Prevalence and associated factors of malocclusions in adolescents from a municipality in Northeastern Brazil

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Regulatory statement

This study was conducted in accordance with all provisions of the local guidelines and policies of the human oversight committee. This study protocol was reviewed and approved by the Research Ethics Committee, approval number CAAE 67756923.6.0000.0055.

Abstract

Objective: To evaluate the prevalence of malocclusions and associated factors among adolescents aged 10 to 19 years enrolled at the Center for Territorial Professional Education Médio Rio de Contas (CETEP), Ipiaú, Bahia, Brazil. Methods: A census-based cross-sectional epidemiological study was conducted among adolescents aged 10 to 19 years enrolled at CETEP-Ipiaú-BA. All 265 eligible students were invited to participate, and 130 completed all stages of data collection. Clinical examinations were performed using the Dental Aesthetic Index (DAI) to assess malocclusions, and a structured questionnaire was used to collect sociodemographic, behavioral, and oral health-related information. Associations were evaluated using Poisson regression with robust variance, estimating Prevalence Ratios (PR) and 95% Confidence Intervals (95% CI). Results: The prevalence of malocclusions was 42.3%, corresponding to 44.0% among males and 41.2% among females. Regarding severity, 25.3% of adolescents presented definite malocclusion, while 8.5% presented severe malocclusion and 8.5% presented very severe malocclusion. After multivariable adjustment, self-identified non-Black skin color (PR=1.95; 95% CI: 1.07–3.57) and government income-support program participation (PR=0.53; 95% CI: 0.31–0.92) remained associated with malocclusion. Conclusion: The prevalence of malocclusions among adolescents enrolled at CETEP-Ipiaú-BA was high. Self-identified non-Black skin color and government income-support program participation were associated with the presence of malocclusions. These findings should be interpreted within the social and contextual characteristics of the studied population and considering the multifactorial nature of malocclusions.

KEYWORDS: Dental Occlusion; Malocclusion; Adolescent; Oral Health.

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Received: 27/12/25
Accepted: 08/07/26
Publicado: 03/11/26

DOI: 10.36065/robrac.v35i94.1865

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Introduction

Malocclusions, or dental occlusions, are prevalent conditions worldwide, significantly impacting masticatory function, aesthetics, and overall health[1]. The World Health Organization (WHO) considers malocclusions one of the main oral health problems during adolescence, a critical phase for physical, social, and emotional development, in which self-image and appearance play fundamental roles[2]. Various factors, such as genetics, deleterious oral habits, and socioeconomic conditions, contribute to the development of malocclusions, often influencing access to oral healthcare[3,4].

Studies show that the prevalence of malocclusions in adolescents varies by geographic region and socioeconomic group, with higher rates observed in areas of lower income and limited access to dental services, highlighting the need for more targeted interventions[4,5]. The Dental Aesthetic Index (DAI), adopted by WHO, is a tool used to assess the severity of malocclusions and the need for orthodontic treatment, facilitating the planning of preventive and corrective interventions[6].

Given this context, the present study aims to evaluate the prevalence and associated factors of malocclusions in adolescents aged 10 to 19 enrolled at the Center for Territorial Professional Education Médio Rio de Contas, in Ipiaú-BA.

Methods

This is a census-based, cross-sectional, descriptive, and analytical epidemiological study conducted among school adolescents aged 10 to 19 years, of both sexes, enrolled at the Center for Territorial Professional Education Médio Rio de Contas in Ipiaú, Bahia, Brazil (CETEP-Ipiaú-BA). This age range is recommended by the World Health Organization (WHO) because it represents the adolescent population commonly investigated in oral health epidemiological studies[7].

The municipality of Ipiaú is located in the southwestern region of the state of Bahia, approximately 359.9 kilometers from the state capital, Salvador, and has an estimated population of 40,706 inhabitants[8,9]. CETEP-Ipiaú-BA is a public technical education institution dedicated to the professional training of young people and adults, offering courses in several areas of knowledge[10].

This study was conducted in accordance with local ethical guidelines and was approved by the Research Ethics Committee under protocol CAAE 67756923.6.0000.0055. Initially, all 265 students aged 10 to 19 years enrolled at the institution were informed about the objectives of the study and invited to participate voluntarily. The study was designed as a census survey and aimed to include the entire target population. Therefore, no a priori sample size calculation was performed. All adolescents enrolled at the institution who met the eligibility criteria were invited to participate. Of the 265 eligible students, 130 completed all stages of data collection and were included in the final analysis, corresponding to a participation rate of 49%.

Participants received two copies of the Informed Consent Form (ICF), which were signed by a parent or legal guardian for participants under 18 years of age or by the participant when aged 18 years or older. In addition, adolescents younger than 18 years signed the Informed Assent Form (IAF). Information regarding non-participants was not available; therefore, comparisons between participants and non-participants could not be performed.

Adolescents were excluded if their parents or legal guardians did not sign the Informed Consent Form, if they did not provide assent to participate in the study, or if they failed to complete any stage of the data collection process.

Data collection was conducted in two stages. In the first stage, a trained interviewer administered a structured and pre-tested questionnaire in the school environment. The questionnaire

collected information on biosociodemographic characteristics, oral health-related variables, and deleterious oral habits.

In the second stage, a calibrated examiner (intra-examiner kappa for malocclusion = 0.89) and a trained assistant performed the clinical oral examinations in a ventilated room provided by the school during regular class hours. Examinations were conducted under natural light using a flat dental mirror and a WHO periodontal probe. Malocclusions were assessed using the Dental Aesthetic Index (DAI), recommended by the World Health Organization, following the biosafety standards established by the Brazilian Ministry of Health[7].

During the clinical examination, adolescents remained seated in a school chair facing the examiner, while the assistant recorded the findings on a clinical form.

The dependent variable was the presence of malocclusion, assessed clinically using the DAI. The Dental Aesthetic Index evaluates ten occlusal traits: missing visible incisors, canines and premolars; crowding in the incisal segments; spacing in the incisal segments; midline diastema; largest maxillary anterior irregularity; largest mandibular anterior irregularity; maxillary overjet; mandibular overjet; anterior open bite; and anteroposterior molar relationship[7,11,12]. The DAI score was calculated according to the original methodology proposed by Cons and Jenny and recommended by the WHO. The final score is obtained from the weighted sum of the ten occlusal components plus a constant value, according to standardized WHO criteria[11,12].

The DAI provides four categories of orthodontic treatment need: no abnormality or minor malocclusion with no or slight treatment need (DAI ≤ 25); definite malocclusion with elective treatment need (DAI = 26–30); severe malocclusion with highly desirable treatment need (DAI = 31–35); and very severe or handicapping malocclusion with mandatory treatment need (DAI ≥ 36)[13]. For analytical purposes, the outcome variable was

dichotomized into no treatment need (DAI ≤ 25) and treatment need (DAI ≥ 26)[13].

The independent biosociodemographic variables included sex (male/female), skin color (Black/non-Black), body mass index (BMI), presence of siblings (yes/no), birth order position, living arrangement (with parents or other relatives), parental educational level, family income (≥1 minimum wage/<1 minimum wage), government income-support program participation (yes/no), and receipt of educational financial incentives (yes/no). For analytical purposes, birth order position was dichotomized into first child and others.

Behavioral variables included difficulty sleeping (yes/no), difficulty chewing (yes/no), breastfeeding history (yes/no), thumb sucking (yes/no), bottle feeding (yes/no), pacifier use (yes/no), nail-biting (yes/no), and object-biting habits (yes/no).

In addition, dental caries experience was assessed during the clinical examination using the Decayed, Missing and Filled Teeth Index (DMFT), according to World Health Organization criteria. For analytical purposes, DMFT was dichotomized into No Caries (DMFT = 0) and With Caries (DMFT ≥ 1).

Oral health-related variables included satisfaction with oral health (satisfied/dissatisfied), satisfaction with dental appearance (satisfied/dissatisfied), satisfaction with chewing (satisfied/dissatisfied), history of dental visits (yes/no), type of dental service used (public/private), reason for the last dental visit (check-up/prevention or treatment), self-reported need for orthodontic treatment (yes/no), and daily use of toothbrush, toothpaste, and dental floss (yes/no).

Descriptive analyses included the calculation of absolute and relative frequencies, means, and standard deviations. Bivariate analyses were initially performed between each independent variable and the outcome using Pearson's chi-square test or Fisher's exact test when appropriate.

Variables with a p-value ≤ 0.10 in the unadjusted analyses were included in the multivariable analysis. Poisson regression with robust variance was used to estimate prevalence ratios (PR) and their respective 95% confidence intervals (95% CI). Variable selection was performed using the backward stepwise procedure.

All variables meeting the inclusion criterion (p ≤ 0.10) in the unadjusted analyses were entered into the multivariable model and sequentially removed until only variables with p ≤ 0.10 remained. Statistical significance was set at 5%. All analyses were performed using the Statistical Package for the Social Sciences (SPSS), version 21.0 (IBM Corp., Armonk, NY, USA).

Results

In 2023, 265 adolescents aged 10 to 19 years were enrolled at the Center for Territorial Professional Education Médio Rio de Contas (CETEP), Ipiaú-BA. Of these, 130 completed all stages of data collection and were included in the final analysis, resulting in a participation rate of 49%.

The mean age of the participants was 16.4 years (±1.1 years). Most adolescents were female (61.5%), self-identified as non-Black (67.4%). Regarding nutritional status, 70.8% were classified as eutrophic. In addition, 90.0% reported having siblings, 50.4% were firstborn children, 46.5% lived with their parents, and 24.6% reported a family income below one minimum wage.

Regarding socioeconomic characteristics, 62.2% of the adolescents reported participating in a government income-support program, and 49.2% received educational financial incentives. Concerning oral health-related behaviors, 69.8% reported a history of bottle feeding, 39.8% reported pacifier use, 68.5% reported nail-biting habits, and 43.1% reported object-biting habits. Most participants had previously visited a dentist (92.3%), while 70.3% reported a perceived need for orthodontic treatment (Table 1).

The prevalence of malocclusions among adolescents enrolled at CETEP-Ipiaú-BA was 42.3%, corresponding to 55 individuals. The prevalence was 44.0% among males and 41.2% among females.

Regarding malocclusion severity according to the Dental Aesthetic Index (DAI), 25.3% of adolescents presented definite malocclusion, 8.5% severe malocclusion, and 8.5% very severe or handicapping malocclusion.

The most prevalent DAI components were crowding (50.0%), mandibular anterior irregularity (46.9%), maxillary anterior irregularity (40.7%), and altered molar relationship (40.0%). Maxillary overjet ≥4 mm was observed in 38.4% of the adolescents, while spacing was present in 23.0%, diastema in 8.4%, anterior open bite in 8.4%, and mandibular overjet in 4.6%.

Table 1 presents the distribution of biosociodemographic characteristics, oral health-related variables, and behavioral factors among the study participants.

Table 2 presents the results of the bivariate analyses between malocclusion and the independent variables. In the unadjusted analyses, skin color ($p = 0.004$), government income-support program participation ($p = 0.018$), breastfeeding history ($p = 0.072$), and satisfaction with oral health ($p = 0.068$) met the predefined criterion ($p \leq 0.10$) for inclusion in the multivariable model.

Table 3 presents the adjusted Poisson regression model. After adjustment, only skin color and government income-support program participation remained significantly associated with malocclusion. Adolescents who self-identified as non-Black presented a higher prevalence of malocclusion compared with Black adolescents (PR = 1.95; 95% CI: 1.07–3.57; $p = 0.029$). In addition, adolescents who did not participate in a government income-support program showed a lower prevalence of malocclusion than beneficiaries (PR = 0.53; 95% CI: 0.31–0.92; $p = 0.024$).

TABLE 1 · Absolute and relative frequency of biosociodemographic characteristics, oral hygiene habits, and deleterious behaviors of adolescents from CETEP-BA-Ipiaú, Brazil, 2023.

Variable	Categories	n	%
Father's Educational Level	High school/college	70	55.6
	Elementary school/did not study	56	44.4
Mother's Education Level	High school/college	93	71.5
	Elementary school/did not study	37	28.5
Household Income	≥1 minimum wage	95	75.4
	<1 minimum wage	31	24.6
Government income-support program participation	Yes	79	62.2
	No	48	37.8
Educational Financial Incentive	Yes	63	49.2
	No	65	50.8
Bottle Feeding	Yes	88	69.8
	No	38	30.2
Pacifier Use	Yes	51	39.8
	No	77	60.2
Nail Biting	Yes	89	68.5
	No	41	31.5
Object Biting	Yes	56	43.1
	No	74	56.9
Oral Health Satisfaction	Satisfied	50	38.8
	Dissatisfied	79	61.2
Teeth Appearance	Satisfied	38	29.5
	Dissatisfied	91	70.5
Chewing	Satisfied	80	62
	Dissatisfied	49	38
Last Dental Visit	Never went	10	7.7
	Have been	120	92.3
Location of Dental Service	Public	49	43.4
	Private	64	56.6
Reason for Visit	Check-up/prevention	76	63.9
	Treatment	43	36.1
Mouthwash Use	Yes	46	35.4
	No	84	64.6
Toothbrush Use	Yes	128	98.5
	No	02	1.5
Toothpaste Use	Yes	127	98.4
	No	2	1.6
BMI	Eutrophic	92	70.8
	Overweight/obesity	38	29.2
Birth order	First child	65	50.4
	Others	64	49.6
Difficulty Sleeping	Yes	37	28.5
	No	93	71.5
Difficulty Chewing	Yes	17	13.1
	No	113	86.9
Breastfeeding history	No	18	14.2
	Yes	109	85.8
Thumb Sucking	No	93	73.8
	Yes	33	26.2
Need for Orthodontic Treatment	Yes	90	70.3
	No	38	29.7
Dental Floss Use	Yes	53	40.8
	No	77	59.2

TABLE 2 - Association between independent variables and the presence of malocclusions in adolescents from CETEP-BA-Ipiaú, Brazil, 2023.

Variable	Categories	Malocclusions				χ^2	P value
		No		Yes			
		n	%	n	%		
Gender	Male	28	56.0	22	44.0	0.095	0.758
	Female	47	58.8	33	41.3		
Skin Color	Black	32	76.2	10	23.8	8.338	0.004
	Non-Black	43	49.4	44	50.6		
BMI	Eutrophic	53	57.6	39	42.4	0.001	0.976
	Overweight/Obesity	22	57.9	16	42.1		
Has Siblings	Yes	69	59.0	48	41.0	0.788	0.375
	No	06	46.2	07	53.8		
Living Arrangement	Parents	35	58.3	25	41.7	0.043	0.836
	Others	39	56.5	30	43.5		
Government income-support program participation	Yes	39	49.4	40	50.6	5.629	0.018
	No	34	70.8	14	29.2		
Educational Financial Incentive	Yes	34	54.0	29	46.0	0.475	0.491
	No	39	60.0	26	40.0		
Father's Educational Level	< 8 years	38	54.3	32	45.7	0.525	0.469
	≥ 8 years	34	60.7	22	39.3		
Mother's Education Level	< 8 years	51	54.8	42	45.2	1.090	0.296
	≥ 8 years	24	64.9	13	35.1		
DMFT Index	No Caries	39	57.4	29	42.6	0.007	0.935
	With Caries	36	58.1	26	41.9		
Difficulty Sleeping	No	50	53.8	43	46.2	2.066	0.151
	Yes	25	67.6	12	34.2		
Difficulty Chewing	No	64	56.6	49	43.4	0.394	0.530
	Yes	11	64.7	06	35.3		
Breastfeeding history	No	7	38.9	11	61.1	3.293	0.072
	Yes	67	61.5	42	38.5		
Bottle feeding history	No	18	47.4	20	52.6	2.123	0.145
	Yes	54	61.4	34	38.6		
Pacifier Use	No	45	58.4	32	41.6	0.031	0.859
	Yes	29	56.9	22	43.1		
Thumb sucking habit	No	52	55.9	41	44.1	0.219	0.640
	Yes	20	60.6	13	39.4		
Nail Biting	No	23	56.1	18	43.9	0.062	0.803
	Yes	52	58.4	37	41.6		
Object Biting	No	45	60.8	29	39.2	0.684	0.408
	Yes	30	53.6	26	46.4		

Variable	Categories	Malocclusions				χ^2	P value
		No		Yes			
		n	%	n	%		
Satisfaction with Oral Health	Yes	34	68.0	16	32.0	3.776	0.068
	No	40	50.6	39	49.4		
Satisfaction with Chewing	Yes	48	60.0	32	40.0	0.598	0.439
	No	26	53.1	23	46.9		
Has Visited the Dentist	Yes	70	58.3	50	41.7	0.263	0.742*
	No	05	50.0	24	49.0		
Location of Dental Service	Public Service	25	51.0	23	35.9	1.943	0.163
	Private Service	41	64.1	33	43.4		
Reason for Visit	Check-up/Prevention	43	56.6	33	43.4	0.170	0.680
	Treatment/ Extraction/Pain	26	60.5	17	39.5		
Need for Orthodontic Treatment	Yes	52	57.8	38	42.2	0.000	0.990
	No	22	57.9	16	42.1		
Toothbrush Use	Yes	74	57.8	54	42.2	0.049	1.000*
	No	01	50.0	01	50.0		
Birth order	First Child	38	58.5	27	41.5	0.064	0.800
	Others	36	56.3	28	43.8		
Household Income	≥ 1 Minimum Wage	52	54.7	43	45.3	1.622	0.203
	< 1 Minimum Wage	21	67.7	10	32.3		

TABLE 3 · Adjusted Poisson regression model for the determinants of malocclusions in adolescents from CETEP-BA-Ipiaú, Brazil, 2023.

Variables	Adjusted PR	(95%CI)	P-value
Skin Color			0.029
Black	1		
Non-Black	1.95	(1.07-3.57)	
Government income-support program participation			0.024
Yes	1		
No	0.53	(0.31-0.92)	
Breastfeeding history			0.100
Yes	1		
No	1.39	(0.91-2.11)	

Discussion

Malocclusions are among the most prevalent oral health conditions affecting adolescents and may negatively impact aesthetics, masticatory function, speech, social interactions, and quality of life[2,7]. In the present study, the prevalence of malocclusions among adolescents enrolled at CETEP-Ipiaú-BA was 42.3%, exceeding estimates reported for several Brazilian regions in the SB Brasil 2010 survey and slightly surpassing the prevalence observed in the Northeast region[14]. These findings reinforce the relevance of malocclusions as an important public health issue and suggest that a substantial proportion of adolescents may experience functional and psychosocial consequences associated with occlusal alterations. Furthermore, considering that many malocclusions can be identified and managed during childhood and adolescence, the high prevalence observed highlights the importance of strengthening preventive and interceptive oral healthcare actions within school and primary healthcare settings[47].

No statistically significant differences in malocclusion prevalence were observed between males and females. Similar findings have been reported in previous studies, suggesting that biological sex alone may not be a major determinant of malocclusion occurrence[15,16]. Instead, the development of malocclusions appears to result from a complex interaction of genetic, developmental, environmental, and behavioral factors accumulated throughout growth and craniofacial development[23,24].

Regarding the components of the Dental Aesthetic Index (DAI), crowding, mandibular irregularity, and maxillary irregularity were the most prevalent conditions identified. These findings are consistent with previous investigations showing that lack of space within the dental arches is one of the most common manifestations of malocclusion during adolescence[17,18]. Crowding and dental irregularities may arise from discrepancies between tooth size and arch dimensions and can be aggravated

by environmental factors, including premature loss of deciduous teeth, inadequate eruption guidance, and limited access to preventive and orthodontic care[19,22]. The predominance of these occlusal characteristics in the present study suggests that opportunities for early identification and management of developing malocclusions may not be occurring consistently within routine oral healthcare services.

The distribution of malocclusion severity observed in this study was similar to that reported in other Brazilian populations[26,28]. Defined malocclusions represented the most frequent category, followed by severe and very severe malocclusions. Among CETEP-Ipiaú-BA adolescents, 25.3% presented defined malocclusion and 17% exhibited severe or very severe conditions. Comparable frequencies have been reported in other Brazilian adolescent populations[17,29]. Although many malocclusions are not life-threatening conditions, their cumulative impact on oral function, facial aesthetics, self-esteem, and social well-being may be substantial[25,26]. Therefore, the identification of a considerable proportion of adolescents requiring orthodontic treatment reinforces the need for early screening strategies and timely referral pathways within public oral healthcare services[30].

In the adjusted analysis, skin color remained significantly associated with malocclusion, with a higher prevalence observed among adolescents who self-identified as non-Black. This finding differs from some Brazilian studies that reported greater malocclusion severity among Black and Indigenous populations, frequently attributed to socioeconomic inequalities, social vulnerability, and barriers to accessing oral healthcare services[14,37]. The divergence observed in the present study may be related to characteristics specific to the investigated population. Unlike national epidemiological surveys that include large and heterogeneous samples, the present investigation was conducted in a single public educational institution in a municipality of Northeastern Brazil. Consequently, local demographic, cultural,

behavioral, and contextual factors may have influenced the distribution of malocclusions observed in this population.

Importantly, the association between skin color and oral health outcomes should not be interpreted as evidence of a direct biological relationship. Studies conducted in Brazil have consistently demonstrated that racial inequalities in oral health are strongly influenced by social determinants, including income, educational opportunities, living conditions, and access to healthcare services[44,45]. Epidemiological investigations have also shown that the occurrence and severity of malocclusions may vary according to contextual and socioeconomic characteristics rather than race or ethnicity alone[46]. Previous studies examining ethnic and racial differences in malocclusion have produced heterogeneous findings, with some authors identifying variations in craniofacial characteristics and others emphasizing the predominant influence of environmental and social determinants[32,36].

In the Brazilian context, race and skin color are socially constructed categories that frequently reflect distinct patterns of social opportunity, healthcare access, and exposure to health-related risk factors. Therefore, the higher prevalence of malocclusions observed among non-Black adolescents in the present study should be interpreted cautiously and within the specific context of the investigated population. Further studies involving larger and more representative samples are necessary to clarify the mechanisms underlying this association and to determine whether similar patterns are observed in other settings.

Another important finding was the association between government income-support program participation and malocclusion prevalence. Adolescents who did not participate in a government income-support program presented a 47% lower prevalence of malocclusions than beneficiaries. Although family income itself was not independently associated with the outcome, government income-support program participation may reflect

broader dimensions of social vulnerability that are not fully captured by conventional income measures. Previous studies have demonstrated that socially vulnerable populations often experience greater barriers to preventive and corrective orthodontic care, delayed diagnosis of occlusal problems, and reduced access to specialized dental services[31,40,41].

The observed association may reflect the cumulative influence of adverse social conditions throughout childhood and adolescence. Socioeconomic and environmental factors may affect oral health through multiple pathways, including dietary patterns, oral health literacy, utilization of preventive services, and access to regular dental care[39,42,43]. Although these mechanisms were not directly assessed in the present study, they provide plausible explanations for the higher prevalence of malocclusions among adolescents receiving social assistance benefits.

From a public health perspective, these findings reinforce the importance of addressing malocclusions within the broader framework of social determinants of health. Oral diseases represent a major global public health challenge and disproportionately affect socially vulnerable populations[47,48]. Consequently, strategies aimed at reducing inequalities in oral health should not be restricted to clinical treatment alone. School-based oral health surveillance, early orthodontic screening, integration between educational institutions and primary healthcare services, and expansion of preventive and interceptive orthodontic programs may contribute to reducing the burden of malocclusions among vulnerable adolescents[49].

Although this study provides important information regarding the prevalence of malocclusions and associated factors among adolescents, some limitations should be considered. First, although the study was designed as a census survey and all eligible students enrolled at the institution were invited to participate, only 130 of the 265 eligible adolescents completed all stages of data collection, resulting in a participation rate of 49%.

Because demographic and clinical information was not available for non-participants, it was not possible to compare participants and non-participants or to assess the potential impact of selection bias on the findings.

In addition, despite the census-based design, the final number of participants and the relatively large number of independent variables evaluated may have reduced the statistical power of some associations and affected the precision and stability of the multivariable estimates. Therefore, the observed associations should be interpreted with caution.

Another limitation is that the study was conducted in a single public educational institution in the municipality of Ipiaú, Bahia. Although the sample reflects the characteristics of adolescents enrolled in that institution, the findings may not be generalizable to all adolescents in the municipality, region, or other socioeconomic and educational contexts, limiting the external validity of the results. Future multicenter studies involving broader and more representative populations are recommended to confirm these findings.

Finally, due to the cross-sectional design, temporal relationships between exposure and outcome cannot be established, and causal inferences should not be made.

Conclusion

The prevalence of malocclusions among adolescents enrolled at CETEP-Ipiaú-BA was high, exceeding estimates reported for several Brazilian regions. Self-identification as non-Black and government income-support program participation were independently associated with the presence of malocclusions. These findings reinforce the importance of considering social determinants and contextual factors when investigating oral health conditions in adolescent populations. Given the multifactorial etiology of malocclusions, the observed associations should

be interpreted with caution and within the specific social, cultural, and environmental context of the studied population. Further studies involving larger and more diverse populations are needed to confirm these findings and to better understand the complex determinants of malocclusions among Brazilian adolescents.

Financial support

None.

Conflict of interest

The authors declare no conflicts of interest.

Data availability

The data used to support the findings of this study can be made available upon request to the corresponding author.

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Prevalência e fatores associados às maloclusões em adolescentes de um município do Nordeste brasileiro

Resumo

Objetivo: Avaliar a prevalência e os fatores associados às maloclusões em adolescentes de 10 a 19 anos do Centro Territorial de Educação Profissional Médio Rio de Contas (CETEP), Ipiaú-BA. Métodos: Estudo epidemiológico transversal, censitário, realizado com adolescentes de 10 a 19 anos matriculados no CETEP-Ipiaú-BA. Todos os 265 estudantes elegíveis foram convidados a participar, e 130 completaram todas as etapas da pesquisa. A coleta de dados incluiu exame clínico utilizando o Índice de Estética Dentária (DAI) para avaliação das maloclusões e questionário estruturado para obtenção de informações sociodemográficas, comportamentais e relacionadas à saúde bucal. As associações foram avaliadas por regressão de Poisson com variância robusta, estimando Razões de Prevalência (RP) e intervalos de confiança de 95% (IC95%). Resultados: A prevalência de maloclusões foi de 42,3%, sendo 44,0% entre os homens e 41,2% entre as mulheres. Quanto à gravidade, 25,3% dos adolescentes apresentaram maloclusão definida, 8,5% maloclusão severa e 8,5% maloclusão muito severa. Após ajuste multivariado, a autodeclaração como não negro (RP=1,95; IC95%: 1,07–3,57) e a participação em programas governamentais de transferência de renda (RP=0,53; IC95%: 0,31–0,92) permaneceram associadas à presença de maloclusões. Conclusão: A prevalência de maloclusões entre os adolescentes do CETEP-Ipiaú-BA foi elevada. A autodeclaração como não negro e a participação em programas governamentais de transferência de renda estiveram associadas à ocorrência de maloclusões. Esses achados devem ser interpretados considerando os determinantes sociais e o contexto específico da população estudada.

PALAVRAS-CHAVE: Oclusão Dentária; Má Oclusão; Adolescente; Saúde Bucal.

How to cite this paper

Lopes MS; Oliveira MC; Santos LS; Cairo GM; Maia VM; Casotti CA. Prevalence and associated factors of malocclusions in adolescents from a municipality in Northeastern Brazil. Rev Odontol Bras Central 2026; 35(94): 68-87. DOI: 10.36065/robrac.v35i94.1865