficient or optional.

Objective: To evaluate medical students' perception of access to ethnic-racial education in medical training.

Method: This is a cross-sectional, descriptive, and quantitative study, with data collection conducted through a digital, semi-structured, self-applied questionnaire developed by the research team based on previously published studies and the National Implementation Plan of the National Curriculum Guidelines (DCNs) for Ethnic-Racial Education and the Teaching of Afro-Brazilian and African History and Culture. The study population consisted of medical students who indicated their perception regarding the racial approach across different learning settings in medical school. The collected data were reviewed, tabulated, analysed, and processed using the R software, version 4.0.0. The project adhered to the guidelines of Resolution 510/16 of the National Health Council and was approved by the Ethics Committee under protocol number 6.001.343.

Results: A total of 330 students participated in the study, with a mean age of 23 years and a predominance of female participants (66%). When questioned, roughly 58% stated that they partially or fully recognized the presence of ethnic-racial issues in tutorial group discussions. Additionally, 50.9% of participants reported not perceiving discussions related to ethnic-racial aspects in laboratory activities during the basic cycle, while 50.9% and 82.4% recognized the existence of a racial approach in teaching clinics and Primary Health Care practices, respectively. Regarding the National Policy for Comprehensive Health of the Black Population, 59.1% of the sample reported having encountered this document during their studies.

Conclusion: Medical students' perception of access to ethnic-racial education varied according to the training setting, with a stronger presence in the context of Primary Health Care.

Keywords: Curriculum; Medical education; Racial factors; Ethnic origin and health.

RESUMO

Introdução: Embora a influência da negritude tenha sido incontestável para a atual conformação populacional do Brasil, as relações étnico-raciais são pouco ou quase nada discutidas em ambiente educacional. No contexto da medicina, por exemplo, a população negra é invisibilizada em diversos aspectos do currículo em saúde, uma vez que a sua representatividade na bibliografia médica é escassa e as disciplinas que abordam o tema são insuficientes ou facultativas.

Objetivo: Este estudo teve como objetivo avaliar a percepção de estudantes de Medicina sobre o acesso à educação étnico-racial na formação médica.

Método: Trata-se de um estudo transversal, de abordagem descritiva e quantitativa, com coleta de dados feita a partir de um questionário digital, semiestruturado e autoaplicável, desenvolvido pela equipe pesquisadora com base em estudos anteriormente publicados e no Plano Nacional de Implementação das Diretrizes Curriculares Nacionais para a Educação das Relações Étnico-Raciais e para o Ensino de História e Cultura Afro-Brasileira e Africana. A população do estudo foi composta por estudantes de Medicina que indicaram a sua percepção quanto à abordagem racial durante os diferentes cenários de aprendizagem do curso médico. As informações coletadas foram revisadas, tabuladas, analisadas e submetidas ao software R versão 4.0.0 para a obtenção de números absolutos e relativos. Observou-se a Resolução nº 510/2016 do Conselho Nacional de Saúde, e o estudo foi aprovado pelo Comitê de Ética sob o Parecer nº 6.001.343.

Resultado: Participaram da pesquisa 330 estudantes, com média de idade de 23 anos e predominância do sexo feminino (66%). Quando questionados, 57,9% afirmaram reconhecer parcial ou totalmente a presença das pautas étnico-racial nas discussões dos grupos tutoriais, 50,9% dos participantes negaram perceber discussões relativas aos aspectos étnico-raciais nas atividades laboratoriais do ciclo básico, enquanto 50,9% e 82,4% reconheceram, respectivamente, a existência de uma abordagem racial nos ambulatórios de ensino e nas práticas de atenção primária à saúde. Em relação à Política Nacional de Saúde Integral da População Negra, 59,1% da amostra afirmou ter entrado em contato com o documento ao longo da graduação.

Conclusão: A percepção dos estudantes de Medicina sobre o acesso à educação étnico-racial se mostrou variável conforme o cenário da graduação, sendo mais expressiva em contexto de atenção primária à saúde.

Palavras-chave: Currículo; Educação Médica; Fatores Raciais; Origem Étnica; Saúde.

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INTRODUCTION

The Brazilian population, of diverse and multi-ethnic origin, has largely been constituted of three main peoples: indigenous natives, Europeans and black Africans¹. The black population in particular should be highlighted not only for having consolidated a significant part of Brazilian culture through their ancestral knowledge, linguistic expressions and countless other artistic manifestations, but also for currently representing the country's racial majority: according to the Brazilian Institute of Geography and Statistics (IBGE), 55.8% of Brazilians declare themselves as black or brown².

Although the influence of blackness has been undeniable in shaping Brazil's current population, there have been many attempts to whiten the population throughout history, practices that have often been supported by scientific racism and the Theory of Racial Biological Determinism³. Based on the premise that blacks and mestizos were biologically inferior when compared to whites, biological determinism favoured the occurrence of countless abuses, such as the use of black women for experimentation in the field of gynaecology and the performance of procedures without adequate analgesia because it was believed that blacks possessed a physiological pain tolerance⁴. For Raimundo Nina Rodrigues, a doctor from Maranhão who was responsible for disseminating this theory, miscegenation would lead to the physical, moral and psychological degeneration of the population⁵, promoting the ideal of a white Brazil.

Later, the ideology of racial democracy, which argues that there is a sense of equality and harmonious coexistence between the different ethnic groups in Brazil, was popularised with the publication of sociologist Gilberto Freyre's work "The Masters and the Slaves" in 1933⁶. In his writings, Freyre exalted miscegenation as an identity element of the Brazilian nation, a factor responsible for the formation of a people capable of greater development, challenging the view that racial mixing would be a misfortune for the new generations⁶. Subsequently, this supposedly peaceful socio-racial integration cited by Freyre was rejected with the resumption of the debate on the injustices and inequities historically experienced by indigenous, brown and black people⁷.

An analysis of the historical nuances shows that there have been countless attempts to naturalise institutional racism, maintaining disparities that affect the black population's access to basic rights to this day. In education, for example, ethnic-racial relations and the issues raised by the black social movement are little or not at all discussed^{8,9}. In "O genocídio do negro brasileiro: processo de um racismo mascarado" [The genocide of black Brazilians: the process of masked racism] (1978), for example, Abdias do Nascimento supports the thesis that the

education system acts as an instrument to perpetuate structural cultural discrimination, seeing as, from primary school through to university, only Eurocentric and Americanised elements are covered in the classroom¹⁰. In his book, the author also asks: "If consciousness is memory and future, when and where is African memory, an inalienable part of Brazilian consciousness, in the school curriculum?"¹¹

Despite being four decades old, Nascimento's concern has never been more topical: we know that, despite the advances in the implementation of affirmative action policies and ordinances that highlight the black agenda – such as Law 10.639/2003, which aimed to make it compulsory to include Afro-Brazilian history and culture in primary and secondary education^{12,13}, and the publication of the National Curriculum Guidelines for the Education of Ethnic-Racial Relations and for the Teaching of Afro-Brazilian and African History and Culture (DCNERER), which aimed to make traditional education more inclusive of racial issues^{14,15} – access to ethnic-racial education remains extremely poor^{16,17}.

Ethnic-racial training in medical schools in Brazil has been analysed in various scientific studies, highlighting the need to incorporate discussions on race and racism into medical curricula^{8,9,16}. The analyses have shown that, although there is growing recognition of the importance of these themes, they are still largely absent from the Political Pedagogical Projects (PPP) of Higher Education Institutions (HEIs)¹⁸. Another important finding of the studies is that the driving forces behind the transformation of racial issues in PPPs, such as the National Curriculum Guidelines for the Education of Ethnic-Racial Relations and for the Teaching of Afro-Brazilian and African History and Culture¹⁴, have not yet been effectively translated into teaching processes¹⁹. Therefore, it is still possible to observe manifestations of racism in a structural manner, affecting both interpersonal and institutional relationships, with the low representation of blacks among teachers and students and the denial of the need to study the health of the black population being examples of this reality^{8,10}.

These conditions mean that the various barriers faced by black people in terms of access to and permanence in healthcare systems are perpetuated. These include institutional racism, the naturalisation of the death of black and brown bodies²⁰, lower availability of tests and scans and poorer quality and/or less effective services²¹. Taken together, all these factors make the black community more susceptible to additional – and potentially lethal – vulnerabilities when compared to the rest of the population²².

Recognising the impact of these racial inequities on the biopsychosocial well-being of the black population, the Ministry of Health (MoH) drew up the National Policy for

Comprehensive Health of the Black Population (PNSIPN), a document that proposes the improvement of care provision for this social segment^{9,23}. In its general guidelines, the PNSIPN defends the “inclusion of the themes ‘racism’ and ‘health of the black population’ in the training and continuing education processes of health workers [...]”²³. This need is also emphasised in various other medical and educational publications, such as the National Curriculum Guidelines (DCNs) for medical courses – principles that guide the foundations and aims of medical training. Article 23 of the DCNs state that “the fundamental contents for the undergraduate medical course should [...] provide comprehensive health care, contemplating the approach of transversal themes in the curriculum that involve knowledge, experiences and systematised reflections on human rights [...], education of ethnic-racial relations and history of Afro-Brazilian and indigenous culture”²⁴.

Despite governmental and curricular initiatives to encourage racial discussions in undergraduate medical programmes, local data on the issue is still incipient. Therefore, in order to provide subsidies for the development of an increasingly inclusive medical curriculum, this study aims to assess the perception of medical students about access to ethnic-racial education in medical training.

METHODS

This is an exploratory, observational, quantitative and descriptive cross-sectional study.

The study was conducted at a private, non-profit HEI based in Recife-PE, whose pedagogical project is based on the principles of active methodology, adopting Problem-Based Learning (PBL). The institution’s medical education is primarily based on tutorial group discussions, also known as tutorials. The tutorials were given by a health professional to students from the first to sixth year, each with a maximum of 12 students and addressing a wide range of subjects related to medical practice.

In the basic cycle, as well as the tutorials, students have access to laboratories, where they engage with subjects such as anatomy, semiology, histology, radiology, pathology, medical procedures and communication. In the clinical cycle, on the other hand, activities are geared towards training with outpatients in medical practice, general surgery, paediatrics and gynaecology and obstetrics, which are based in the teaching hospital linked to the university. Alongside the laboratories and outpatient clinics, the curriculum also includes Primary Care Practice (PCP), a theoretical-practical subject that covers themes related to Primary Health Care (PHC).

The research, conducted between August 2022 and September 2023, targeted medical students from the third to sixth year, separated into groups based on their respective years

of study (second, third, fourth or internship). Students with irregularities in their enrolment and/or in their first year of the course were excluded, as early presence in the undergraduate course would make it difficult to assess the proposed objective.

To define the sample, a sample calculation was performed using the following parameters: a population of 1,200 students, a prevalence of 50% ($p = 0.5$), a 95% confidence level and a 5% margin of error. A prevalence of 50% was assumed ($p=0.5$), since there were no previous estimates of the outcome in the target population, the aim was to maximise the variability with this prevalence and, consequently, the sample size, ensuring a more conservative calculation. The minimum sample size required was 291 participants. To minimise possible sample losses, a percentage of 10% was added to each group, increasing the number of students to be assessed.

The data was collected using a digital, semi-structured and self-administered questionnaire developed by the research team, which was based on Oliveira’s tool (2018)¹⁶ and the National Plan for the Implementation of the DCNs for the Education of Ethnic-Racial Relations and the Teaching of Afro-Brazilian and African History and Culture¹⁵. The form, which included the axes “socio-demographic profile” and “issues relating to access to ethnic-racial education”, was emailed to the participants between May and June 2023, allowing the variables listed below to be assessed.

- Sex: Nominal and dichotomous qualitative variable with the categories “male” and “female”.
- Age: Continuous quantitative variable expressed in complete years.
- Race/Colour: Nominal qualitative variable divided into the categories “white”, “black”, “brown”, “yellow” and “indigenous”.
- Monthly household income: Continuous quantitative variable, expressed in monetary units, representing the total monthly income of the participant’s family.
- Marital Status: Nominal qualitative variable with the categories “single”, “married”, “consensual union”, “divorced” and “widowed”.
- Period/year of course: Quantitative ordinal variable, representing the student’s stage of progress in the higher education course (for example: 1st year, 2nd year, etc.).
- Perception of addressing the epidemiological profile, living conditions and social reality of the black population: Ordinal qualitative variable arranged on a Likert scale with the options “totally disagree”, “partially disagree”, “neither disagree nor

agree”, “partially agree” and “totally agree”.

- Perception of a racial approach and addressing ethical and humanistic aspects of the black population: Ordinal qualitative variable arranged on a Likert scale with the options “totally disagree”, “partially disagree”, “neither disagree nor agree”, “partially agree” and “totally agree”.
- Perception of patients’ racial identification in outpatient clinical care: Ordinal qualitative variable arranged on a Likert scale with the options “totally disagree”, “partially disagree”, “neither disagree nor agree”, “partially agree” and “totally agree”.
- Perception that the educational institution produces or encourages the production of information materials and manuals on the health of the black population: Ordinal qualitative variable arranged on a Likert scale with the options “totally disagree”, “partially disagree”, “neither disagree nor agree”, “partially agree” and “totally agree”.
- Perception of the discussion on the PNSIPN and its contribution to students’ professional training: Ordinal qualitative variable arranged on a Likert scale with the options “totally disagree”, “partially disagree”, “neither disagree nor agree”, “partially agree” and “totally agree”.

The database was built with the study variables arranged in an Excel spreadsheet and presented as counts and percentages, with the mean and standard deviation of the “age” variable calculated. The information collected was reviewed, tabulated, analysed and submitted to the software R version 4.0.0.

In order to guarantee observance of the bioethical precepts, this study complied with the terms of Resolution 510/16 of the National Health Council (CNS). Therefore, the eligible participants were informed, via the Free and Informed Consent Form (FICF), about the purpose of the study, the duration and the non-mandatory nature of participation, as well as the risks and benefits of the research. It should also be noted that the work was approved by the Research Ethics Committee (CEP) of the educational institution under report number 6.001.343.

RESULTS

After applying the eligibility criteria, 330 students were selected and informed about the ethical aspects of the study, consenting and signing the FICF.

Socio-demographic profile

There was an average age of 23 (SD ± 4.2) years and a predominance of females (66% of the sample). As for race/

colour, 75.5% of the students declared themselves to be white, with the rest being brown (20.3%), black (3.3%), indigenous (0.6%) and yellow (0.3%). Of these, most (47.6%) reported a monthly household income of more than 12 minimum wages and, in terms of marital status, 93% were single. Of the participants, 22.7% were in their second year of medicine, 31.2% in their third year, 21.5% in their fourth year and 24.5% were in their internship.

Issues relating to access to ethnic-racial education

When asked about their perception of the approach to the epidemiological profile, living conditions and social reality of the black population in the theoretical modules of the medical course, approximately 58% of the sample said they partially or totally recognised the presence of these topics in the tutorial group discussions (Table 1).

When asked about the existence of a racial approach and the addressing of ethical and humanistic aspects of the black population during the different undergraduate settings (laboratories, PCP and activities in teaching outpatient clinics), the students reported different perceptions depending on the practice in question. In laboratory activities, 50.9% said they partially or totally disagreed with the existence of such a racial perspective (Table 2). In the PCP, on the other hand, 82.4% partially or totally recognised the racial approach, while in the outpatient clinics this figure fell to 50.9%.

With regard to racial identification during outpatient clinical care, 65.8% of the students said that they were routinely asked about their patients’ race/colour (Table 3).

When asked whether their educational institution produced or encouraged the production of information materials and manuals on the health of the black population, 50.3% of students said they partially or totally disagreed (Table 4).

Table 1. Perception of the approach to the epidemiological profile, living conditions and social reality of the black population in the theoretical modules (tutorials) of the course.

Do you perceive the epidemiological profile, living conditions and social reality of the black population being addressed in the theoretical modules (tutorials) of your course?	Frequency	% total
Totally disagree	36	10.9
Partially disagree	60	18.2
Neither disagree nor agree	43	13.0
Partially agree	133	40.3
Totally agree	58	17.6

Source: Authors’ archives, Recife, Pernambuco, Brazil (2024).

Table 2. Perception of a racial approach and addressing ethical and humanistic aspects of the black population in the different undergraduate settings:

Do you perceive a racial approach and ethical and humanistic aspects of the black population being addressed during the practical laboratory activities of your undergraduate training?	Frequency	% total
Totally disagree	57	17.3
Partially disagree	111	33.6
Neither disagree nor agree	45	13.6
Partially agree	74	22.7
Totally agree	42	12.7

Do you perceive a racial approach and ethical and humanistic aspects of the black population being addressed in the different PCP settings of your undergraduate training?	Frequency	% total
Totally disagree	17	5.2
Partially disagree	22	6.7
Neither disagree nor agree	19	5.8
Partially agree	138	41.8
Totally agree	134	40.6

Do you perceive a racial approach and ethical and humanistic aspects of the black population being addressed during the outpatient practices of your undergraduate training?	Frequency	% total
Totally disagree	34	11.9
Partially disagree	55	19.3
Neither disagree nor agree	51	17.9
Partially agree	92	32.3
Totally agree	53	18.6

Source: Authors' archives, Recife, Pernambuco, Brazil (2024).

Table 3. Racial identification of patients in outpatient clinical care.

During outpatient clinical care, patients are routinely asked about their racial identification?	Frequency	% total
Totally disagree	30	10.4
Partially disagree	38	13.1
Neither disagree nor agree	31	10.7
Partially agree	84	29.1
Totally agree	106	36.7

Source: Authors' archives, Recife, Pernambuco, Brazil (2024).

Table 4. Production or encouragement of the production of information materials and manuals on the health of the black population by the educational institution.

Do you perceive the production or encouraged production of information materials and manuals on the health of the black population by your institution?	Frequency	% total
Totally disagree	82	24.8
Partially disagree	84	25.5
Neither disagree nor agree	61	18.5
Partially agree	67	20.3
Totally agree	36	10.9

Source: Authors' archives, Recife, Pernambuco, Brazil (2024).

Table 5. Discussion on the PNSIPN and its contribution to students' professional training.

During your undergraduate training, was the National Policy for Comprehensive Health of the Black Population (PNSIPN) discussed?	Frequency	% total
Totally disagree	63	19.1
Partially disagree	32	9.7
Neither disagree nor agree	40	12.1
Partially agree	53	16.1
Totally agree	142	43.0

In your opinion did the knowledge you acquired during discussions about the National Policy for Comprehensive Health of the Black Population (PNSIPN) contribute to your humanistic, critical, reflective and ethical professional training?	Frequency	% total
Totally disagree	10	3.7
Partially disagree	12	4.5
Neither disagree nor agree	46	17.2
Partially agree	60	22.4
Totally agree	140	52.2

Source: Authors' archives, Recife, Pernambuco, Brazil (2024).

Regarding the discussion of the PNSIPN during undergraduate studies, 59.1% of the students said they partially or totally agreed with the policy's presence in the curriculum. Of these, 74.6% said that the knowledge acquired during the discussions on the PNSIPN contributed to their humanistic, critical, reflective and ethical professional training (Table 5).

DISCUSSION

The National Curriculum Guidelines (DCNs) for medical courses, established in 2014, state that the essential

contents of the course must be aligned with the health needs of the community, considering the social, cultural, psychological, ecological, ethical and legal determinants of the health-disease process²⁴. Given that the black population constitutes Brazil's racial majority, their demands should be prioritised in the formulation of health curricula. However, when analysing the pedagogical projects of medical courses at public universities in the Northeast region, Cabral et. al (2019)¹⁸ found that most of the subjects associated with the ethnic-racial agenda in medical schools take a more generalist line of knowledge production, with a low percentage of theoretical content on the physiological and epidemiological particularities of the black population or accessibility to health services.

This study revealed that 58% of the sample recognised the presence of guidelines on the health of the black population in the discussions of the theoretical modules. On the other hand, in research conducted by Silverio and Dias (2019)²⁵ no subjects addressing this topic were identified at the educational centre evaluated, while Souza and Rocha (2022)²⁶ found subjects on the health of the black population, but they were afforded a small number of class hours and were restricted to the beginning of the course. This shows that, even when present, discussions about the health of the black population are limited to specific periods of the undergraduate programme. In the case of the institution assessed in this study, there is a compulsory module in the 6th semester with 27 class hours, but the late introduction and reduced class hours may have influenced the lack of recognition of this subject by a significant proportion (42%) of the students.

As regards the perceived existence of a racial approach and addressing of ethical and humanistic aspects of the black population, three different settings were studied: laboratories – predominantly basic cycle practices, with subjects that include teaching clinical examination, procedures, imaging, anatomy and communication – PCP and outpatient teaching clinics. The results were diverse, with the highlight being the low perception of the subject in laboratories. However, it is important to emphasise the importance of introducing the black agenda into these activities, especially in subjects that provide a greater social contribution, such as clinical examination and communication. To illustrate ways of achieving these objectives, we can cite the round table discussion “Black population: what is not taught about dermatological semiology in black skin”, organised by medical students from southern Brazil. This discussion presented 10 dermatological diseases and their respective manifestations on black skin as a way of including the blackness bias in the teaching of dermatological semiology²⁷.

In outpatient practices, a slight majority partially or totally recognised the presence of the racial theme, which can be explained by contact with the patients themselves and the clinical discussions raised based on their respective cases, since the black population corresponds to the majority of the public served by the Unified Health System (SUS)²³ and the teaching hospital linked to the educational institution evaluated is an entity exclusively linked to the SUS. In contrast to this, it is clear that the other almost 50% of interviewees did not recognise the racial approach in their practices, which is alarming since that would contradict the ideal of universal and equitable healthcare. According to Silva et. al (2020)²⁸, professionals who are not very aware of the health specificities of the black population – and consequently have low racial literacy – are more likely, due to the influence of institutional racism, to blame and recriminate black patients, as well as to reproduce racist stereotypes in clinical practice.

Based on the data collected, 65.8% of those interviewed partially or totally agreed with filling in the race/colour questionnaire during outpatient consultations, a percentage which, taking into account the mandatory racial identification established by the Ministry of Health, falls short of the 100% target²⁹. The inclusion of the race/colour question in hospital medical records is fundamental for identifying and addressing ethnic/racial inequalities in health. A study conducted at a university hospital in the state of São Paulo analysed the implementation of the collection of this data in its service of origin, showing that even after the establishment of the PNSIPN, proper completion of the race/colour questionnaire remains a challenge³⁰. The study also concludes that collecting this information correctly is essential for promoting health equity and combating institutional racism.

The PNSIPN guidelines advocate including racism and the health of the black population in the training process for health professionals and encouraging scientific production on the subject. In the study in question, the majority of interviewees (50.3%) denied perceiving the existence of such a stimulus, signalling room for improvement in the provision or publicisation of incentives offered for effective ethnic-racial education. In contrast to the data obtained, it is worth highlighting that, although this does not correspond to the majority of Brazilian HEIs, as demonstrated in the studies by Cabral et. al (2022)¹⁸ and Silvério et. al (2019)²⁵ – which observed weaknesses in the approach to the subject in various teaching projects for medical courses – there are HEIs that are carrying out suggestive experiments in the sense of scientific production: in conjunction with the *NegreX Collective*, medical students from a public university in Rio de Janeiro produced the booklet “Cuidar para Afrocentrar

- Saúde do Povo Negro" (Caring to Afrocentre - Health of Black People), as well as reporting that they are constantly made aware of the subject in symposiums, seminars and compulsory subjects³¹.

With regard to the PNSIPN, most of the students interviewed said that they had seen the policy addressed at some point during the course and, when asked about the PNSIPN's contribution to humanistic, critical, reflective and ethical professional training, a significant majority (74.6%) recognised it as beneficial, which represents a strength in the training of future doctors, since the PNSIPN seeks to tackle structural racism through strategies aimed at raising the profile of black culture, history and the specific health conditions of the black population.

CONCLUSION

It can be concluded that, although present, medical students' perception of access to ethnic-racial education varies according to the undergraduate setting and is more expressive in the context of PHC practices. Based on the assumption that the black population corresponds to the racial majority served by the SUS, it is believed that poor access to ethnic-racial education in undergraduate medical courses results not only in the perpetuation of discriminatory teaching, but also in encouraging health care that fails to recognise the epidemiological, ethical and humanistic particularities of this group. We therefore recommend a meticulous analysis and possible reformulation of the syllabus of the medical curriculum, so that ethnic-racial education is universal and made available at all stages of medical training.

Due to the scarcity of similar studies in the literature, more research is needed to elucidate the issue in Brazil's different medical training centres, with the aim of achieving an inclusive medical curriculum that is racially aware and faithful to the principles of the SUS.

CONTRIBUTION OF THE AUTHORS

Mariana Peixoto Dantas contributed with the conception and creation of the research project; writing the manuscript; conducting the experiments and data collection; preparing the tables. Beatriz Regina Vieira and Lucas Gabriel Braga de Freitas Melo contributed to writing the manuscript and conducting the experiments and data collection. Djalma Feliciano dos Santos Junior and Liana Chaves Alves contributed to the formal analysis of the data and results; proofreading and editing of the manuscript. Thaís Carine Lisboa da Silva contributed to the conception and creation of the research project; development of the methodology and study model; formal analysis of the data and results; proofreading and editing of the manuscript;

supervision and coordination of the research project; project management and coordination.

CONFLICT OF INTEREST

We declare no conflict of interest.

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We declare that there is no funding.

DATA AVAILABILITY

Research data is available in the body of the document

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