

UCSF

UC San Francisco Previously Published Works

Title

As Cores do Tabagismo: Relação entre Raça e Consumo de Tabaco no Brasil

Permalink

<https://escholarship.org/uc/item/0wp4v2mk>

Journal

Revista Brasileira de Cancerologia, 68(1)

ISSN

0034-7116

Authors

da Silva, André Luiz Oliveira
de Lima Mota, Caroline
Pereira, Renata Aparecida
[et al.](#)

Publication Date

2023-06-05

DOI

10.32635/2176-9745.rbc.2022v68n1.1552

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

The Colors of Smoking: Relationship Between Race and Tobacco Use in Brazil

doi: <https://doi.org/10.32635/2176-9745.RBC.2022v68n1.1552>

As Cores do Tabagismo: Relação entre Raça e Consumo de Tabaco no Brasil

Los Colores del Fumar: Relación entre Raza y Uso de Tabaco en Brasil

André Luiz Oliveira da Silva¹; Caroline de Lima Mota²; Renata Aparecida Pereira³; Simone Mitri Nogueira⁴; Josino Costa Moreira⁵

INTRODUCTION

It is quite solid and evident the relation between race (and ethnicity) and sickening in Brazil. The skin color of anyone holds a strong grip on its life, sickening and death¹. The death mortality rate by the coronavirus disease 2019 – COVID-19 was higher in Blacks than in Whites², a clear example of the association of mortality with race.

Social, environmental and genetic factors are associated with nicotine dependence, and tobacco-related diseases. Age, gender, social class, educational level, geographic location and race/ethnicity are some of the factors that may impact smoking use³. Race/ethnicity relation, among them, is perhaps one of the less explored and addressed when tobacco control in Brazil is discussed.

Paucity of studies exploring the impact of race and ethnicity over tobacco use and its outcomes makes this theme still more outstanding, because, regardless of the evident drop of its use in the last years the habit is still more prevalent among Blacks and Pardo Brazilians than in Whites⁴.

The issue of structural racism as social determinant is yet underestimated and, in some cases, disregarded. Scarce are the studies evaluating its impact over smoking.

WHAT IS KNOWN ABOUT THE THEME?

A retrospective qualitative analysis in June 2021 was carried out in the bibliographic databases PubMed (MEDLINE) and SciELO to support this discussion and show to what extent this theme is poorly studied in Brazil. The search used the following terms: (Smoking) AND (Race) AND (Brazil) OR (Smoking) AND (Afro-American) AND (Brazil) OR (Smoking AND “Special Populations” AND Brazil). The whole period available in the databases until the day of the search was investigated; inclusion criteria were articles published in English,

Portuguese and Spanish. Duplicate articles, not available in full and in other languages were excluded. Three articles addressing the relation race/ethnicity and tobacco use in Brazil were selected after the search.

Additionally, in order to discuss the genetic contribution to the main subject of the articles, a bibliographic search was conducted. The same terms were used, adding the descriptors: (genetic OR polymorphism). Two articles within the scope were found in accordance with the same inclusion and exclusion criteria.

Relevant unpublished or review articles to strengthen the scientific-technical backbone were included too.

DEVELOPMENT

In the United States, mostly, studies concluded that the ethnic origin is a risk factor for smoking, for instance, the prevalence in Hispanics is 10.1% while in native Americans is 2-fold higher, 21.9%⁵.

Studies indicate that tobacco prevalence is higher among Blacks and Pardo Brazilians in Brazil⁴. According to the National Health Survey of 2019⁴, the predominance among Blacks was 13.7%, 13.5% in Pardo Brazilians and 11.8% in Whites. In addition, Blacks and Pardo Brazilians had low education level and income as Table 1 shows. These are some of the many indicators revealing the racial inequality still imbedded in the Brazilian society.

Low education, low income and poor urbanization are risk factors for smoking in Brazil^{4,8}, partially attributed to social factors, since Blacks and Pardo Brazilians account for a large part of the low-income and low educated population, which contributes for the vulnerability of these individuals⁹.

Although no studies evaluating the impacts over health, smoke quitting or standard of tobacco use related to race/ethnicity in Brazil have been published, there are

¹Agência Nacional de Vigilância Sanitária (Anvisa). Fundação Oswaldo Cruz, Escola Nacional de Saúde Pública Sérgio Arouca, Centro de Estudos da Saúde do Trabalhador e Ecologia Humana (Fiocruz/Ensp/Cesteh). Rio de Janeiro (RJ), Brasil. E-mail: andre.sp.ensp@gmail.com. Orcid iD: <https://orcid.org/0000-0003-4768-959X>

^{2,4,5}Fiocruz/Ensp/Cesteh. Rio de Janeiro (RJ), Brasil. E-mails: carolinelima_bio@yahoo.com.br; simitri@ensp.fiocruz.br; josino.moreira@fiocruz.br. Orcid iD: <https://orcid.org/0000-0002-2021-6525>; Orcid iD: <https://orcid.org/0000-0003-2400-333X>; Orcid iD: <https://orcid.org/0000-0002-7457-2920>

³Fiocruz. Instituto Nacional de Controle de Qualidade em Saúde (INCQS). Rio de Janeiro (RJ), Brasil. E-mail: renattaali@gmail.com. Orcid iD: <https://orcid.org/0000-0001-9146-2996>

Corresponding author: André Luiz Oliveira da Silva. Laboratório de Toxicologia do Cesteh/Ensp/Fiocruz. Rua Leopoldo Bulhões, 1480 – Manguinhos. Rio de Janeiro (RJ), Brasil. CEP 21041-210. E-mail: andre.sp.ensp@gmail.com



Table 1. Structure, prevalence of tobacco use, education and income of racial groups in Brazil

	Percentage of the Brazilian Population	Prevalence of tobacco use (%)	Illiteracy (%)	Individuals aged 25 years or older with Complete High School (%)	Month average income (R\$)	Percentage of individuals below poverty line (US\$ 1.90/day)
Whites	47.43	11.8	3.9	55.8	2.796	3.6
Blacks	7.61	13.7	9.1*	40.3*	1.608*	8.8*
Pardo Brazilians	43.13	13.5				
Yellow	1.09	No data	No data	No data	No data	No data
Indians	0.43	No data	No data	No data	No data	No data

(*) Blacks + Pardo Brazilians according to IBGE.

Source: Instituto Brasileiro de Geografia e Estatística⁴ and Malta et al.⁷

some evidences about the impact of smoking in Afro-descendants as high mortality by cerebrovascular diseases in Blacks¹⁰.

These data hold similarity with USA's where Afro-descendants, in despite of late-beginning and less cigarettes smoked than Whites, are more prone to die by tobacco-related diseases like strokes^{11,12}.

There are no studies addressing the desire to quit smoking in Blacks in Brazil and the exposure of this population to secondhand smoking. Based in the literature, USA's Afro-Americans express more desire to quit, though unsuccessful when compared with Hispanics, Whites and Asians¹³. Non-smokers of this group would be more propense to secondhand smoking¹⁴.

More than 70% of USA's Afro-Americans preferred menthol over regular cigarettes, in addition to high prevalence of young Blacks using this type when compared with other ethnicities¹⁵. No similar studies exist in Brazil.

This preference in USA is typically associated with targeted tobacco industries (TI) strategies since the decade of 1960 when urbanization in Afro-descendants living areas started, possibly explaining different tobacco use patterns¹⁶.

The literature still hints that Afro-descendants smokers of mentholated cigarettes fail more when attempting to quit smoking, although the mechanisms for this process are yet unclear.

So far in Brazil no targeted TI strategies for Blacks have been detected, notwithstanding the beguiling advertising strategies mostly among youngsters, as in music festivals and social media, as "*Folha de São Paulo*" published in an article¹⁸; it is not far-fetched to surmise that these strategies could be easily centered to specific groups.

Genetics is another less investigated factor but that could easily be part of this scenario; some studies say it might be a strong component for tobacco behavior and

show how interindividual genetic variations can impact the response to environmental risk factors^{19,20}.

The genetic influence of tobacco use in the Brazilian population revealed in another study concluded that heritability contributed in more than 50% for tobacco initiation, with variation from 23% to 32% for persistence and number of cigarettes smoked per day²¹.

In addition, ethnicity has been indicated as a possible factor influencing the relation between genetic variability and tobacco use²²⁻²⁴.

The influence of ethnicity in the genetic-smoking relation of the Brazilian population, whose ethnic profile is heterogenous and highly miscegenated²⁵ is complex and poorly investigated²⁶. Mostly, the studies evaluate the variable race as a self-referred characteristic with additional genetic markers related to ancestry, which contributed to minimize the limitations of this type of study in the context of miscegenation of the Brazilian population^{1,26}. Regardless of genetic influence, the socioeconomic inequalities can be a more important factor than ancestry in relation to tobacco use and its consequences²⁶.

Data about Brazilian Afro-descendants and tobacco use are scarce making them invisible in public policies. Further to these findings, an article denouncing an alleged censorship by the Ministry of Health of data about the health of this population group²⁷ has been published. Therefore, the lack of studies do not reflect the dimension of the issue.

CONCLUSION

Tobacco use and its impact over African descendants is influenced by social determinants, structural racism and genetic factors. More studies would be required to reveal the burden of each factor (education, income and urbanization, for instance) which are clearly unfavorable

for tobacco dependence. It is clear that Blacks smoke more than other racial groups.

The TI has many advertising campaigns for different target-groups. The lack of analysis of Blacks-targeted campaigns does not mean they do not exist. Actually, it would be another type of investigation. The difficulty in pulling apart race/ethnicity from education and income level is another issue deserving more attention.

The definition of these factors is important because contributes to define new strategies to cope with tobacco use since the current model is based in exclusive communication patterns and does not address different social, cultural and racial aspects, which, despite its global success, can be improved.

Having African ascendants in Brazil, by association with risk factors such as low income and poor education, together with possible genetic contribution is a kind of perfect storm for smoking and tobacco-related diseases, however, due to scarce studies, this population goes unnoticed by legislators of tobacco-related health policies and investigators. In order to improve the already successful Brazilian National Tobacco Control Policy and minimize the risks caused by tobacco in this population, more studies are paramount.

CONTRIBUTIONS

André Luiz Oliveira da Silva contributed substantially for the study design and/or conception, acquisition, analysis and/or interpretation of the data, wording and/or critical review. Caroline de Lima Mota, Renata Aparecida Pereira, Simone Mitri Nogueira and Josino Costa Moreira contributed substantially for the acquisition, analysis and/or interpretation of the data, wording and/or critical review. All the authors approved the final version to be published.

ACKNOWLEDGMENTS

To the Brazilian Health Regulatory Agency (Anvisa), to *Fundação Oswaldo Cruz* (Fiocruz), to the National Cancer Institute José Alencar Gomes da Silva (INCA), to “*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Capes)*” and to “*Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)*”. This text is the sole opinion of the authors based in available scientific information to date and it is not a guideline or institutional perspective of Anvisa, Fiocruz, INCA, Ministry of Health or the Brazilian Government.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

FUNDING SOURCES

“*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*” - Brazil (Capes) – Funding Code 001.

REFERENCES

1. Chor D. Desigualdades em saúde no Brasil: é preciso ter raça. *Cad Saúde Pública*. 2013;29(7):1272-5. doi: <https://doi.org/10.1590/S0102-311X2013000700002>
2. Instituto Pólis [Internet]. São Paulo: Instituto Pólis; c2020. Raça e Covid no município de São Paulo; 2020 jul. [acesso 2020 out 24]. Disponível em: <https://polis.org.br/estudos/raca-e-covid-no-msp/>
3. Mentis AA. Social determinants of tobacco use: towards an equity lens approach. *Tob Prev Cessat*. 2017;3:7. doi: <https://doi.org/10.18332/tpc/68836>
4. Instituto Brasileiro de Geografia e Estatística. Pesquisa nacional de saúde: 2019: percepção do estado de saúde, estilos de vida, doenças crônicas e saúde bucal: Brasil e grandes regiões [Internet]. Rio de Janeiro: IBGE; 2020 [acesso 2021 fev 10]. Disponível em: <https://biblioteca.ibge.gov.br/index.php/biblioteca-catalogo?view=detalh&id=2101764>
5. Centers for Disease Control and Prevention [Internet]. Atlanta (GA): CDC. American Indians/Alaska natives and tobacco use; [revised 2021 Dec 3; cited 2021 May 2]. Available from: <https://www.cdc.gov/tobacco/disparities/american-indians/index.htm>
6. Bazotti A, Finokiet M, Conti IL, et al. Tabagismo e pobreza no Brasil: uma análise do perfil da população tabagista a partir da POF 2008-2009. *Ciênc Saúde Colet*. 2016;21(1):45-52. doi: <https://doi.org/10.1590/1413-81232015211.16802014>
7. Malta DC, Vieira ML, Szwarcwald CL, et al. Tendência de fumantes na população Brasileira segundo a Pesquisa Nacional de Amostra de Domicílios 2008 e a Pesquisa Nacional de Saúde 2013. *Rev Bras Epidemiol*. 2015;18(Suppl 2):45-56. doi: <https://doi.org/10.1590/1980-5497201500060005>
8. Muzi CD, Figueiredo VC, Luiz RR. Gradiente urbano-rural no padrão de consumo e cessação do tabagismo no Brasil. *Cad Saúde Pública*. 2018;34(6):e00077617. doi: <https://doi.org/10.1590/0102-311X00077617>
9. Instituto Brasileiro de Geografia e Estatística. Desigualdades sociais por cor ou raça no Brasil. Estudos e Pesquisas. Informação Demográfica e Socioeconômica [Internet]. 2019 [acesso 2020 out 29];41:1-12. Disponível em: https://biblioteca.ibge.gov.br/visualizacao/livros/liv101681_informativo.pdf
10. Lotufo PA, Bensenor IJM. Raça e mortalidade cerebrovascular no Brasil. *Rev Saúde Pública*. 2013;47(6):1201-4. doi: <https://doi.org/10.1590/S0034-8910.2013047004890>

11. Department of Health and Human Services (US). Tobacco use among U.S. racial/ethnic minority groups: African Americans, American Indians and Alaska Natives, Asian Americans and Pacific Islanders, and Hispanics: a report of the surgeon general [Internet]. Atlanta (GA): Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 1998 [cited 2020 Oct 24]. Available from: https://www.cdc.gov/tobacco/data_statistics/sgf/1998/complete_report/index.htm
12. Kochanek KD, Murphy SL, Xu J, et al. Deaths: final data for 2014. *Natl Vital Stat Rep.* 2016;65(4):1-122.
13. Babb S, Malarcher A, Schauer G, et al. Quitting smoking among adults - United States, 2000-2015. *MMWR Morb Mortal Wkly Rep.* 2017;65(52):1457-64. doi: <https://doi.org/10.15585/mmwr.mm6552a1>
14. Tsai J, Homa DM, Gentzke AS, et al. Exposure to secondhand smoke among nonsmokers - United States, 1988-2014. *MMWR Morb Mortal Wkly Rep.* 2018;67(48):1342-6. doi: <https://doi.org/10.15585/mmwr.mm6748a3>
15. Gardiner PS. The African Americanization of menthol cigarette use in the United States. *Nicotine Tob Res.* 2004;6(Suppl 1):S55-65. doi: <https://doi.org/10.1080/14622200310001649478>
16. Yerger VB, Przewoznik J, Malone RE. Racialized geography, corporate activity, and health disparities: tobacco industry targeting of inner cities. *J Health Care Poor Underserved.* 2007;18(4 Suppl):10-38. doi: <https://doi.org/10.1353/hpu.2007.0120>
17. Smith PH, Assefa B, Kainth S, et al. Use of mentholated cigarettes and likelihood of smoking cessation in the United States: a meta-Analysis. *Nicotine Tob Res.* 2020;22(3):307-16. doi: <https://doi.org/10.1093/ntr/ntz067>
18. Watanabe P. Festivais de música no Brasil são palco para promover cigarro entre jovens. *Folha de São Paulo* [Internet]. 2018 ago 30 [acesso 2018 nov 7]. Disponível em: <https://www1.folha.uol.com.br/equilibrioesaude/2018/08/festivais-de-musica-no-brasil-sao-palco-para-promover-cigarro-entre-jovens.shtml>
19. Ducci F, Goldman D. The genetic basis of addictive disorders. *Psychiatr Clin North Am.* 2012;35(2):495-519. doi: <https://doi.org/10.1016/j.psc.2012.03.010>
20. Munafò M, Clark T, Johnstone E, et al. The genetic basis for smoking behavior: a systematic review and meta-analysis. *Nicotine Tob Res.* 2004;6(4):583-97. doi: <https://doi.org/10.1080/14622200410001734030>
21. Horimoto AR, Oliveira CM, Giolo SR, et al. Genetic analyses of smoking initiation, persistence, quantity, and age-at-onset of regular cigarette use in Brazilian families: the Baependi Heart Study. *BMC Med Genet.* 2012;13(1):9. doi: <https://doi.org/10.1186/1471-2350-13-9>
22. Ohmoto M, Takahashi T, Kubota Y, et al. Genetic influence of dopamine receptor, dopamine transporter, and nicotine metabolism on smoking cessation and nicotine dependence in a Japanese population. *BMC Genet.* 2014;15(1):151. doi: <https://doi.org/10.1186/s12863-014-0151-2>
23. Vasconcelos GM, Struchiner CJ, Suarez-Kurtz G. CYP2A6 genetic polymorphisms and correlation with smoking status in Brazilians. *Pharmacogenomics J.* 2005;5(1):42-8. doi: <https://doi.org/10.1038/sj.tpj.6500290>
24. Pérez-Rubio G, Córdoba-Lanús E, Cupertino P, et al. Role of genetic susceptibility in nicotine addiction and chronic obstructive pulmonary disease. *Rev Investig Clín.* 2019;71(1):36-54. doi: <https://doi.org/10.24875/RIC.18002617>
25. Lins TC, Vieira RG, Abreu BS, et al. Genetic composition of Brazilian population samples based on a set of twenty-eight ancestry informative SNPs. *Am J Hum Biol.* 2010;22(2):187-92. doi: <https://doi.org/10.1002/ajhb.20976>
26. Souza EST, Araújo LF, Alencar DO, et al. Does ethnic ancestry play a role in smoking? *An Acad Bras Ciênc.* 2015;87(1):447-53. doi: <https://doi.org/10.1590/0001-3765201520140187>
27. Valente R. Ministério da Saúde retira do ar estudo sobre saúde da população negra. *UOL Notícias* [Internet]. 2020 jun 10 [acesso 2020 out 26]. Disponível em: <https://noticias.uol.com.br/colunas/rubens-valente/2020/06/10/censura-saude-populacao-negra.htm>

Recebido em 9/3/2021
Aprovado em 2/7/2021