An Acad Bras Cienc (2023) 95(Suppl. 2): e20230832 DOI 10.1590/0001-3765202320230832
Anais da Academia Brasileira de Ciências | *Annals of the Brazilian Academy of Sciences*
Printed ISSN 0001-3765 I Online ISSN 1678-2690
www.scielo.br/aabc | www.fb.com/aabcjournal

LETTER TO THE EDITOR

Why are measles and rubella returning in Brazil?

LYSANDRO P. BORGES, MARINA DOS S. BARRETO, RONALDY S. SANTOS, JESSIANE B. DE SOUZA, BEATRIZ S. DA SILVA, PAMELA C. DE JESUS, DEISE M.R.R. SILVA, PEDRO H.M. MOURA, LETICIA M.M. DOS SANTOS, ELOIA E.D. SILVA, LUCAS A. DA M. SANTANA

Since their discovery, rubella and measles have been treated with concern due to the infectivity and mortality of these diseases in non-immunized or immunocompromised individuals (Kaplan et al. 1992). These vaccines are still part of the vaccination schedule of the Brazilian population. Since 2019 the Brazilian Ministry of Health has reported the increase of rubella and measles cases in the country (Makarenko et al. 2022). From 2017 to 2019, DataSUS indicated a 99.8% increase in confirmed measles cases. Rubella, last reported in Brazil in an imported case in 2014, was suspected of at least 660 cases in the country in 2022. Despite 23 years of a vigorous vaccination schedule, the return of these infections is occurring and the main reason involves individuals who have not adhered or had no access to vaccination.

According to the results of Godin et al. (2023) the vaccination coverage of the triple viral vaccine between 2006 to 2020 dropped by about 1.2% per year. Segatto et al. (2011) identified that a large part of the individuals not immunized with the triple viral vaccine in Brazil were adolescents and young adults, a socially active age group. In the same perspective, the study by Oliveira et al. (2022a) pointed out low vaccination coverage for rubella and measles and a concern about the possible resurgence of this disease in a population in southeastern Brazil. The results found in these studies expose the population to public health risks, such as immunosuppression caused by measles capable of increasing mortality from other infections (Xia et al. 2022). The main question is: what may be causing the low adherence to immunization and the increase in cases of these preventable diseases?

Immigration may be one of the reasons that hinder immunization control in the Brazilian population. In their countries, migrants can be exposed to infectious agents and the migration process becomes a global route of disease transmission (McCarthy et al. 2013). In the country, although Latin American migrants are required to show proof of measles vaccination, there are migrants with delayed vaccination or an incomplete vaccination schedule, and migrant health care may be affected by the language and social barrier between subjects (Kuan et al. 2020). Therefore, it is necessary to create a vaccination control program for migrants in situations of vulnerability and vaccine pendency.

The health emergency caused by the COVID-19 pandemic may also have affected vaccination coverage for these preventable diseases. Benedetti et al. (2022) indicated that between 2019 and 2020, the triple viral vaccine suffered a 22.01% reduction in vaccination coverage compared to previous years. The hypothesis for this reduction is that the mitigation and social distancing measures caused by the pandemic prevented or reduced access to vaccination centers or to complete the immunization schedule.

Another hypothesis is the increase in anti-vaccination initiatives. Among the vaccination coverage rates, there are overwhelming figures that propose non-vaccination as an optional social task (Oliveira et al. 2022b). But it is already known that vaccination does not necessarily prevent infection by the etiological agents, but significantly reduces the intensity of infection and mortality from these diseases (Shukla & Shah 2018). Therefore, effective vaccination coverage against diseases that already have vaccine intervention is of utmost importance, and to this end, the formulation of vaccination campaigns that target anti-vaccine groups in order to argue the importance of immunization.

REFERENCES

BENEDETTI MSG, CAPISTRANO ERS, VALÉRIO BB, BISPO LB, AZEVEDO RNC & FILHO JV. 2022. Impacto da pandemia da COVID-19 na cobertura vacinal no estado de Roraima, Amazônia ocidental, Brasil. Bra J Inf Dis 26: 101874.

GODIN A, PESCARINI JM, RAJA AI, PAIXAO ES, ICHIHARA MY, SATO APS, SMEETH L, BARRETO ML & BRICKLEY EB. 2023. Municipality-level measles, mumps, and rubella (MMR) vaccine coverage and deprivation in Brazil: A nationwide ecological study, 2006 to 2020. PLOS Glob Pub Health 3(8): e0002027.

KAPLAN LJ. 1992. Severe Measles in Immunocompromised Patients. JAMA: J Amer Med Assoc 267(9): 1237.

KUAN AS, CHEN TJ & LEE WC. 2020. Barriers to health care services in migrants and potential strategies to improve accessibility: A qualitative analysis. J Chin Med Assoc 83(1): 95-101.

MAKARENKO C, SAN PEDRO A, PAIVA NS, SANTOS JPC, MEDRONHO RA & GIBSON G. 2022. Ressurgimento do sarampo no Brasil: análise da epidemia de 2019 no estado de São Paulo. Rev Saúde Pública 56: 50.

MCCARTHY AE ET AL. 2013. Spectrum of Illness in International Migrants Seen at GeoSentinel Clinics in 1997–2009, Part 2: Migrants Resettled Internationally and Evaluated for Specific Health Concerns. Clin Infec Dis 56(7): 925-933.

OLIVEIRA GCCF, RODRIGUES RN, SILVA MC, NASCIMENTO GLM, LANZA FM, GUSMÃO JD, OLIVEIRA VC & GUIMARÃES EAA. 2022a. Childhood vaccination coverage of hepatitis A, measles, mumps and rubella, and varicella: temporal trend analysis in Minas Gerais, Brazil. Rev Brasil Epidem 25. https://doi.org/10.1590/1980-549720220010.

OLIVEIRA IS, CARDOSO LS, FERREIRA IG, ALEXANDRE-SILVA GM, JACOB BCS, CERNI FA, MONTEIRO WM, ZOTTICH U & PUCCA MB. 2022b. Anti-vaccination movements in the world and in Brazil. Rev Socied Brasil Med Trop 55. https://doi.org/10.1590/0037-8682-0592-2021.

SEGATTO C, SAMAD S, MENGUE SS, RODRIGUES G, FLANNERY B & TOSCANO CM. 2011. Historical Analysis of Birth Cohorts Not Vaccinated Against Rubella Prior to National Rubella Vaccination Campaign, Brazil. J Inf Dis 204: S608-S615.

SHUKLA VV & SHAH RC. 2018. Vaccinations in Primary Care. Ind J Ped 85(12): 1118-1127.

XIA S, GULLICKSON CC, METCALF CJE, GRENFELL BT & MINA MJ. 2022. Assessing the Effects of Measles Virus Infections on Childhood Infectious Disease Mortality in Brazil. J Inf Dis 227(1): 133-140.

How to cite

BORGES LP ET AL. 2023. Why are measles and rubella returning in Brazil? An Acad Bras Cienc 95: e20230832. DOI 10.1590/0001-3765202320230832.

Manuscript received on July 28, 2023;
accepted for publication on August 28, 2023

[1]Federal University of Sergipe, Department of Pharmacy, Av. Marechal Rondon Jardim, s/n, Rosa Elze, 49100-000 São Cristóvão, SE, Brazil

[2]Federal University of Sergipe, Department of Biological Sciences, Av. Marechal Rondon Jardim, s/n, Rosa Elze, 49100-000 São Cristóvão, SE, Brazil

[3]Federal University of Sergipe, Graduate Program in Dentistry, Health and Biological Sciences Institute, St. Cláudio Batista, s/n, Cidade Nova, 49060-102 Aracaju, SE, Brazil

LYSANDRO P. BORGES[1]
https://orcid.org/0000-0002-1721-1547

MARINA DOS S. BARRETO[1]
https://orcid.org/0000-0003-4724-0688

RONALDY S. SANTOS[1]
https://orcid.org/0000-0002-4928-7802

JESSIANE B. DE SOUZA[1]
https://orcid.org/0000-0002-7518-6108

BEATRIZ S. DA SILVA[1]
https://orcid.org/0000-0002-9646-7400

PAMELA C. DE JESUS[1]
https://orcid.org/0000-0003-3282-7056

DEISE M.R.R. SILVA[1]
https://orcid.org/0000-0001-8916-5271

PEDRO H.M. MOURA[1]
https://orcid.org/0000-0002-5689-2090

LETICIA M.M. DOS SANTOS[1]
https://orcid.org/0000-0001-8789-1819

ELOIA E.D. SILVA[2]
https://orcid.org/0000-0003-2895-4191

LUCAS A. DA M. SANTANA[3]
https://orcid.org/0000-0002-8261-1504

Correspondence to: **Lysandro Pinto Borges**
E-mail: lysandro.borges@gmail.com