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**CAPA**

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Observação: A revisão dos textos é de responsabilidade dos seus autores



# APRESENTAÇÃO

É com muito prazer que apresentamos a segunda edição do Global Health International Congress, um evento que veio para transformar a sua visão sobre saúde. Esperamos que ao final do evento você descubra um desejo de lutar por equidade e se apaixone, como nós, pelo estudo da temática e pela discussão para enfrentamento das diferentes opressões globais. Será um prazer contar com a sua presença.



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## ANALYSIS OF THE RACIAL PROFILE OF WOMEN WITH COVID-19: CROSS-SECTIONAL STUDY ABOUT EVOLUTION TO DEATH OF BLACK WOMEN IN THE SOUTHEAST REGION OF BRAZIL

Global Health International Congress - Equity in Health: A Global Challenge, 1ª edição, de 18/10/2021 a 24/10/2021  
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### RESUMO

#### Introduction:

Emerging and re-emerging diseases are constant challenges for global public health since antiquity to contemporaneity. From the broad family Coronaviridae, three viruses cause severe acute respiratory illness in humans: MERS-Cov; SARS-Cov-2, which causes COVID-19; SARS-Cov-1, which has 79.5% genomic homology with SARS-Cov-2, both use to infect the ACE2 cell receptor (1). In this regard, a study carried out in China with 41 confirmed cases of COVID 19 sought to identify the main clinical manifestations of the infection, and concluded that the fever was present in 98% of them, followed by cough (76%), dyspnea (55%) and myalgia/fatigue (44%) (2). Accordingly, a systematic review of clinical, laboratory and imaging findings of confirmed cases of COVID-19 (3), identified that the most common signs and symptoms were: fever (88.7% [CI95% 84.5; 92.9%]), cough (57.6% [CI95% 40.8; 74.4%]) and dyspnea (45.6%; [95%CI 10.9; 80.4%]), although they may not be present. The first coronavirus disease (COVID-19) case in Brazil was registered in December 2019. Since then, an important social situation has been highlighted. Black women - we considered as black women as one group formed by "pretos and pardos" according to the self-declaration as defined by Brazilian Institute of Geography and Statistics (IBGE) which categorizes the Brazilian population in five colors/ races: white, black, "pardos", indigenous and yellow people (4) - correspond to the highest death rate, by group, in the Southeast even not occupying the highest percentage of diagnosis. This scenario was also experienced in other places around the world. In the United States of America, Michigan, for example, where 14% of population are afro-americans, they represent more than 30% of Covid-19 positive cases and more than 40% of deaths. While in Chicago, where 29% of the city's population are afro-descendants, they represent 70% of Covid-19 deaths (5,6). In Brazil, researches are still being produced in order to evidence social and biological elements relevant in pandemic evolution in our territory. Therefore, some questions must be highlighted, such as: social and economic vulnerability of black population in brazilian territory, less access to health service and testing for Covid-19, precarious filling of notifications records, as well as geographic distribution, mainly in large national metropolitan areas such as São Paulo which is the largest metropolis in the Southeast region characterized by residential racial segregation (7), where black people live on the edges in slums or poor neighborhoods. Racism and sexism present restrictions to the rights of vulnerable populations, and thus black women suffer from a double prejudice, constituting a highly vulnerable group, deserving greater focus in research and public policies (8).

#### Objectives

In general, the work aims to analyze the clinical picture and evolution - cure or death - of black women with COVID-19 in the Southeast region. In addition, consolidating knowledge about the factors that precede death in black women and comparing them with other race groups, with the white race being more quantitatively relevant, in the quest to avoid unfavorable outcomes and better understand the consequences of racial issues in the service of health in Brazil.

#### Methods

Cross-sectional study with data from the Ministry of Health's Severe Acute Respiratory Syndrome (SARS) from March to November 23, 2020,

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with a total number of women classified as level 5 - with SARS caused by the virus SARS-Cov-2- equal to 33,991, being 21,551 white and 12,063 black. The choice of the object of study was black women, because they suffer damage to health due to being exposed to deprivation of human rights, inefficiency of government programs and lack of access to education and comprehensive health because they are exposed to the intersectional analysis of sexism, racism and class (9). The variables analyzed were: "ICU internation", "evolution (to death)", "race", "age group", "dyspnea", "cough", "fever". Microsoft Excel and R Commander version 4.0.3 for Windows were used for data processing and analysis. Bivariate analysis were performed, with Hypothesis Tests (Fisher's exact test and Pearson's Chi-square test) and Odds Ratio (OR) being performed. For this purpose, the results with a Confidence Interval (CI) of 95% and p-value <0.05 were considered epidemiologically significant. Finally, two multivariate analyses were performed, using the Generalized Linear Model (GLM), aiming at a better analysis of the variables that were relevant in the bivariate analysis.

## Results

The results related to the evolution of black women with COVID-19 (N=12063), showed that black women are more likely to evolve to death (40.3%) compared to white women (35%) (OR=1, 24; p-value < 0.01; CI = 95%). The death rate by age group and race reveals a total of 28.8% deaths in black women aged between 20 and 60 years, while in white women, between 20 and 60 years, it revealed a death rate of 19.8% (p-value < 0.01; CI = 95%). A bivariate analysis revealed 59.2% of deaths in patients admitted to the intensive care unit - ICU - (p<0.01). In addition, the ICU admission rate for black women was 28.7% and for white women was 31.4% (p < 0.01; CI = 95%). Among the symptoms analyzed, dyspnea was the only one related to the evolution to death in women in general (OR=1.22, p-value<0.01, CI=95%), showing to be an aggravating factor regardless of race. and age. According to Generalized Linear Models (GLM), the only category with statistical significance was the black race, resulting in 24% more chance of dying than white women in the Southeast (OR = 1.24; p-value<0.01; CI = 95%). Regarding the clinical picture, cough and fever had no statistical significance related to evolution to death in women. Nevertheless, it drew attention that black women who had dyspnea have 16% more chance of progressing to death than those in the same group who did not have this symptom (OR=1.16; p-value <0.01; CI=95%).

## Conclusion

Therefore, black women present themselves as a vulnerable group in relation to COVID-19. This group was less present in the ICU, but both groups, white and black women, had dyspnea as an aggravating factor. Considering those facts, it's possible that black women had less access, this would explain a greater number of deaths among this group compared to white women, which could signify a failure in the health care of this population. When analyzing deaths by age group, it is evident that white women followed the literature pattern - severe forms occur in patients over 65 years of age with comorbidities (10)-, while there was a rejuvenation of deaths among black women. It is a limitation of our study not to include comorbidities in the analysis. This situation becomes relevant for directing public policies that aim to reverse the factors associated with this situation. More studies are needed to elucidate the socioeconomic issues that support this outcome, seeking to reduce the number of deaths from COVID-19 in black women.

## References

1. Li QH. Military Medical Research [Internet]. SARS-CoV-2: vaccines in the pandemic era - Military Medical Research; 6 jan 2021 [citado 11 set 2021]. Disponível em: <https://doi.org/10.1186/s40779-020-00296-y>
2. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. The Lancet [Internet]. Fev 2020 [citado 11 set 2021];395(10223):497-506. Disponível em: [https://doi.org/10.1016/s0140-6736\(20\)30183-5](https://doi.org/10.1016/s0140-6736(20)30183-5)
3. Rodríguez-Morales AJ, Cardona-Ospina JA, Gutiérrez-Ocampo E, Villamizar-Peña R, Holguín-Rivera Y, Escalera-Antezana JP et al. Clinical, laboratory and imaging features of COVID-19: A systematic review and meta-analysis. Travel Medicine and Infectious Disease [Internet]. Mar 2020 [citado 11 set 2021];34:101623. Disponível em: <https://doi.org/10.1016/j.tmaid.2020.101623>
4. Luis Petruccelli J, Lucia Saboia A. Características Étnico-Raciais Da População Classificações e Identidades [Internet]. Rio de Janeiro: IBGE; 2013 [citado 11 set 2021]. Disponível em: <https://biblioteca.ibge.gov.br/visualizacao/livros/liv63405.pdf>
5. Milam AJ, Furr-Holden D, Edwards-Johnson J, Webb B, Patton JW, Ezekwemba NC, Porter L, Davis T, Chukwurah M, Webb AJ, Simon K,

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Franck G, Anthony J, Onuoha G, Brown IM, Carson JT, Stephens BC. Are Clinicians Contributing to Excess African American COVID-19 Deaths? Unbeknownst to Them, They May Be. *Health Equity* [Internet]. 1 abr 2020 [citado 11 set 2021];4(1):139-41. Disponível em: <https://doi.org/10.1089/heaq.2020.0015>

6. Einhorn E. African Americans may be dying from COVID-19 at a higher rate. Better data is essential, experts say [Internet]. NBC News. 2020 Abril [cited 2021 Sept]. Available from: <https://www.nbcnews.com/news/nbcblk/african-americans-may-be-dying-covid-19-higher-rate-better-n1178011>

7. França, Danilo Sales do Nascimento. Segregação racial em São Paulo: residências, redes pessoais e trajetórias urbanas de negros e brancos no século XXI [tese]. São Paulo: , Faculdade de Filosofia, Letras e Ciências Humanas; 2017 [citado 2021-09-11]. doi:10.11606/T.8.2018.tde-07022018-130452.

8. Oliveira BM, Kubiak F. Racismo institucional e a saúde da mulher negra: uma análise da produção científica brasileira. *Saúde em Debate* [Internet]. Set 2019 [citado 11 set 2021];43(122):939-48. Disponível em: <https://doi.org/10.1590/0103-1104201912222>

9. Prestes CR, Paiva VS. Abordagem psicossocial e saúde de mulheres negras: vulnerabilidades, direitos e resiliência. *Saúde e Sociedade* [Internet]. Set 2016 [citado 11 set 2021];25(3):673-88. Disponível em: <https://doi.org/10.1590/s0104-129020162901>

10. Gautret P, Million M, Jarrot PA, Camoin-Jau L, Colson P, Fenollar F, Leone M, La Scola B, Devaux C, Gaubert JY, Mege JL, Vitte J, Melenotte C, Rolain JM, Parola P, Lagier JC, Brouqui P, Raoult D. Natural history of COVID-19 and therapeutic options. *Expert Review of Clinical Immunology* [Internet]. 1 dez 2020 [citado 11 set 2021];16(12):1159-84. Disponível em: <https://doi.org/10.1080/1744666x.2021.1847640>

**PALAVRAS-CHAVE:** COVID-19, women, Brazil, deaths, Health Status Disparities

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## OUTCOMES OF HOME ISOLATED COVID-19 PATIENTS AND RISK FACTORS ASSOCIATED WITH THE ADVERSE OUTCOMES: LONGITUDINAL RETROSPECTIVE STUDY IN SHIMOGA, KARNATAKA

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KUMARI; Sakshi <sup>1</sup>

### RESUMO

**Title:** Outcomes Of Home Isolated COVID-19 Patients And Risk Factors Associated With The Adverse Outcomes: Longitudinal Retrospective Study In Shimoga, Karnataka

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### SUMMARY

**Keywords:** COVID 19, Risk factor, home isolation, Hospitalization rate

### background

COVID-19 is a current global pandemic by the newly discovered novel SARS-COV-2. According to in comparison to those who have recovered, patients who have died thus far were older, more likely to be male, and to have comorbidity such as hypertension, diabetes, cardiovascular disease, or lung disease thus needing variousting the assessment of variables in demographic groups or contexts. The study aims to assess the association between COVID-19 comorbidities and outcomes such as hospitalization, recovery, and mortality. Data of confirmed COVID cases with definitive outcomes were retrieved retrospectively from McGann hospital's triage.

### AIMS

- To estimate the proportion of different outcomes such as recovery, hospitalization, and mortality among home isolated covid-19 patients
- To estimate the proportion and to determine various risk factors associated with COVID-19 adverse outcome

### METHODOLOGY:

The study was carried out in Shimoga Institute of Medical Sciences, Shivamogga, Karnataka.

**STUDY DESIGN** : Longitudinal Retrospective study.

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**STUDY PERIOD** : April 20th-June 20th, 2021.

**STUDY POPULATION** : Home isolated COVID-19 patients

**SAMPLE SIZE** : 168

**METHOD** : Data was collected by telephonic Interview

## **RESULTS:**

A total of 168 people participated in this study, with 93 men (55.3%) and 75 women (44.7%). More than 90% of patients in the Home Isolated Covid 19 patients recovered, 10.75 percent required hospitalization, and 5% died. 15 out of 18 people who needed were older and atleast one comorbidity. One third of the patients (37%) had one or more comorbidities. Diabetes and Hypertension were the most common.

## **DISCUSSION:**

The study done on 168 patients revealed the recovery rate to be 91.07% and mortality rate as 4.765 , which is higher than the recovery and fatality rate of the country at the time of writing.<sup>1,2</sup> The present study showed that the mortality rate in younger patients was less than the older patients, this was consistent with the findings of global evidence.<sup>3,4</sup> By using chi-square test and p-value <0.00001 in our study, it was revealed that older people were at a greater risk of adverse outcomes such as hospitalisation and death. Our studies also showed that men were more severely infected than women, consistent with global evidence.<sup>5</sup> Ten out of the eighteen patients who were hospitalised were men. This finding was however, inconsistent with the findings of the country which showed that the mortality rate was higher among women, as opposed to our study which showed that it was equal among men and women. The fatality rate among women is 3.07% as opped to male being 2.62%.<sup>6</sup> This data is surprsing since the global data revealed that several factors including sex hormones and high expression of coronavirus receptors (ACE 2) in men and also life style, such as higher levels of smoking and drinking among men as compared to women placed men at higher risk of complications and death.<sup>7</sup>

Multiple comorbidities are related to poorer outcomes. Hospitalised non survivors (33.33%) had comorbidities. This was also shown in previous studies.<sup>8</sup> In our study the most common comorbidities are diabetes, hypertension, which are similar to findings of previous studies.<sup>8,9</sup> It was observed in a cohort study of 7337 COVID-19 patients with and without type 2 diabetes that those with type 2 diabetes required more interventions during their hospital stay than those who were not diabetic.<sup>10</sup> The study also showed that patients with uncontrolled blood glucose level had higher fatality rate.<sup>10</sup> The poor outcomes among diabetic patients infected with covid may be due to pulmonary dysfunction involving lung volume, pulmonary diffusing capacity, control of ventilation, bronchomotor tone, and noradrenergic bronchial innervation.<sup>11</sup> Additionally, a dysregulated immune response caused by diabetes is responsible for the poor outcomes.<sup>12</sup>

According to new research published in the European Heart Journal, people with high blood pressure had a two-fold greater risk of dying from the coronavirus COVID-19 compared to patients without high blood pressure.<sup>13</sup> Previous studies with univariate analysis studies reported that hypertension was associated with mortality, but this association disappeared with multivariate analysis.<sup>14,15</sup> Presently, our studies showed that hypertension was independently associated with increased hospitalization and mortality.

CVD was outlined as a risk factor for poorer outcomes, from the first reports.<sup>16-18</sup> Our studies revealed that patients with cvd had higher risk of hospitalisation and death once they got covid. A report from 99 patients admitted in Northern Italy hospitals, with only 53 patients with CVD, found higher mortality rates in an univariate analysis.<sup>19</sup>

Larger report with 522 patients from 2 Spanish hospitals described an independent association of CVD only with the combined end-point of death or respiratory insufficiency.<sup>20</sup> In patients with SARS-CoV-2 infection, underlying CVD can aggravate the pneumonia and increase the severity of symptoms.<sup>21</sup>

Among other comorbidities COPD was also linked with higher mortality. meta-analysis of multiple studies in China found that there was a four-fold increase in mortality in patients with preexisting COPD that were diagnosed with COVID-19.<sup>22,23</sup> We reported a low prevalence of COPD patients in COVID-19 case series compared to the latest COPD prevalence rate in China, which was 13.6% (95% CI 12.0–15.2) and the global prevalence of COPD (9–10%).<sup>24,25</sup> The prevalence of COPD in our subjects was low, however, the hospitalization rate and fatality rate was high.

Chronic kidney disease appears to be associated with an increased risk of serious COVID-19 infection,<sup>26</sup> however, our dataset didn't have patients with ckd.

Another risk factor associated is obesity. A study of COVID-19 cases suggests that risks of hospitalization, intensive care unit admission, invasive mechanical ventilation, and death are higher with increasing BMI.<sup>27</sup>

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## CONCLUSION:

Our systematic overview of the results to determine the relationship between COVID-19 infection, and outcomes such as hospitalization, death, and recovery shows that older age, male gender, and comorbidities have higher hospitalization rates. Comorbidities and older age were associated with a higher risk of death in hospitalized patients. Even though recovery rate is very high, a significant (10.75%) home isolated patients need hospital admission in the disease course. So, the proper monitoring of home isolated patients can save the lives of many COVID 19 patients.

## REFERENCES:

1. Mortality Analyses. Jhu.edu. Accessed April 20, 2021. <https://coronavirus.jhu.edu/data/mortality>
2. Researchgate.net. Accessed April 20, 2021. [https://www.researchgate.net/publication/340950473\\_Case-Fatality\\_Ratio\\_and\\_Recovery\\_Rate\\_of\\_COVID-19\\_Scenario\\_of\\_Most\\_Affected\\_Countries\\_and\\_Indian\\_States](https://www.researchgate.net/publication/340950473_Case-Fatality_Ratio_and_Recovery_Rate_of_COVID-19_Scenario_of_Most_Affected_Countries_and_Indian_States)
3. Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72,314 cases from the Chinese Center for Disease Control and Prevention. *JAMA*. 2020;323:1239-1242. <https://doi.org/10.1001/jama.2020.2648>
4. Richardson S, Hirsch JS, Narasimhan M, et al. Presenting characteristics, comorbidities, and outcomes among 5700 patients hospitalized with COVID-19 in the New York City Area. *JAMA*. 2020;323:e206775. <https://doi.org/10.1001/jama.2020.6775>
5. The Sex, Gender, and COVID-19 Project: the COVID-10 sex-disaggregated data tracker. Available from: <https://globalhealth5050.org/covid19/> (Accessed July 3, 2020)
6. Joe W, Kumar A, Rajpal S, Mishra U, Subramanian SV. Equal risk, unequal burden? Gender differentials in COVID-19 mortality in India. *J Glob Health Sci*. 2020 Jun;2(1):e17. <https://doi.org/10.35500/jghs.2020.2.e17>
7. Bwire GM. Coronavirus: Why men are more vulnerable to Covid-19 than women? *SN Compr Clin Med*. 2020;2(7):1-3.
8. Du Y, Tu L, Zhu P, et al. Clinical features of 85 fatal cases of COVID-19 from Wuhan. A retrospective observational study. *Am J Respir Crit Care Med*. 2020;201(11):1372-1379.
9. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA*. [online ahead of print] 7 Feb 2020; DOI: 10.1001/jama.2020.1585.
10. Zhu L, She Z-G, Cheng X, et al. Association of blood glucose control and outcomes in patients with COVID-19 and pre-existing type 2 diabetes. *Cell Metab*.
11. Fuso, L., Pitocco, D., & Antonelli-Incalzi, R. (2019). Diabetic lung, an underrated complication from restrictive functional pattern to pulmonary hypertension. *Diabetes/metabolism research and reviews*, 35(6), e3159.
12. Kulcsar, K. A., Coleman, C. M., Beck, S. E., & Frieman, M. B. (2019). Comorbid diabetes results in immune dysregulation and enhanced disease severity following MERS-CoV infection. *JCI insight*, 4(20).
13. Association of hypertension and antihypertensive treatment with COVID-19 mortality: a retrospective observational study", by Chao Gao et al. *European Heart Journal*.
14. Wang D, Yin Y, Hu C, et al. Clinical course and outcome of 107 patients infected with the novel coronavirus, SARS-CoV-2, discharged from two hospitals in Wuhan, China. *Crit Care*. 2020;24(1):188.
15. Cummings MJ, Baldwin MR, Abrams D, et al. Epidemiology, clinical course, and outcomes of critically ill adults with COVID-19 in New York City: a prospective cohort study. *Lancet*. 2020;395(10239):1763-1770.
16. Q. Ruan, K. Yang, W. Wang, L. Jiang, J. Song. Clinical predictors of mortality due to COVID-19 based on an analysis of data of 150 patients from Wuhan, China. *Intensive Care Med*, 46 (2020), pp. 846-848
17. F. Zhou, T. Yu, R. Du, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet*, 395 (2020), pp. 1054-1062
18. P. Yudong, M. Kai, G. Hounquan, et al. Clinical characteristics and outcomes of 112 cardiovascular disease patients infected by 2019-nCoV. *Chin J Cardiol*, 48 (2020), pp. 450-455
19. R.M. Inciardi, M. Adamo, L. Lupi, et al. Characteristics and outcomes of patients hospitalized for COVID-19 and cardiac disease in Northern Italy. *Eur Heart J*, 41 (2020), pp. 1821-1829
20. J.A. San Román, A. Uribarri, I.J. Amat-Santos, Á. Aparisi, P. Catalá, J.R. González-Juanatey. La presencia de cardiopatía agrava el pronóstico de los pacientes con COVID-19. *Rev Esp Cardiol*, 73 (2020), pp. 773-775
21. Srivastava K. Association between COVID-19 and cardiovascular disease. *Int J Cardiol Heart Vasc*. 2020;29(100583):100583.
22. Zhao Q, Meng M, Kumar R, et al. The impact of COPD and smoking history on the severity of COVID-19: A systemic review and meta-analysis. *J Med Virol*. 2020;92(10):1915-1921.
23. Sanyaolu A, Okorie C, Marinkovic A, et al. Comorbidity and its Impact on Patients with COVID-19. *SN Compr Clin Med*. 2020;2(8):1-8.
24. Fang L, Gao P, Bao H, Tang X, Wang B, Feng Y, et al. Chronic obstructive pulmonary disease in China: a nationwide prevalence study. *The Lancet Respiratory medicine*. 2018;6(6):421-30. Pmid:29650407
25. Halbert RJ, Natoli JL, Gano A, Badamgarav E, Buist AS, Mannino DM. Global burden of COPD: systematic review and meta-analysis.

The European respiratory journal. 2006;28(3):523–32. Pmid:16611654

26. Henry BM, Lippi G, 2020. Chronic kidney disease is associated with severe coronavirus disease 2019 (COVID-19) infection. *Int Urol Nephrol* 28: 1–2.
27. Kompaniyets L, Goodman AB, Belay B, et al. Body Mass Index and Risk for COVID-19–Related Hospitalization, Intensive Care Unit Admission, Invasive Mechanical Ventilation, and Death—United States, March–December 2020. (2021). *MMWR Morb Morb Wkly Rep* 2021;70:355–361.

**PALAVRAS-CHAVE:** COVID 19, Risk factor, Home isolation, Hospitalization rate



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## ASSESSMENT OF KNOWLEDGE, ATTITUDE & PERCEPTION TOWARDS COVID-19 VACCINE AMONG THE RURAL AND URBAN POPULATION OF NAVI MUMBAI: AN ALARMING SCENARIO

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### RESUMO

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#### Summary:

**Introduction:** The launch of the COVID-19 vaccine has been an accelerated program, with the vaccine going to market merely nine months after the discovery of the virus. Vaccine hesitancy may become an important challenge in the immunization campaign against COVID-19 and thus it is important to understand the current views of the population to bust various myths and impart correct information where necessary. Hence, this study was done to assess community knowledge, attitudes, and perceptions about COVID-19 vaccinations in order to address all barriers to vaccine acceptance in the community. **Methodology:** A cross-sectional comparative study was conducted between the urban and rural populations with the help of pre-designed and pre-structured questionnaires. Data were collected from 205 subjects from the urban population with the help of google form and 242 subjects from the rural population through an interview. **Results:** 97.1% of the urban population were aware of the Arogya Setu app of which 80% were using it while 87.6% of the rural population were not aware of the Arogya Setu app. 60.3% of the rural population had the perception that the Covid-19 vaccine can be eradicated without the vaccine whereas 77.1% of the urban population had the opposite perception. **Discussion:** Most of the urban population had good knowledge about the Covid 19 vaccine with a positive attitude of accepting the vaccine as the most important preventive measure of prevention and control of the Covid 19 pandemic as compared to the rural population.

#### Introduction :

Coronavirus disease (COVID-19) is a deadly disease that continues to affect many countries in the world. This is caused by the new coronavirus strain SARS-CoV-2 which has become a serious public health concern worldwide<sup>(1)</sup>. The World Health Organization (WHO) declared the COVID-19 outbreak as a pandemic on 11 March 2020<sup>(2)</sup>. Millions of lives are saved every year as vaccines help in training and preparing the body's natural defenses - The immune system helps to recognize and fight the virus in question and also the bacteria they target. And thus, a safe and effective vaccine for Coronavirus disease 2019 (COVID-19), has been on the wish list of healthcare agencies across the globe<sup>(3)</sup>. The most effective strategy to protect the population from COVID-19, since SARS-CoV-2 is a highly contagious virus and affects populations widely and globally is the administration of a COVID-19 Vaccine. The launch of the COVID-19 vaccine in India has been an accelerated program, with the vaccine going to market merely nine months after the discovery of the virus. While some early data suggest the safety and efficacy of the approved vaccines, long-term efficacy and any long-term side effects are largely unknown<sup>(4)</sup>. The knowledge and acceptability of the newly launched vaccine is an extremely important parameter to be studied since the vaccine coverage rate among the population is essential for a successful immunization program. Understandably, the acceptance of the new vaccine remains uncertain by both

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healthcare experts and the public at large. In addition, with a strong anti-vaccine movement, multiple pseudo-scientific conspiracy theories have flooded the media reports. It is for these reasons that vaccine hesitancy may become an important challenge in the immunization campaign against COVID- 19<sup>(5)</sup> and thus it is important to understand the current views of the population to bust various myths and impart correct information where necessary. In order to implement the most effective vaccination strategy in India and achieve a compliance rate of 100%, this study is done to assess community knowledge, attitudes, and perceptions about COVID-19 vaccinations in order to help the government and policymakers to address all barriers to vaccine distribution and administration.

#### **Methodology:**

Study design: A cross-sectional comparative study

Study population: Urban and rural population of Navi Mumbai

Inclusion & exclusion criteria :

- Inclusion criteria :

1. Voluntary participation

2. Subjects above the age of 18 years

3. Indian citizen

4. Good internet access

- Exclusion criteria :

1. Mentally unstable and debilitated individuals above 18 years.

Sample size :

The sample size was calculated using the following equation: With reference available on this topic, Prevalence (P) is taken as 40%. Therefore , Q= (100-P=60%) , Confidence interval of the study =95% , therefore Z=1.96, at the level of significance , L=5% , therefore formula of sample size estimation is :

$$\begin{aligned} N &= Z(2) PQ/L(2) \\ &= 1.96 \times 1.96 \times 40 \times 60 / 5 \times 5 \\ &= 368.7 = 369 \end{aligned}$$

Therefore, total sample size need to study is = N (N x 10%) (considering 10% as non-response rate) = 369 + 36 = 405

Study duration: April 2021 - June 2021 (3 Months)

**Ethical considerations** - Permission from the Institutional Ethics Committee is obtained before conducting the study. All information regarding the study subject is kept confidential.

**Data collection :**

1. Urban population: A semi-structured and self-reported questionnaire containing informed consent was designed and incorporated into Google Forms and circulated among the urban population.
2. Rural population: An interview was taken by the research investigator using a semi-structured and pre-designed questionnaire.

**Tools for Data collection:** All participants in the study were administered a semi-structured and self-reported questionnaire, after informed consent. The study participants were offered the questionnaire in one of three languages: English, Hindi, and Marathi. The questionnaire had questions designed to elicit the following information: demographic details, information related to knowledge, attitudes, and perception regarding COVID- 19. SPSS Statistical package was used for data entry & analysis. Percentage and Chi-square are used to find an association between knowledge & socio-demographic characteristics of participants of the study.

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## **Results:**

### **Socio-demographic profile of study subjects:**

A total of 242 subjects from rural areas and 205 subjects from urban areas were enrolled for the study. On average 50 % to 53% males & 47% to 50% females are formed of the study group from urban & rural areas. The literacy was seen to be higher in the urban population with 69.7% graduates of which 42.9% were professionally qualified. The rural population showed 29.7% illiteracy where half of the population (51.2%) were shop owners by profession.

### **Knowledge about Covid 19 vaccine among study population in urban & rural areas:**

94.2% of the urban population were aware that the Covid-19 vaccine was available in India as 36.1% reported hearing it through the mode of mass media. On the contrary, 62.8% of the rural population did not know about the covid-19 vaccine. Out of the 36.7% who were aware of the vaccine, the source of information was through family & friends (22.8%) & Mass Media (13.2%). While 85.4% of the urban population reported knowing the effectiveness of the vaccine, 76.9% of the rural population did not know at all. A significantly high number of (71.3%) rural population reported that people with strong immune systems would not get infected. 97.1% of the urban population were aware of the Arogya Setu app of which only 80% were using while 87.6% of the rural population were not aware of the Arogya Setu app. Out of the 12.4% of the rural population aware of the app, only 10.4% were using it. A lack of knowledge of the procedure to register was also reported in the rural population where only 0.9% knew the process while 86.3% did not know.

### **The attitude of study Participants about Covid Vaccine in Urban & Rural areas:**

Where 67.8% of the urban population believed the vaccine is safe, 70.2% of the rural populations were not sure. The rural population showed a higher percentage of "Not sure" in many sections pertaining to the essentiality and safety of the vaccine. The urban population reported a positive attitude towards getting vaccinated even if they had the COVID-19 disease as 64.9% reported a "Yes". Both the groups reported of the vaccine having side effects as the urban population suggested of only 2.7% and rural being, 49.6%. The most common side effects suggested by both groups were fever, headache, and local injection site tenderness. A positive attitude was seen in both the groups in terms of following and maintaining appropriate precautions.

### **Perception regarding Covid 19 Vaccine in study participants of Urban & Rural areas:**

60.3% of the rural population had the perception that the covid-19 disease can be eradicated without the vaccine whereas 77.1% of the urban population had the opposite perception. Both the groups strongly reported that the vaccine should be free of cost. Only 18.5% of the urban population were not willing to take the vaccine while 81.5% were willing to take the vaccine. In the rural population, 53.3% of people were not willing to take the vaccine. The reason for not taking the vaccine in both groups was common in that they did not know the outcome of the vaccine and were scared of the side effects. A choice of the vaccine was the Covishield vaccine for both the groups as more than 75% of both the populations reported choosing Covishield over Covaxin.

## **Discussion :**

In order to halt the ongoing pandemic, the COVID-19 vaccine is considered to be an ideal solution to the problem. The COVID-19 Pandemic has witnessed several healthcare agencies adopting unprecedented infection prevention and control measures and fast-tracking the vaccine

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approvals to control the spread of the disease. The latter is the primary key to stop the escalating rise of COVID-19 and is the strategy of the hour. In India, vaccine hesitancy remains a critical situation since its launch. The knowledge, attitudes, and perception (KAP) of the COVID-19 vaccine between the rural and urban population is critical to understand with regards to the epidemiological dynamics of disease prevention control, adaptation & success of the vaccination program.

In our study, 97 % of the urban population & 36.7 % of the rural population were aware of the Covid 19 vaccine & its availability in India. The sources of information in urban areas were mostly mass media (36.1%), social media (23.4%), and Internet (16.1%) respectively, whereas in rural area source of information were friends & relatives (22.8%) and Mass Media (13.2%). In contrast to our study, a study conducted in West India<sup>(4)</sup> found that more than half of the participants belong to the age group of 40 to 60 yrs, housewife, unemployed, white collar & blue-collar workers were unaware about Covid 19 vaccine & source of information were Radio and news channel (40.96%), social media (43.16%) and friends and Family (51%)<sup>(6)</sup>. This may be due to that our study was conducted during mid-2021. From Jan 2020, the Indian Government has invested extensive efforts & interventions to disseminate the knowledge of Covid 19 prevention & control through mass media with the involvement of all voluntary health workers, NSS & NGOs. Our study revealed that the knowledge regarding Covid vaccine in terms of its effectiveness (4.5%), its side effects (11.2%), allergic reaction (7.0%), the essentiality of vaccine for prevention of Covid 19 disease (40.5%), and willingness to take vaccine (46.7%) was low in a rural area as compared to urban area. In an urban area, the knowledge was comparatively good about Covid vaccine's effectiveness (85.4%), its side effects (57.1%), allergic reaction (23.9), the essentiality of vaccine for prevention of Covid 19 disease (79%), and willingness to take vaccine (81.5%). The difference is statistically significant, this means that even after one and a half year of Covid 19 pandemic, still in rural areas information about Covid 19 prevention and control measures are not adequately reached and there is need of more focused community-based interventions like "My family my responsibility", Corona free village Campaign with involvement & participation of Community people for preventive measures of Covid 19 disease.

In our study, 97.1% of the urban population were aware of the Aarogya Setu app and 80% of the population were practically using it whereas, only 12.4% of the rural population were aware of the Aarogya Setu app & 10% of the rural population were using it. A similar result was found in a study conducted in Kerala<sup>(7)</sup>, 97.6% of medical students and technology university students were aware of the Aarogya Setu app and 10.3 % of students downloaded the app. Overall 82% of the rural & urban population of Kerala were aware of the Aarogya Setu app and only 22 % had downloaded it & only 9% population found it effective<sup>(8)</sup>.

In our study, the urban population had a positive attitude about Covid vaccines safety (67.8%), its essentiality to mankind (79.0%), willing to take the vaccine even if after Covid 19 infection (53.2%) and maintaining Social distance to prevent Covid 19 infection (97.0%) which was significantly different than Rural Population ( $p < 0.05$ ). A similar result was revealed in a cross-sectional web-based survey conducted on adults across India, there is an overall positive attitude of people towards the vaccine, as the majority of them are willing to take vaccine (83.6%) and in contrast to our study, the overall level of knowledge was low as almost half of the participant did not know about the Covid 19 vaccine<sup>(6,4)</sup>.

Most of the urban (81.5%) population in our study, were willing to take the Covid vaccine as compared to the rural (46.7%) population. The reason for not taking the Covid vaccine was the outcome of the vaccine was not clear (57.9 % in urban areas, 69.9% in rural areas), and fear about side effects of the vaccine (26.4 % in urban areas, 0.4% in rural areas). 46.9% of the urban population reported that the Covid vaccine should be given to a person above 45 yrs and or with comorbidity as a priority basis. Most all the study participants (urban & rural areas) felt that Covid 19 vaccine should be available free of cost to all populations. A similar result was reported by Sharun et al via an online self-administer questionnaire and nearly 85% were planning to get the COVID-19 vaccine once it is available for use in the market<sup>(9)</sup>. The most important reason for vaccine hesitancy was seen to be fear of side effects. In a survey by the IPSOS, authors found that the rate of vaccine acceptance was 87% among the Indian population<sup>(10,11)</sup> and most cross-sectional studies across the globe have revealed similar responses.

#### Conclusion:

As our study was the snapshot assessment of Knowledge, attitude, and perception of urban & rural population about the Covid 19 vaccine, most of the urban population had good knowledge about Covid 19 vaccine with a positive attitude of accepting vaccine as the most important preventive measures of Covid 19 pandemic prevention and control as compared to the rural population. More multicentric studies should be conducted throughout India to assess the association between the Sociodemographic profile and Covid 19 vaccine uptake.

#### References :

1. Pal M, Berhanu G, Desalegn C, Kandi V. Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2): An Update. *Cureus*. 2020;2. doi:10.7759/cureus.7423
2. Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. *Acta bio-medica Atenei Parm.* 2020;91: 157–160. doi:10.23750/abm.v91i1.9397
3. Chakraborty I, Maity P. COVID-19 outbreak: Migration, effects on society, global environment and prevention. *Sci Total Environ.* 2020;728:138882.
4. *Bhartiya S, Kumar N, Singh T, Murugan S, Rajavel S, Wadhvani M. Knowledge, attitude and practice towards COVID-19 vaccination acceptance in West India. Int J Community Med Public Health 2021;8:1170-6.*

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5. Bohme S, Varghese E, Sabat I, Barros P, Brouwer W, van Exel J, et al. Once we have it, will we use it? A European survey on willingness to be vaccinated against COVID-19. *Eur J Health Econ.* 2020;21 (7):977-82.
6. Kumari, P. Ranjan, S. Chopra et al. Knowledge, barriers and facilitators regarding COVID-19 vaccine and vaccination Programme among the general population: A cross-sectional survey from one thousand two hundred and forty-nine participants. *Diabetes&Metabolic Syndrome: Clinical Research&Reviews* 15 (2021) 987-992.
7. Kochuparambil J, Nidha A. ArogyaSetu Mobile Application for COVID-19 Self-Assessment, Education and Participatory Disease Surveillance: Perception Among Medical and Technology University Students. *Value in Health; 2020, 23:S674-S674.*
8. Jose R, V BP, Narendran M, Bindu A. Perceptions towards COVID 19 and Reflections on ArogyaSetu Mobile Application Use among Keralites. *Kerala Medical Journal.* 2020 May 22;13(2):57–61.
9. Sharun K, Rahman F, Haritha V, Jose B, Tiwari R, Dhama K. COVID-19 Vaccine Acceptance: Beliefs and Barriers Associated with Vaccination Among the General Population in India. *J Experiment Biol Agricult Sci.* 2020;8:S210-8.
10. Ipsos MORI. Three in four adults globally say they would get a vaccine for COVID-19. 2020.
11. Malik AA, McFadden SM, Elharake J, Omer SB. Determinants of COVID-19 vaccine acceptance in the US. *E Clinic Med.* 2020;26:100495.

**PALAVRAS-CHAVE:** Covid 19 Vaccine, Urban Population, Rural Population, Vaccine hesitancy, Knowledge, Attitude, Perception



## DEMARICATION OF INDIGENOUS LANDS IN BRAZIL AND HEALTH CARE OF ORIGINATING PEOPLE: A CORRELATIONAL ANALYSIS

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### RESUMO

#### ABSTRACT:

**Introduction:** The national reality is deficient in providing services to certain population groups, an example is the indigenous population. This occurs for several reasons, mainly in the political sphere. The discussion on the demarcation of indigenous lands is necessary since these people are highly vulnerable to health.

**Objective:** To develop an analysis of the social panorama of Brazilian indigenous peoples, seeking correlations between conflicts over land demarcation and the precarious health conditions of this population.

**Method:** The search was carried out in september 2021 using the method: problem identification, literature search, evaluation and analysis of the obtained data and construction of the literature review.

**Results:** Since colonization, there has been a great loss of indigenous peoples' rights over their territories, with recognition of their rights only in 1988. In the current scenario, there is an attempt to protect and guarantee these rights in real terms by the National Foundation for the Indigenous (Fundação Nacional do Índio [FUNAI]) and, in the health sphere, by the Subsystem of Indigenous Health Care (Subsistema de Atenção à Saúde Indígena [SASI]), created in 1999. Such public agencies are under great governmental pressure, mainly by the Rural Caucus, creating great insecurity, harming the health and quality of life of these groups.

**Keywords:** Delivery of Health Care; Health Law; Indian Health Services; Indians, South American.

**INTRODUCTION:** In Brazil, the Unified Health System (Sistema Único de Saúde [SUS]) is one of the largest public health care programs in the world, designed to cover all levels of care and offer qualified, no-fee care to all individuals. However, the country's reality limits the provision of services to certain groups, whether due to political conflicts, difficulties in inserting programs into sociocultural realities or the negligence of government officials in serving marginalized citizens. Among these groups are indigenous communities, which face difficulties in ensuring civil recognition and respect for brazilians' basic rights, such as health.<sup>1</sup>

One of the biggest conflicts observed involving native peoples is the demarcation of indigenous lands in Brazil, contested by political groups and claimed by villages that demand respect for cultural and historical heritage related to the territories. These conflicts influence indigenous health care, interfering with the application of public policies aimed directly at the care of tribes.<sup>2</sup>

In this context, the resumption of the discussion on national indigenous demarcations in recent years has further weakened the protection of this portion of the population, victim of physical and moral attacks by criminals who are ideologically opposed to the claims.<sup>3</sup> The sanitary vulnerability of native peoples, due to the weakening of public and due to the marginalization of this social agenda, the relevance of debating this issue rises.

**METHOD:** The steps of the method were: problem identification, literature search, evaluation and analysis of the data obtained. The research was conducted in september 2021. The inclusion criteria for the studies were: articles in portuguese published in the last five years, which presented considerations about indigenous peoples, social and environmental inequalities, health strategies for indigenous peoples.

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To carry out the search, keywords were used, considered as descriptors in DeCS (Descriptors in Health Sciences) and MeSH (Medical Subject Heading): Delivery of Health Care; Health Law; Indian Health Services; Indians, South American.

After analytical reading of the research, we built the object of study to answer the guiding question of this literature review.

**RESULTS:** The historical trajectory of indigenous peoples in Brazil, from colonization by europeans until now, has an influence on the social, demographic and health situation of these peoples.<sup>4</sup> Colonization occurred through resistance and culminated in the loss of rights over territories.<sup>5</sup>

The first reference to indigenous peoples in national legislation, recognizing them as brazilian citizens and entitled to the preservation of their culture and customs, occurred in the Federal Constitution of 1988 (CF88).<sup>2</sup> Chapter VIII of the indians, article 231, recognizes the rights indigenous peoples' social organization, customs, languages, beliefs, traditions, and original rights over the lands they traditionally occupy.<sup>6</sup>

In the current scenario, governments still fail to consolidate the constitutional rights of these peoples, keeping them in a situation of social vulnerability and under constant threat to their rights.<sup>4</sup> In theory, an area identified as indigenous land should be protected, however this does not happen.<sup>3</sup> One example was the Constitutional Amendment Proposal number 215/2000<sup>7</sup>, which tried to establish the responsibility for the demarcation of indigenous lands as a competence of the National Congress. More recently, the current National President edited Provisional Measure number 870/2019<sup>8</sup> with the aim of transferring FUNAI to the Ministry of Family, Women and Human Rights, and demarcation activities to the Ministry of Agriculture, Livestock and Supply, led by Rural Caucus. Due to the mobilization of indigenous and parliamentary groups in repudiation of these decisions, this item was not approved.<sup>4</sup>

Analyzing this sociopolitical cut, the recognition of the indigenous rights by the CF88 is not enough to put an end to the genocide of this population.<sup>2</sup> In the field of health, despite the SUS having been created in 1988, the SASI was only created in 1999, with the objective of guaranteeing basic care in indigenous villages, respecting the cultural, social and epidemiological needs of each people.<sup>1,3,9</sup> After more than 30 years of SUS and 21 years of SASI, indigenous people still find weaknesses in the guarantee of rights.<sup>2</sup> An example of a setback is the new decree number 9,597<sup>10</sup>, which brought changes in the management model, extinguishing the Department of Management of Indigenous Health and of National Indigenous Policy Commission, which acted as an interlocutor between ethnic groups and the federal administration.

In Brazil, according to the last census of the Brazilian Institute of Geography and Statistics, the indigenous correspond to 0.4% of the brazilian population.<sup>11</sup> This national portion presents several disparities, which translate into a worse profile of morbidity and mortality, poverty, malnutrition, occupational risks and social violence. The health profile of indigenous peoples in the country undergoes social, cultural, environmental and economic transformations contribute to health problems characteristic of poverty and social vulnerability.<sup>3,5</sup> The current situation of insecurity associated with the lack of guarantee of basic rights aggravates the reality already experienced, increasingly impairing the health and quality of life of this community.<sup>4</sup>

**CONCLUSION:** The analysis of the sociopolitical aspects presented allows us to conclude that the vulnerability of brazilian native peoples, in the face of threats posed by land demarcation disputes, directly and indirectly harms their health. The difficulty of ethnic recognition, access to care for specific regions and peoples, and availability of resources to provide assistance in primary health care disadvantages these groups, not offering basic care. Therefore, it is necessary to reinforce efficient public policies, capable of diplomatically officializing the national indigenous territories, and state support to these people, guaranteeing the dignity of basic conditions of housing, education, food and health, gradually redeeming these marginalized populations and allowing a better quality of life for this important and memorable portion of brazilians.

## REFERENCES

1. Scalco N, Nunes, João Arriscado, Louvison M. Controle social no Subsistema de Atenção à Saúde Indígena: uma estrutura silenciada. *Saúde Soc* [Internet]. 2020 [cited 2021 Sep 22];e200400–0. Available from: <https://pesquisa.bvsalud.org/portal/resource/pt/biblio-1145107>
2. Scalco N, Louvison M. Saúde indígena: lutas e resistências na construção de saberes. *Saúde e Sociedade* [Internet]. 2020 [cited 2021 Sep 23];29(3). Available from: <https://www.scielo.br/j/sausoc/a/Lv9b8tcFhSy9qPLxjgFhrhj/?lang=en>
3. Rocha DF da, Porto MF de S, Pacheco T. A luta dos povos indígenas por saúde em contextos de conflitos ambientais no Brasil (1999-2014). *Ciência & Saúde Coletiva* [Internet]. 2019 Feb [cited 2021 Sep 22];24(2):383–92. Available from: <https://pubmed.ncbi.nlm.nih.gov/30726371/>
4. Gugelmin SA, Jhæssika S. Povos indígenas e o direito à saúde: acesso, insegurança e cenário político brasileiro. *Rev Baiana Enferm* [Internet]. 2021 [cited 2021 Sep 22];e42326–6. Available from: <https://pesquisa.bvsalud.org/portal/resource/pt/biblio-1149691>
5. Fernanda M, Ilce S, Koifman R. [Social, demographic, and health policies history of indigenous peoples from the state of Acre, Brazil]. *Cien Saude Colet* [Internet]. 2020 [cited 2021 Sep 22];2237–46. Available from: <https://pesquisa.bvsalud.org/portal/resource/pt/mdl-32520268>
6. Brasil. Senado Federal. Constituição Federal (Texto promulgado em 5/10/1988). Constituição da República Federativa do Brasil [Internet]. Brasília (DF); 1988 [cited 2021 Sep 22]. Available from: [http://www.senado.leg.br/atividade/const/con1988/CON1988\\_05.10.1988/CON1988.asp](http://www.senado.leg.br/atividade/const/con1988/CON1988_05.10.1988/CON1988.asp)

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7. Brasil. Câmara dos Deputados. PEC 215/2000. Proposta de Emenda à Constituição. Acrescenta o inciso XVIII ao art. 49; modifica o § 4º e acrescenta o § 8º ambos no art. 231, da Constituição Federal [Internet]. Brasília (DF); 2000 Mar 28 [cited 2021 Sep 22]. Available from: <http://www.camara.gov.br/proposicoesWeb/fichadetramitacao?idProposicao=14562>
8. Brasil. Medida Provisória nº 870/2019. Convertida com alteração na Lei Ordinária 13.844, de 18 de junho de 2019. Estabelece a organização básica dos órgãos da Presidência da República e dos Ministérios. Diário Oficial da União [Internet]. Brasília (DF); 2019 Jun 18 [cited 2021 Sep 22]. Available from: [http://www.planalto.gov.br/ccivil\\_03/\\_ato2019-2022/2019/Mpv/mpv870.ht](http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/Mpv/mpv870.ht)
9. Mendes AM, Leite MS, Langdon EJ, Grisotti M. O desafio da atenção primária na saúde indígena no Brasil. Revista Panamericana de Salud Pública [Internet]. 2018 [cited 2021 Sep 22];42. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6386040/>
10. Brasil. Câmara dos Deputados. Decreto nº 9.795, de 17 de maio de 2019. Aprova a Estrutura Regimental e o Quadro Demonstrativo dos Cargos em Comissão e das Funções de Confiança do Ministério da Saúde, remaneja cargos em comissão e funções de confiança, transforma funções de confiança e substitui cargos em comissão do Grupo-Direção e Assessoramento Superiores - DAS por Funções Comissionadas do Poder Executivo – FCPE [Internet]. Brasília (DF); 2019 [cited 2019 Nov 1]. Available from: [http://www.planalto.gov.br/ccivil\\_03/\\_ato2019-2022/2019/decreto/D9795.htm](http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/decreto/D9795.htm)
11. Instituto Brasileiro de Geografia e Estatística. O Brasil Indígena. Os indígenas no Censo Demográfico 2010. Crescimento no período 1991/2010. Categorias cor ou raça [Internet]. Rio de Janeiro; 2012 [cited 2019 Nov 20]. Available from: <https://indigenas.ibge.gov.br/pt/estudos-especiais-3/o-brasil-indigena/os-indigenas-no-censo-demografico-2010>

**PALAVRAS-CHAVE:** Delivery of Health Care, Health Law, Indian Health Services, South America Indians

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## EPIDEMIOLOGICAL EVALUATION OF NOTIFIED CASES OF TUBERCULOSIS IN MINAS GERAIS, BRASIL

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### RESUMO

#### Summary

Due to the situation of growing poverty in the state of Minas Gerais and the tuberculosis' severity, a pathology associated with poor living conditions, it is necessary to study the incidence of new cases of this pathology so that public health measures can be taken to revert this scenario. So, the objective of this study is to evaluate the incidence of notified cases of tuberculosis in the state of Minas Gerais between 2015 and 2020. The number of confirmed and notified cases of tuberculosis in the state of Minas Gerais from 2015 to 2020 was collected in the Information System of Notifiable Diseases of the IT department of the Brazilian Unified Health System (DATASUS), through the Tabnet system. Between 2015 and 2020, 24717 new cases of tuberculosis were reported in the Brazilian state of Minas Gerais. Regarding the year, 4053 occurred in 2015, 4071 in 2016, 4055 in 2017, 4214 in 2018, 4349 in 2019 and 3975 in 2020. For all of the foregoing, the great significance and need for attention focused on the prevention and treatment of Tuberculosis is highlighted.

#### Introduction

Tuberculosis is the leading cause of death from a single infectious agent worldwide and the leading cause of death for people living with HIV, according to the World Health Organization (WHO). In 2018, 10 million new cases of tuberculosis were estimated in the world and 1.5 million people died from this disease<sup>1</sup>. It is strongly socially determined, having a direct relationship with poverty and social exclusion<sup>2</sup>. This is because illness from tuberculosis is often linked to precarious living conditions. Thus, some population groups may present situations of greater vulnerability, such as indigenous people, deprived of liberty, homeless people or living with HIV<sup>3</sup>.

According to data from the Brazilian Institute of Geography and Statistics (IBGE), the state of Minas Gerais, Brazil, has an estimated population of 21,411,923 inhabitants in 2021, with a demographic density of 33.41 inhabitants/km<sup>2</sup>. Its nominal monthly household income per capita, in 2020, was 1,314 R\$, the tenth in the country, and the Human Development Index (IDH) of 0.731 in 2010, the ninth compared to other states of the federation<sup>4</sup>. Regarding poverty and extreme poverty, by 2015 the poverty rate reduced in the state, from 18.1% of the population in 2012 to 16.4% in 2015, while the extremely poor went from 7.8% to 6%. Between 2016 and 2018, there was a growth of the poor and extremely poor population in Minas Gerais. In 2016 there was an increase of 38.9% in the second group, reversing the entire decline of the past period. Among the poor people, the population showed successive increases, falling again in 2019 and reaching a level below 2012. However, both lines in 2019 are higher than 2015, where they were the lowest proportions<sup>5</sup>.

Thus, due to the situation of growing poverty in the state of Minas Gerais and the tuberculosis' severity, a pathology associated with poor living conditions, it is necessary to study the incidence of new cases of this pathology so that public health measures can be taken to revert this scenario. So, the objective of this study is to evaluate the incidence of notified cases of tuberculosis in the state of Minas Gerais between 2015 and 2020.

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## Methods

The number of confirmed and notified cases of tuberculosis in the state of Minas Gerais from 2015 to 2020 was collected in the Information System of Notifiable Diseases of the IT department of the Brazilian Unified Health System (DATASUS), through the Tabnet system, available online at: <http://tabnet.datasus.gov.br/>. The data, in addition to relating to the year, were also distributed according to age group, sex, color or race, and HIV co-infection. Color or race variables are designated according to the IBGE classification. The tabulation and descriptive analysis of the data took place using the Microsoft Excel 2017 program.

## Results and Discussion

Between 2015 and 2020, 24717 new cases of tuberculosis were reported in the Brazilian state of Minas Gerais. Regarding the year, 4053 occurred in 2015, 4071 in 2016, 4055 in 2017, 4214 in 2018, 4349 in 2019 and 3975 in 2020. In these six years, the rate of cases was 4119.5 with a standard deviation of 136, 69. These data show that the number of new infections is very close in each year in this state of the country, showing a difference with the trend in the incidence rate of this pathology in Brazil in the same period, as this marker decreased between 2011 and 2016, increase between 2017 and 2019 and fall in the year 2020<sup>6</sup>.

Males correspond to 71% and females to 29% of notifications between these years. These data are in agreement with the incidence of tuberculosis in Brazil between 2011 and 2019, in which 69% of new cases occurred in men<sup>6</sup>.

Regarding color or race, 44.8% declared themselves brown, 29.6% white, 18.5% black, 7.8% yellow, 2.3% indigenous and the others did not declare. In Brazil, we found a corresponding trend, as the black and brown race or color, from 2011 to 2019, was the one with the highest prevalence, ranging from 60.2% to 66.8% of new cases<sup>6</sup>.

Regarding co-infection with HIV, 67.9% had negative tests, 9.8% positive and the others had not been tested, the test result had not yet come out or they did not answer the question. Among the positive cases, there was no great variation in the number of new cases between years, with a rate of 404 with a standard deviation of 18.35. This differs from the national trend, which shows a vertiginous increase in cases of co-infection between tuberculosis and HIV between 2011 and 2019<sup>6</sup>.

Regarding the age range, most infections occurred between 20 and 59 years, with 36.6% between 20 and 39 years and 36.6% between 40 and 59 years. The other infections occurred 19.74% in people over 60 years old, 5.9% between 1 and 19 years old and 0.49% in children under 1 year old.

According to the global tuberculosis report released by the World Health Organization, Brazil integrates the list of 30 countries that concentrate 90% of all tuberculosis cases in the world, adding 96,000 new cases in 2019, for an incidence coefficient of 46 cases per 100,000 inhabitants, with a tendency to increase in the last 3 years. Furthermore, 11.4% of this total would have been registered in co-infection with HIV. However, among the high burden countries, Brazil was classified in the group with high levels of treatment coverage of the disease<sup>7</sup>.

As for the limitations of the study, it is important to emphasize that the numbers presented in this study are related to notifications made to the Surveillance of Respiratory Transmission Diseases of Chronic Conditions of the Unified Health System, which allows questioning the occurrence of underreporting cases.

## Conclusion

For all of the foregoing, the great significance and need for attention focused on the prevention and treatment of Tuberculosis is highlighted. More than improving indicators in Brazil and Minas Gerais regarding the disease, it is necessary to take care of the people, especially vulnerable populations, mitigating the negative factors in the social determination of the health-disease process.

## References

1 World Health Organization. Are Updated Every Year. for the Tuberculosis. 2020. 1–2 p.

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2 Ministério da Saúde. Doenças de Condições Crônicas e Infecções Determinantes sociais [Internet]. 2019 [cited 2021 Oct 1]. Available from: <http://www.aids.gov.br/pt-br/determinantes-sociais>

3 Ministério da Saúde. Doenças de Condições Crônicas e Infecções Populações vulneráveis - tuberculose [Internet]. 2019. [cited 1 October 2021] Available from: <http://www.aids.gov.br/pt-br/publico-geral/tuberculose/populacoes-vulneraveis-tuberculose>

4 Instituto Brasileiro de Geografia e Estatística. Panorama Minas Gerais. [Internet]. 2021.[cited 1 October 2021] Available from: <https://cidades.ibge.gov.br/brasil/mg/panorama>

5 Fundação João Pinheiro. A dinâmica recente da pobreza e extrema pobreza em Minas Gerais [Internet]. [cited 2021 Oct 1]. Available from: <http://observatoriodesigualdades.fjp.mg.gov.br/?p=1665>

6 Brasil. Tuberculose | 2021. Bol Epidemiológico [Internet]. 2021;3(1):44. Available from: [https://www.gov.br/saude/pt-br/media/pdf/2021/marco/24/boletim-tuberculose-2021\\_24.03](https://www.gov.br/saude/pt-br/media/pdf/2021/marco/24/boletim-tuberculose-2021_24.03)

7 Ministério da Saúde. Doenças de Condições Crônicas e Infecções. Doença tem 10 milhões de novos casos no mundo em 2019; Brasil registra 96 mil ocorrências [Internet]. 2021 [cited 2021 Oct 1]. Available from: <http://www.aids.gov.br/pt-br/noticias/doenca-tem-10-milhoes-de-novos-casos-no-mundo-em-2019-brasil-registra-96-mil-ocorrencias>

**PALAVRAS-CHAVE:** Tuberculosis, Neglected Diseases, Epidemiology, Public Health

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## CHARACTERIZING HUNGER IN BRAZIL: IMPACT OF PROTEIN-ENERGY MALNUTRITION ACCORDING TO GBD COMPARE TOOL

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### RESUMO

**Characterizing Hunger in Brazil: impact of protein-energy malnutrition according to GBD Compare tool**

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### Abstract

**Introduction:** Food and nutritional security is the realization of everyone's right to regular and permanent access to quality food. In 2011 45% of children deaths in Brazil were related to malnutrition, which contributes to the maintenance of poverty and inequality. **Methods:** Data were collected from GBD Compare tool, between 1990 and 2019. The theoretical foundation was carried out through research on database platforms. **Results and Discussion:** Reduction of the rates of protein-energy malnutrition through the years was evidenced, on average a reduction of 6,2% every 10 years in all ages. The period of time of significant drop in food insecurity coincides with the implementation of specific policies for this purpose, and income redistribution policies, such as the Bolsa Família. **Conclusions:** The data showed that the situation of malnutrition in Brazil has decreased over the years, however the structural cause of food insecurity has not been removed.

**Keywords:** Food Sovereignty; Food Insecurity; Malnutrition.

### Introduction

Food has been considered a right since the end of World War II. Food Security is defined as regular and permanent access to quality food. Although the concept of food security has been expanded over the years, it is unable to provide a critical view of real causes of hunger in a population, which is better contemplated by the concept of food sovereignty. Via Campesina Internacional defines it as the peoples' right to define their food and agricultural policies in order to promote the development of national agriculture, based on small and medium production, respecting the culture, and in a sustainable manner.<sup>8</sup> However, both concepts are far from becoming reality.

A 2011 study revealed that 45% of children deaths in Brazil were related to malnutrition.<sup>7</sup> Child malnutrition impacts a child's life in various aspects, affecting physical and mental development and future school performance. It can be said that it is therefore a factor that contributes to the maintenance of poverty and inequality.<sup>7</sup> For this reason, it is important when studying malnutrition to give special emphasis to younger

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groups.

The etiology of malnutrition can be divided into three groups: immediate (related to the supply of food and some diseases), underlying (related to healthcare access and basic services) and structural (related to socioeconomic status).<sup>7</sup> Protein-energy malnutrition (PEM), on the other hand, is a clinical-social disease and can be characterized as an imbalance between the supply of energy and nutrients and the need for these for growth and maintenance of body physiology.<sup>4</sup>

To gather data on the real scenario of the prevalence and severity of PEM in Brazil, this study used the platform GBD Compare, launched by the Global Burden of Disease study, which uses variate data and studies through international cooperation aiming the survey of mortality, invalidity and other rates, and allows the visualization of global data concerning diseases and their risk factors.

The aim of this article is to demonstrate how PEM has progressed in Brazil over the past few years, as well as to discuss the factors that led to this scenario.

## Methods

Historical study about the evolution of PEM in Brazil from 1990 to 2019. Data were collected from the GBD Compare tool, including prevalence, deaths and Disability-Adjusted Life Years (DALYs) of Brazil, its states and regions, through the years 1990, 2000, 2010 and 2019. The theoretical foundation was carried out through research on Scielo and Pubmed platforms, using the words Food Sovereignty, Food Insecurity, Brazil, Malnutrition, Children. Articles in Portuguese and English were selected.

## Results and Discussion

The prevalence rates of PEM in all ages and in children under five years-old in Brazil is presented in table 1. It is possible to observe the reduction of the rates through the years, on average of 6,2% every 10 years in all ages, totalizing 17,5% of shrinkage, and a 3% every 10 years in children under five years-old, totalizing 8,8%. The reduction of PEM is expected as countries develop and are able to offer better quality of life to their populations. However, in 2019, 3,1% of the population under five years-old suffered from malnutrition, which could represent up to 380.000 children living with the most severe level of hunger.

Table 1: Prevalence of PEM in all ages and in children under five years-old in Brazil from 1990 to 2019 per 100.000.

	<5 years				All ages			
	1990	2000	2010	2019	1990	2000	2010	2019
<b>Brazil</b>	3396,92	3279,29	3196,38	3099,05	762,01	706,29	660,85	628,4

As for differences in-between the country, we observe the reduction of the prevalence in all five regions, both for all ages and children under five years-old. Nevertheless, in both cases, disparities between the regions are alarming. Higher rates were found in north and northeast regions, as smaller reductions through the years. While the South region had a reduction of 12%, the Northeast region had 2%, for children under five years-old. The comparisons between states for children under five years-old and for all ages are presented in figures 1 and 2, respectively.

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Figure 1: Prevalence of PEM in children <5 years by Brazilian regions between 1990 and 2019 per 100.000.

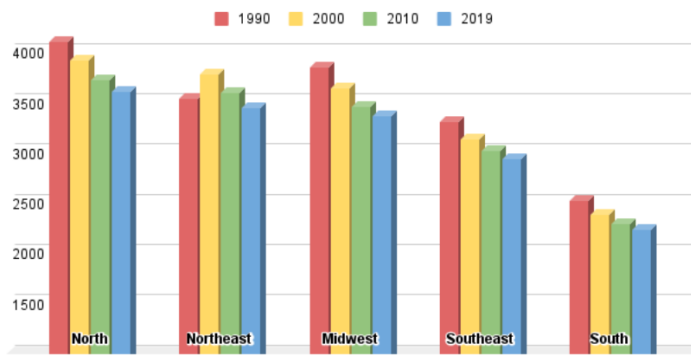
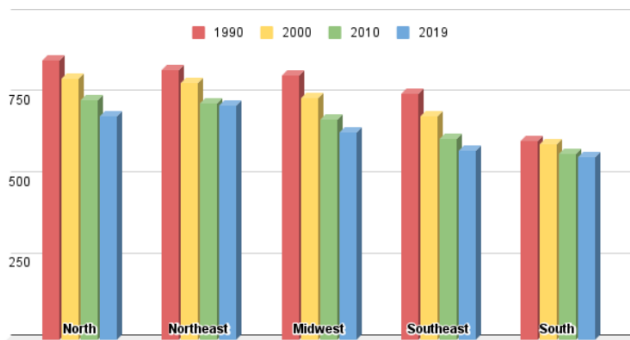


Figure 2: Prevalence of PEM in all ages by Brazilian regions between 1990 and 2019 per 100.000.



As for DALYs, PEM rates can be found in table 2. Like prevalence rates, it is possible to note the reduction of DALYs through the years. From 1990 to 2019, the reduction corresponded to 90.64% for children under five years-old, and 85,6% for all ages. As DALYs represent the sum of years of life lost due to premature mortality and years lived with disability due to the disease, we observe improvements in Brazilians' quality and duration of life, but losses - of lives and of lifetime - are still high.

Table 2: DALYs for PEM in all ages and in children <5 years in Brazil between 1990 and 2019 per 100.000.

	<5 years				All ages			
	1990	2000	2010	2019	1990	2000	2010	2019
<b>Brazil</b>	5752,99	3315,6	1082,79	538,62	751,51	404,01	166,48	108,27

Regarding deaths due to PEM, table 3 unites the collected date. It is possible to observe the reduction of deaths, especially between the years of 1990, 2000 and 2010 in children under five years-old. Also, in 1990 PEM was the seventh cause of death in children under five years-old, while in 2019 it occupied the 12<sup>th</sup> place in the ranking. Between all ages, PEM is not so relevant but has been reduced in great scales, evolving from 16<sup>th</sup> in the ranking in 1990, to 43<sup>rd</sup> in 2019. This demonstrates the importance in concentrating efforts to avoid PEM in children, as they're more vulnerable to the consequences of hunger.

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Table 3: Deaths due to PEM in children <5 five years and in all ages by region through 1990 to 2019 per 100.000.

	<5				All ages			
	1990	2000	2010	2019	1990	2000	2010	2019
Brasil	64,94	37,22	11,89	5,74	10,48	6,79	4,16	3,53
North	37,93	28,85	13,22	8,05	6,60	4,97	2,91	2,47
Northeast	116,29	71,34	21,14	8,61	18,76	11,53	5,57	4,09
Midwest	22,53	16,15	6,84	4,66	4,52	3,79	2,74	2,56
Southeast	51,01	18,59	5,74	3,49	9,29	5,74	4,24	3,90
South	23,23	11,35	4,34	2,69	4,10	3,08	2,45	2,48

Food insecurity is multifactorial, but studies show that family income is the most relevant in determining hunger.<sup>2</sup> Some of the factors pointed out in studies that intensify food insecurity are less possession of consumer goods, unemployment and low education, all directly related to the socioeconomic level of the family.<sup>6</sup> It is important to highlight that the study in question did not subdivide the population into the most vulnerable groups to be studied, such as race, gender and income. Thus, malnutrition rates in some groups are potentially higher than in the general population.

Specific programs that aim to reduce PEM were essential in the dropping rates presented in the study. Between 2004 and 2009 there was a significant drop in food insecurity in Brazil, moment that coincides with the implementation of specific policies for this purpose, such as Zero Hunger Strategy and redistribution policies, like Bolsa Família, and the appreciation of the minimum wage and reduction of unemployment.<sup>6</sup> However, it is important to emphasize that these programs are not able to attack the cause of hunger. The great land concentration and the focus on the production of commodities for export contribute to the unreachement of sovereignty.<sup>5</sup> Therefore, structural changes are needed to support the construction of food sovereignty.

## Conclusions

The data showed that the situation of malnutrition in Brazil has decreased over the years. This drop can be associated with the creation of specific policies to fight hunger and income distribution in the country. However, it is clear that the cut in these policies results in a new increase of hunger in the country, once the structural cause of food insecurity has not been removed.

## Bibliographic References

<sup>1</sup> Arruda, BKG de; e Arruda, IKG de. Marcos referenciais da trajetória das políticas de alimentação e nutrição no Brasil. *Revista Brasileira de Saúde Materno Infantil* [online]. 2007, v. 7, n. 3 [Access in September 21st, 2021], pp. 319-326. Available in: <<https://doi.org/10.1590/S1519-38292007000300011>>. Epub 05 Out 2007. ISSN 1806-9304. <https://doi.org/10.1590/S1519-38292007000300011>.

<sup>2</sup> Bezerra, TA; Olinda, RA de; Pedraza, DF. Insegurança alimentar no Brasil segundo diferentes cenários sociodemográficos. *Ciência & Saúde Coletiva* [online]. 2017, v. 22, n. 2 [Access in October 2nd, 2021], pp. 637-651. Available in: <<https://doi.org/10.1590/1413-81232017222.19952015>>. ISSN 1678-4561. <https://doi.org/10.1590/1413-81232017222.19952015>.

<sup>3</sup> Institute for Health Metrics. *Estudo de Carga de Doença. Global: gerando evidências, informando políticas de saúde*. Seattle, WA: IHME, 2013. ISBN 978-0-9840910-6-5

<sup>4</sup> Lima, AM de; Gamallo, SM; Oliveira, Fernanda LC. Desnutrição energético-proteica grave durante a hospitalização: aspectos fisiopatológicos e terapêuticos. *Revista Paulista de Pediatria* [online]. 2010, v. 28, n. 3 [Access in October 2nd, 2021], pp. 353-361. Available in: <<https://doi.org/10.1590/S0103-05822010000300015>>. Epub 22 Nov 2010. ISSN 1984-0462. <https://doi.org/10.1590/S0103-05822010000300015>.

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<sup>4</sup> Faculdade AGES de Jacobina, [fabiana.franca@ages.edu.br](mailto:fabiana.franca@ages.edu.br)

<sup>5</sup> Miranda, A C de et al. Neoliberalismo, uso de agrotóxicos e a crise da soberania alimentar no Brasil. *Ciência & Saúde Coletiva* [online]. 2007, v. 12, n. 1 [Access in: September 21th, 2021] , pp. 7-14. Available in: <<https://doi.org/10.1590/S1413-81232007000100002>>. Epub 18 Jan 2007. ISSN 1678-4561. <https://doi.org/10.1590/S1413-81232007000100002>.

<sup>6</sup> Santos, TG dos et al. Tendência e fatores associados à insegurança alimentar no Brasil: Pesquisa Nacional por Amostra de Domicílios 2004, 2009 e 2013. *Cadernos de Saúde Pública* [online]. 2018, v. 34, n. 4 [Access in September 21st, 2021] , e00066917. Available in: <<https://doi.org/10.1590/0102-311X00066917>>. Epub 29 Mar 2018. ISSN 1678-4464. <https://doi.org/10.1590/0102-311X00066917>.

<sup>7</sup> Rissi GP, Shibukawa BMC, Goes HLF, Oliveira RR de. Crianças menores de 5 anos ainda morrem por desnutrição?. *Rev enferm UFPE on line*. 2019;13:e239889 [Access in September 21st, 2021]; DOI: <https://doi.org/10.5205/1981-8963.2019.239889>

<sup>8</sup> Tassi EMM, Bezerra I. A soberania alimentar que desperta e aprofunda os saberes em direitos por terra, por comida de verdade e por igualdade de gênero. *EmExt.* [Internet]. May 01, 2020 [Access in September 21st, 2021]; Available in: <http://www.seer.ufu.br/index.php/revextensao/article/view/54371>

**PALAVRAS-CHAVE:** Food Sovereignty, Food Insecurity, Malnutrition

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## THE INTERSECTION BETWEEN INCARCERATION AND MENTAL DISORDERS: A DESCRIPTIVE ANALYSIS

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### RESUMO

#### Summary

**Background/Introduction:** The incarcerated population is a group that is physically isolated from the society and that lives under very precarious conditions. The way they are treated doesn't fully insure their human rights and it directly affects their mental health. Given the high number of people that make up this group and their marginalization, it is necessary to better understand the social determinants that act on them and what has been done to improve their mental health.

**Objectives:** Analyze the mental health situation of incarcerated people in general and how this issue has been addressed among government entities in practice in order to improve the well-being of these individuals.

**Methodology:** Research in the Pubmed scientific database guided by the subject, with the application of the descriptors "mental disorders" and "incarceration".

**Results:** It was observed that there is a great predominance of certain mental disorders among the incarcerated population. However, even with some government measures, health care still needs to be improved and individualized.

**Discussion:** Many studies related to the incarcerated population focus on specific diseases and drug use, reinforcing, sometimes, the stigmas that this group already has. The literature has shown that they need more attention, humanized treatments, security of rights and the government protection over any kind of discrimination.

#### Background/Introduction

Sectors of the population in mental suffering or incarcerated are marginalized worldwide, both physically and socially, which implicates in a disproportionately high rate of diseases, ill-health and disabilities [1]. In the United States, the prison population exceeds 2 million people, while 1 in 5 residents presents different types and stages of mental illness, according to The National Institute of Mental Health [2]. In Brazil, owner of the second biggest prison population [ Figure 01 ], it is not different to an estimate of 811 707 people deprived of liberty, in an open or closed regime, in 2021 [3], associated with the overcrowding of 54.9% of this system. The intense prison flow, the increase in penalties for minor crimes, the defunding of mental health institutions, the lack of resources to receive this population in jails [2] and the inhuman regime there established reinforces many social stigmas. As an example, it can be seen that, in a large number of studies, this population is closely related to drug use, alcohol abuse, psychopathologies in general and childhood traumas [4], the spread of the HIV virus [5], that would justify, in some way, the criminal life. But the sparse data and studies available on your biopsychosocial well-being, including taking care of your mental health unveils the lack of interest and discussion about the suffering of these individuals, which opposes the demands for greater visibility of this growing population everywhere. Therefore, this study aims to better understand the general state of mental health of prisoners, the social determinants to which they are exposed and the governmental measures applied in this area to safeguard their right to health.

#### Methods

The studies were the result of research made in the Pubmed scientific database guided by the subject, with the application of the descriptors "mental disorders" and "incarceration". The total of articles found, from 2016 to 2021, was 1153. Followed by an exclusion process from a qualitative analysis of the title, abstract and keywords, with the elimination of those who disrespected the proposed theme or published before 2020. Thus, 327 studies were used in this work.

#### Discussion and Results

From the 327 articles selected, a second exclusion process was applied based on the language of writing and respect for the defined scope, from which 01 (in French) and 246 works, respectively, were eliminated [ Figure 02 ]. A quick analysis allowed us to observe that the greatest focus among them was the use of substances and factors associated with it, accounting for 78 articles. Furthermore, only one of them considered the Brazilian prison scenario, in a comparative structure with the Australian structure. Based on studies of the literature found and selected, it is possible to have a generalized notion of how it is and how the world has been dealing with the mental health care of incarcerated people despite the difference in prison systems. In the prison environment, individuals are exposed to several factors such as solitude, isolation and fear, which would trigger physiological stress, responsible for a greater risk of inflammation and depression (89). Nevertheless, other mental disorders such as ADHD, suicidal ideas, bipolarity, psychopathy and psychopathologies are also present in a greater proportion in prisons compared to the community in general [4]. In parallel to this, there are several government proposals to take care of these individuals. It is possible to mention therapies, group interventions, work with educators, treatment of drug abuse, as well as training for cognitive, social and vocational skills [6].

#### Conclusion

The relationship between mental health and incarceration is still little discussed and faces many obstacles, including the stigma that surrounds it and prison structures worldwide. Currently, the world is faced with many citizens with mental disorders incarcerated, who need more individualized care. Especially because, even though the precarious treatment is intrinsic to the constitution of a standard and inhuman profile of the institutions, social determinants, such as gender or race, impact differently [7]. Concomitantly, it is added to the punitiveness that reigns in our society, which reinforces the belief that a prisoner is destitute of its human rights, as it is simply a consequence of it's free will [8]. The application of theories and guidelines formulated to perfect care is also delayed due to governance issues at different levels, such as constraints on resources, resistance to innovation and authoritarianism [1]. Meaning that theory still remains an utopic plan when concerning healthcare to this vulnerable population.

Figure 01

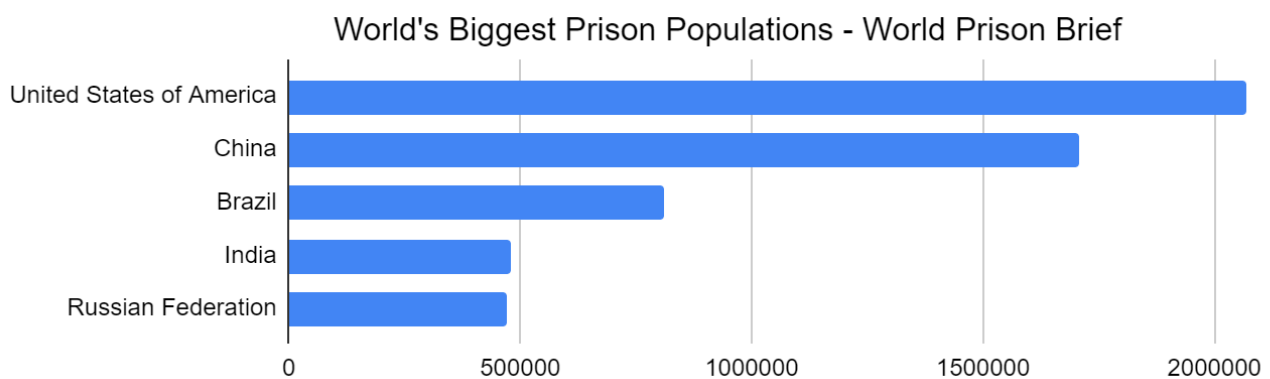


Figure 02

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Drug use (opoids, alcohol, tobacco and other substances)	31,19%
Non-incarcerated population (veterans, gamers, ex-con, jailers, prisoners' children, general population)	10,40%
HIV (tratamento, relation with other diseases)	4,28%
Hepatitis (B, C)	3,97%
Adverse childhood experiences (ACE)	3,36%
Access to health care services and/or hospitalization	2,45%
Other (exclusive focus on mental disorders, COVID-19, remand prisoner, deficits in hearing, racism, gang, yoga)	12,23%

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#### Bibliographic References

- [1] Ismail N, de Viggiani N. Challenges for prison governors and staff in implementing the Healthy Prisons Agenda in English prisons. *Public Health*. 2018 Sep;162:91-97
- [2] Dierenfeldt R, Scott S, Iles G, Smith M. Examining College Student Perceptions of Criminal Justice Outcomes Among Persons With Mental Illness. *Int J Offender Ther Comp Criminol*. 2020 Jul;64(9):1027-1049.
- [3] World Prison Brief | an online database comprising information on prisons and the use of imprisonment around the world [Internet]. Prisonstudies.org. 2021 [cited 2 October 2021]. Available from: <https://www.prisonstudies.org/>
- [4] van Buitenen N, van den Berg C, Meijers J, Harte J. The prevalence of mental disorders and patterns of comorbidity within a large sample of mentally ill prisoners: A network analysis. *European Psychiatry*. 2020;63(1).
- [5] Bucek A, Mellins C, Leu C, Dolezal C, Korich R, Wiznia A et al. Psychiatric disorders and young adult milestones in HIV-exposed, uninfected youth. *AIDS Care*. 2019;32(4):420-428.
- [6] Lamb H, Weinberger L. Deinstitutionalization and other factors in the criminalization of persons with serious mental illness and how it is being addressed. *CNS Spectrums*. 2019;25(2):173-180.
- [7] Irizarry Y, May DC, Davis A, Wood PB. Mass Incarceration Through a Different Lens: Race, Subcontext, and Perceptions of Punitiveness of Correctional Alternatives When Compared to Prison. *Race Justice*. 2016 Jul;6(3):236-256.
- [8] Carey, J. and Paulhus, D., 2013. Worldview Implications of Believing in Free Will and/or Determinism: Politics, Morality, and Punitiveness. *Journal of Personality*. 2012 Jul;81(2):130-141.

**PALAVRAS-CHAVE:** Vulnerable populations, Mental health, Mental disorders, Social stigmas, Incarceration, Human rights

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## CHALLENGES IN REFUGEES' ACCESS TO THE PUBLIC HEALTHCARE SYSTEM IN BRAZIL

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### RESUMO

#### CHALLENGES IN REFUGEES' ACCESS TO THE PUBLIC HEALTHCARE SYSTEM IN BRAZIL

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#### ABSTRACT

**Introduction:** Brazil is considered an important destination for refugees and with 239,706 asylum requests registered between 2011 and 2019. Although Brazil offers a public health system free to anyone in the country, migrants and refugees still face challenges in accessing the healthcare services. The aim of this study is to address refugees' access to public healthcare in Brazil. **Methods:** Narrative review using recent literature and official documents. **Results and Discussion:** The majority of migrants and refugees access healthcare exclusively through the public health system. Main barriers pointed in research were language, cultural and documentation matters. Most of the issues concern the underfunding of the health system. However, initiatives have been achieving good results, like Operação Acolhida. **Conclusion:** Delivering refugees the appropriate healthcare is a complex task requiring multiple and intersecting approaches. Although Brazil has a universal healthcare system accessible to those refugees, there are still many difficulties to be tackled in the future if universal healthcare and refugee inclusion is to be achieved.

#### Introduction

According to data from the International Organization for Migration (IOM), the number of migrants worldwide reached 280 million people in 2020. It has almost doubled since 1990, when about 150 million migrants were counted around the world. In terms of refuge, the number of people under the United Nations High Commissioner for Refugees (UNHCR) mandate has crossed the line of 20 million. It is twice what has been accounted for in the beginning of the last decade. It is now a common perception that the planet is dealing with a spike in migration and, even more alarming, a refugee crisis.

Today, Brazil is considered an important destination for refugees, especially Venezuelans, but also Haitians, Cubans, Chinese, Angolans, among other nationalities. Between 2011 and 2019, the country registered 239,706 asylum requests, with an increasing amount during the period (UNHCR, 2020). In 2020, because of the Covid-19 pandemic and its strict international restrictions to human mobility, there was a reduction in those numbers (over 89 thousand, in 2019, to about 29 thousand, in 2020), albeit still to an expressive number (SILVA et al, 2021).

It is expected that these refugees, once in their destination country, present healthcare needs, especially after forced migration (SOARES; SOARES, 2020). In Brazil, refugees have the right to access the country's universal healthcare system (ACNUR, 2021). However, despite the nonexistence of official barriers, refugees, as a vulnerable group, still face invisible obstacles when attempting to access the health system. The aim of this study is to address refugees' access to public healthcare in Brazil.

#### Methods

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For this research, the method chosen was the narrative literature review, using scientific papers, governmental and non-governmental documents and information. The search for literature was made through databases and official websites, conducted between August and September, 2021.

## Results and Discussion

Resolution WHA70.15 from the Seventieth World Health Assembly (2017), on “promoting the health of refugees and migrants”, urged Member States to “identify and collect evidence-based information, best practices and lessons learned in addressing the health needs of refugees and migrants” (WHO, 2017). In Bempong et al. (2019) report addressing discussions from the second M8 Alliance Expert Meeting, common challenges faced by destination countries in providing appropriate healthcare to migrants are: increased workload on humanitarian and health workers, low presence of translators and negative consequences of language barriers in treatment, culturally inadequate environments and, finally, the increased incidence of work-related injuries (BEMPONG et al., 2019).

The Displacement Tracking Matrix, from the IOM in Brazil, shows that Venezuelan migrants and refugees access primary care attention facilities and hospitals when needed. However, 46% informed lack of access to reproductive health (LOPES, 2021). Also, an average of 78% of Venezuelan migrants access health service exclusively through the public health system (MACIEL, 2021).

Horta, Cruz and Carvalho (2019), in their quantitative-qualitative study, listed as the main difficulties in the access of African refugees to the healthcare system: the delay in attendance, the difference between languages, cultural diversity, and racism. Corroborating this, Coutinho (2019) in her ethnographic study, points out that the delay in attendance, exams and specialties, as well as cultural issues, such as differences in health beliefs, and racism are major barriers for this population.

Healthcare professionals in Manaus, one of the main cities for refugees, referred barriers in the access to the health system by migrants. 95,5% of them pointed the language issue, 56,8% documentation, 47,7% cultural differences, 43,2% access/follow up, 38,6% support network, 27,3% referrals and 6,8% others (MACIEL, 2021).

It is known that the public health system in Brazil presents difficulties, mainly resulting from its underfunding. Despite people having free access to the health services in the country, delay in attendance often is appointed as the most relevant access barrier for Brazilians, especially regarding appointment with specialists (AZEVEDO; COSTA, 2010).

A review study also indicates that health professionals were not prepared to welcome the sociocultural differences and the ethical aspects of the immigrants, and were not aware about the legislation of protection of the rights of this population (GUERRA; VENTURA, 2017). According to these authors, “bioethical aspects such as non-discrimination, equality and respect for the differences and specificities of immigrants deserve special attention” (GUERRA; VENTURA, 2017, p. 128). The path to achieve improvements in this matter involves cooperation agreements and joint activities that can set up policies and programs regarding the difficulties in integrating refugees in the healthcare system (GUERRA; VENTURA, 2017).

Regarding language and cultural diversity, WHO already presents positive findings in the use of interpreters and cultural mediators in health care settings (MCGARRY et al, 2018). Interpreters are responsible for facilitating verbal communication and understanding between foreign patients and healthcare workers, while cultural mediators act as a bridge between patients and health professionals, ensuring and facilitating the health access to refugees (MCGARRY et al, 2018). However, this scenario is not a reality in Brazil, mainly due to the underfunding of the health system and the dismantling of public health in the last five years.

An important program has been developed in Brazil for the reception of Venezuelan refugees. Operação Acolhida, created in 2018, aims to guarantee humanitarian service for these people, in the main entrance for Brazil, the state of Roraima. The operation is executed and coordinated by the Federal Government, with the support of the states, UN agencies, international organizations, civil society organizations and private entities. Refugees that are attended by the operation are assisted in matters of identification, orientations, documentation, guarantee of rights, health access and shelter. Health assistance includes mainly immunization and emergency assistance (BRASIL, 2021). This initiative represents advancement in the reception of refugees, providing them means for better lives. However, the importance of the Public Health System is not replaced for it, as the healthcare assistance provided regards only specific activities.

## Conclusion

Delivering refugees the appropriate healthcare is a complex task requiring multiple and intersecting approaches (CHENG et al., 2018). Although Brazil has a universal healthcare system accessible to those refugees, there are still many difficulties to be tackled in the future if universal healthcare and refugee inclusion is to be achieved. Strategies which have been found to be effected and can be implemented in an action plan for Brazil include case management, improving communication between healthcare professionals and refugees, and use of specialist refugee health workers (JOSHI et al, 2013). These initiatives must guide the Brazilian healthcare system a step closer to delivering culturally appropriate, universal and inclusive healthcare for the large number of refugees which continue to cross the country's border.

## Bibliographic References

Maciel ED. Tuberculose e migrantes nos países do BRICS: o caso do Brasil. Final Report, Jan. 2021. Laboratório de Epidemiologia da

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Universidade Federal do Espírito Santo [Internet]. 2021 Jan. [cited 2021 Sep 30]. Available from: <https://redetb.org.br/revista-tuberculose-e-migrantes-nos-paises-do-brics-o-caso-do-brasil/>

McGarry O et al. What strategies to address communication barriers for refugees and migrants in health care settings have been implemented and evaluated across the WHO European Region? Copenhagen: WHO Regional Office for Europe; 2018. 50p. Report No.: 62. Available from: <https://www.euro.who.int/en/publications/abstracts/what-strategies-to-address-communication-barriers-for-refugees-and-migrants-in-health-care-settings-have-been-implemented-and-evaluated-across-the-who-european-region-2018>

International Organization for Migration (IOM). Monitoramento do fluxo da população venezuelana. DTM [Internet]. 2021 May. Available from: <https://brazil.iom.int/sites/brazil/files/Publications/DTM-Brasil-7.pdf>

Guerra K, Ventura M. Bioética, imigração e assistência à saúde: tensões e convergências sobre o direito humano à saúde no Brasil na integração regional dos países. Cad. saúde colet [Internet]. 2017 Jan-Mar. [cited 2021 Sep 15]. Available from: <https://www.scielo.br/j/cadsc/a/Bjx3pCWycxjHDSZ5yMn7yg/abstract/?lang=pt#ModalDownloads>

Soares KG, Soares KG. Direitos humanos e o refúgio: direito fundamental à saúde sob a ótica do sistema único de saúde do Brasil. TraHs [Internet]. 2020 Jul. [cited 2021 Sep 12]6:24-37. Available from: <https://www.unilim.fr/trahs/2253>

Horta AL, Cruz MG, Carvalho G. Famílias refugiadas africanas: qualidade de vida, expectativas e necessidades em relação à saúde. Saude soc. [Internet]. 2019 Oct-Dec [cited 2021 Sep 09]28(4):113-23. Available from:

<https://www.scielo.br/j/sausoc/a/hyBVHg5SJJQxBgQ9TB86ddg/?lang=pt>

Lopes JSC. Assistência em Saúde Mental e Atenção Psicossocial à População Migrante e Refugiada no Brasil. Brasília: International Organization for Migration - Brazil; 2021. 92p. Available from: [https://www.gov.br/mj/pt-br/assuntos/noticias/ministerio-da-justica-e-seguranca-publica-lanca-mapeamento-sobre-assistencia-em-saude-mental-de-migrantes-e-refugiados-no-brasil/aesm\\_final\\_online.pdf](https://www.gov.br/mj/pt-br/assuntos/noticias/ministerio-da-justica-e-seguranca-publica-lanca-mapeamento-sobre-assistencia-em-saude-mental-de-migrantes-e-refugiados-no-brasil/aesm_final_online.pdf)

Coutinho JGD. Se você está aqui, é porque eu existo: percepções múltiplas e deslocamentos do Sistema Único de Saúde no encontro com refugiados [dissertation]. [Rio de Janeiro]: Universidade Federal do Rio de Janeiro, 2019. 165p. Available from: <https://pesquisa.bvsalud.org/portal/resource/pt/biblio-1049758>

Brasil. A Operação Acolhida [Internet]. Brasília: Casa Civil, Presidência da República. 2021 [cited Oct 01 2021]. Available from: <https://www.gov.br/casacivil/pt-br/acolhida/sobre-a-operacao-acolhida-2>

#### Referências bibliográficas

Bempong NE et al. Critical reflections, challenges and solutions for migrant and refugee health: 2nd M8 Alliance Expert Meeting. Public Health Reviews. 2019.

Cheng IH et al. A rapid review of evidence-based information, best practices and lessons learned in addressing the health needs of refugees and migrants: report to the World Health Organization. Melbourne, 2018.

Joshi C et al. A narrative synthesis of the impact of primary health care delivery models for refugees in resettlement countries on access, quality and coordination. . International Journal for Equity in Health. 2013.

World Health Organization (WHO). Seventieth World Health Assembly: Resolutions and Decisions. Geneva, 2017.

Agência da ONU para Refugiados (ACNUR). Help: Brasil. [Internet] 2021. [cited 2021 Sep 15] Available from: <https://help.unhcr.org/brazil/viver-no-brasil/saude/>

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**PALAVRAS-CHAVE:** Refugee, Healthcare, Access

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## PALESTINE AND ISRAEL: IMPACT OF 73 YEARS OF COLONIALISM, APARTHEID AND GENOCIDE

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### RESUMO

#### Palestine and Israel: Impact of 73 Years of Colonialism, Apartheid and Genocide

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### Abstract

**Introduction:** Occupation of Palestine was structured through a colonialist and orientalist discourse. Since 1948, Israeli policies have generated a wide range of abuses against Palestinians **Methods:** Narrative Review of literature about impacts caused by the Israel occupation on Palestinians' health and quality of life. **Results and Discussion:** Palestine has 2.45 million people that requires some form of humanitarian assistance. The current situation is due to constant invasion of Palestinian territories by Jewish settlements and the rigid control of conquered territories. **Conclusion:** International humanitarian aid will not be enough to minimize the inequality experienced in the region, as it is caused by the region's political context.

**Keywords:** Palestine; Health Impacts; Coloniality; Apartheid; Genocide; Humanitarian Assistance.

### Introduction

Self-determination of people is defined as the ability of people to govern themselves, decide their policies and agendas (political, economic and cultural), and strengthen the unity of the population. Such decisions must be based on democratic and equalitarian grounds, without the influence of third parties.<sup>1</sup> This basic right was taken from the Palestinians, as well as the right to land, come and go, to access quality healthcare, and so many others.

Occupation of Palestine was structured through a colonialist and orientalist perspective. Edward Said, in his work, emphasizes that the vision of Palestine was structured as an unoccupied land, the Palestinians as a barbaric population, and the East was once again inferior to the West. Resistance movements were labeled as terrorists. The counter-hegemonic vision is highly silenced, at the same time that there is a

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devaluation of the culture and history of these people. An apartheid regime is also installed, where Palestinian citizens are deprived of their land with their population surrounded and controlled in all aspects of daily life.<sup>6</sup>

Since 1948, Israeli policies have generated a wide range of abuses against Palestinians, which has been assumed as a form of genocide by various human rights authorities. Examples are the repeated military assaults on Gaza, the extensive movement restrictions through the closure of Gaza and the permit regime and the confiscation of more than one-third of the land in the West Bank.<sup>5</sup>

In May/2021, Israeli attacks on Palestine began once again, killing more than 250 people and leaving almost 2,000 injured in the coastal enclave of the Gaza Strip. In only 11 days, many Gazans lost their homes and livelihoods, suffering both physical and psychological injuries. Gaza's vital infrastructure, including water and sanitation networks, health and educational facilities, were also damaged. Half of the electricity lines in Gaza didn't work and more than a dozen medical facilities, including the central COVID-19 testing lab, were damaged. Today, the situation remains and Palestinian rights continue to be under attack.<sup>4</sup>

The article aims to discuss the real impacts of the creation of the State of Israel on the life of Palestinians, as well as the entire process of resistance to a colonizing occupation and an apartheid regime.

## Methods

Narrative Review of literature that clarifies impacts caused by the Israel occupation on Palestinians' health and quality of life. Data were taken from the Humanitarian Needs Overview (2020 and 2021), documents written by the United Nations Office for Coordination of Humanitarian Affairs (OCHA), as well as reports from Médecins Sans Frontières organization (MSF). Theoretical foundation was carried out through a search on Google Academic, Pubmed and Scielo platforms, in which were selected articles between 2010 and 2021, on english and portuguese.

## Results and Discussion

According to 2021 OCHA data, Palestine has a total population of 5.2 million people, of which, 2.45 million require some form of humanitarian assistance. Among these people, 60% have severe needs, while in 2020, there were 40%. Approximately 77% of the people with severe needs are in Gaza.<sup>8</sup>

A recurrent problem is the expansion of Israeli settlements and the annexation of land to Israeli territories, which is against international law. The most recent famous episode was the occupation of the Shaikh Jerrah neighborhood. Majority of the people in need are related to protection and forced displacement consequences (2.1M). It is important to note that Israel controls the entry and exit of people and goods throughout the occupied Palestinian territory, which creates a shortage of supply and explain the 1.5M people who have needs related to access to essential services. Besides these, 2M have needs related to resilience and recovery and 1.5M related to access to essential services. Currently there are 1,5M of people living under the poverty line, 1.3M of refugees and 928k people affected by conflict and related violence.<sup>8</sup>

Resistance against Israeli domination exists and was the reason for the creation of the Great March of Return (GMR). The protests, mostly peaceful, were fought with great military armament by the Israeli army. The Humanitarian Needs Overview of 2020, pointed out that between 2018 and 2019, during the GMR, it was estimated that approximately 36,143 people were injured during the weapons demonstration. The majority by tear gas inhalation (41%), but at least 22% were injured by live ammunition. 214 Palestinians were killed, of these 46 were children. More than 1,200 require long-term rehabilitation.<sup>7</sup> The MSF, from 30 March 2018 until 30 November 2019, had 4,830 patients admitted to trauma clinics, 3,966 surgeries performed and 143,912 physiotherapy sessions given.<sup>3</sup> The great difference in armament between the two sides indicates that the situation is not a simple conflict, but an attempt to genocide a people. In addition to all the physical consequences, it is important to point out the psychological and social impact of these injuries on Palestinians' lives. In 2020, it was estimated that 10,400 people suffer from severe mental health problems and 42,000 from moderate problems.<sup>7</sup>

Israel also makes it difficult for the Palestinian population to access fundamental rights. About 3000 farmers who own or work on land located 1000 meters from the Israeli perimeter are discouraged from carrying out family farming due to the insecurity of the place. Likewise, 4000 fishing livelihoods families are prevented from exercising their activities due to the maritime blockade. The lack of electricity (in 2019 it was provided 12 hours a day) makes it impossible to deliver essential services, including healthcare.<sup>8</sup>

Apartheid between Israel and Palestine became most apparent during the COVID-19 pandemic. A February 2021 article of MSF reported that by that time, Israel had vaccinated nearly 50% of its population with the first dose and 30% with the second dose. Meanwhile, Palestinians had vaccinated only 0.8% of its population. As the occupying power, Israel should have the responsibility to provide medical supplies and the application of measures to combat the spread of contagious diseases and epidemics, as enshrined in the Fourth Geneva Convention, which is clearly not happening.<sup>2</sup>

## Conclusion

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The Palestinians, since the occupation of their territory, has lived in an apartheid regime by a colonizing power that subjugates its inhabitants and exposes them to constant violence and loss of fundamental rights. International humanitarian aid for the 2.45 million people living in vulnerable situations will not be enough to end the inequality experienced in the region. All this is caused by the region's political context, which is increasingly dominant and segregated.

### Bibliographic References

- <sup>1</sup> Costa, LS; Barbosa, CV. A colonização da Palestina. REJUS [Internet]. 28 fev.2019 [Access in September 26th, 2021];(1):152. Available in: <<http://www.revistas.unirn.edu.br/index.php/revistajuridica/article/view/561>>.
- <sup>2</sup> Kennes, M; Medecins Sans Frontieres . In Israel, you're 60 times more likely to have a COVID vaccine than in Palestine. 22 February 2021. [Accessed September 24th, 2021] Available in: <<https://www.msf.org/stark-inequality-covid-19-vaccination-between-israel-and-palestine>>.
- <sup>3</sup> Medecins Sans Frontieres. Great March of Return. [Access in September 24th, 2021] Available in: <<https://www.msf.org/great-march-return>>.
- <sup>4</sup> Medecins Sans Frontieres. Trauma continues long after the bombing stops in Gaza. [Access in September 27 of 2021]. Available in: <<https://www.msf.org/trauma-continues-long-after-bombing-stops-gaza-palestine>>.
- <sup>5</sup> Ocampo JE. Palestinian Refugees: Old Problems, New Challenges. Human Displacement from a Global South Perspective. Palgrave Pivot, Cham. pp 101-116. 19 March 2021. [https://doi.org/10.1007/978-3-030-64819-0\\_6](https://doi.org/10.1007/978-3-030-64819-0_6)
- <sup>6</sup> Sath, FB. Edward Said and the Parallels Between the Occupation of Palestine and Apartheid in South Africa. Hist. R., Goiânia, v. 25, n. 3, p. 89–110, set./dez. 2020
- <sup>7</sup> United Nations Office for Coordination of Humanitarian Affairs. Occupied Palestinian Territory (oPt) - Humanitarian Needs Overview 2020. December 31st, 2019.
- <sup>8</sup> United Nations Office for Coordination of Humanitarian Affairs. Occupied Palestinian Territory (oPt) - Humanitarian Needs Overview 2021. December 23rd, 2020.
- <sup>9</sup> United Nations. Two Years On: People Injured and Traumatized During the “Great March of Return” are Still Struggling. April 06th, 2020. [Access in September 24th], 2021 Available in: <<https://www.un.org/unispal/document/two-years-on-people-injured-and-traumatized-during-the-great-march-of-return-are-still-struggling/>>.

**PALAVRAS-CHAVE:** Palestine, Coloniality, Health Impacts, Apartheid, Genocide, Humanitarian Assistance

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## A SCOPING REVIEW OF POPULISM INFLUENCE ON HEALTHCARE POLICY AND ITS IMPACT ON PUBLIC HEALTH

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### RESUMO

**Summary:** Populism has become a trend in many countries. Populism can be a threat to public health policy but its impact on healthcare has not been widely discussed. The purpose of this scoping review is to discuss how trends in populism affect health policy and its impact on public health. From the literature search obtained, populism affects public health because of political healthcare service policies by accommodating people's encouragement without advice from health experts. Future studies in wider and various people are needed to determine the impact of populism on more specific communities.

### Introduction

Today, populism has become increasingly popular in many countries and can be a threat to democracy.<sup>1</sup> Although the definition of populism is not clear, it can be characterized by setting themselves as part of the will from the homogeneous society that positions them to fight against the so-called 'elite' groups and any other considered dangerous groups that can threaten people's rights and values.<sup>2</sup> A political policy approach that is based on a chauvinist ideology characterized by populism can be dangerous because it can influence the making of various policies, one of which is related to healthcare.<sup>3</sup>

Public health is based on scientific evidence but can also be influenced by the political system in government-run by politicians who do not understand the importance of a scientific approach in public policy.<sup>4</sup> Populism can be a threat to public health because public health policy is a multi-sectoral problem that interferes with sustainable development.<sup>5,6</sup> The current development of populism can influence the political policy decision-making process at various levels of government.<sup>7</sup> However, the impact of populism on healthcare policy has not been studied further. For seeking an explanation of this phenomenon, the aim of this study is to provide an overview and analysis of existing research on the effects of populism on various healthcare policies.

### Method

The scoping review was conducted using the five-step framework by Arksey and O'Malley (2005).<sup>8</sup> This scoping review is not to evaluate the quality of the available evidence, but to answer specific questions by assessing the various qualitative or quantitative studies available across multiple databases and mapping the gap from available studies on the impact of populism on public health.

In the first stage, research questions were identified. Based on the purpose of this review, the research question of this scoping review is 'How does populism affect healthcare policy and its impact on public health?'

In the second stage, the literature search was conducted on the Google Scholar, Pubmed, and Sciondirect databases from Augustus-September 2021. The search was conducted using a combination of the keywords "populism", "populist", "healthcare policy", and "public health".

In the third stage, the selection of studies with inclusion criteria is qualitative or quantitative studies published in full-text journal articles published in less than 10 years and written in English. These inclusion criteria are restricted to studies that analyze the influence of populism in government on health care policies.

In the fourth stage, All the included studies were extracted based on characteristics that included study author, year of publication, country, theme, and the relevant results. Data extraction was carried out independently during the study.

In the fifth stage, all data are compiled and reported in tables. Analysis of the data obtained was carried out using conventional qualitative analysis as the purpose of this study was to determine the effect of populism on public health.<sup>9</sup>

### Result

After searching the literature, 500 studies were found that matched the keywords. After going through the exclusion process, 7 studies were obtained (Figure 1). The data obtained from the study findings are extracted from the country and year of study, study characteristics, and relevant results. Of the 7 included studies, 4 studies related to vaccination programs<sup>10-13</sup>, 3 studies related to healthcare governance reform<sup>12,14,15</sup>, 1 study related to mental healthcare reform<sup>11</sup>, and 1 study related to the influence of populism on the level of adherence to COVID-19 safeguard guidelines<sup>16</sup>. Three studies assessed findings in the main country of study and four studies assessed findings from several countries. The findings of this review explain that populist policies in the field of public health place healthcare workers and health organizations as the opposite party by influencing the level of public trust and nationalist sentiment to influence health regulation.

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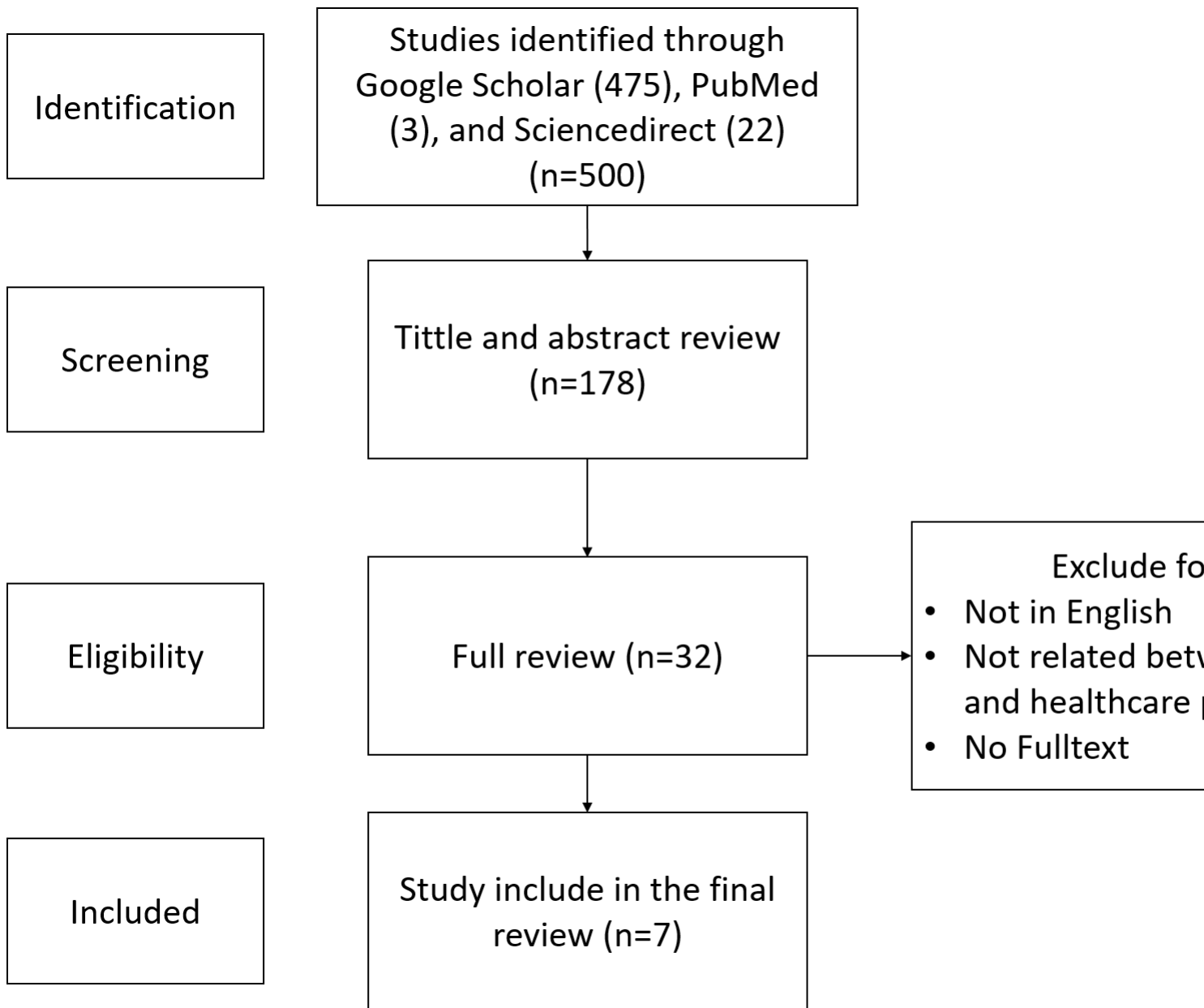


Figure 1. Flowchart of literature search.

Author (Year)	Country	Years of study	Type of analysis
Žuk and Žuk P (2020)	Poland	2014-2018	Qualitative case analysis
Numerato, Honová, and Sedláčková (2021)	Czech Republic	2017-2019	Qualitative case analysis
Pavolini et al (2018)	Denmark, England, Germany, Italia, and Turkey	2011-2018	Quantitative ana with comparative case study
Agartan and Kuhlmann (2019).	Turkey	2003-2017	Case study
Speed and Mannion (2020)	USA,UK, Italy	2016 (UK), 2017 (USA and Italy)	Case study
Lasco and Larson (2020).	Nigeria, Ukraine, Italy, Philipphine	2003-2004 (Nigeria), 2008 (Ukraine), 2015 (Italy), 2017 (Philipphine)	Comparative case study
Van Mulukom (2020)	Australia, Brazil, Croatia, Finland, France, Germany, Italy, Netherland, New Zealand, Portugal, UK, USA	2020	Cross-sectional

Table 1. Descriptive summary table of the included studies.

Conclusion

This review explains the impact of populism on healthcare policies related to public health. Populism towards public health service policies can be influenced by encouragement from the community and ignoring health expert advice, although this factor can also be influenced by how well populist politicians understand the existing health issues. The limitation of this study is not identifying the characteristics of the political system of each country. In addition, the disadvantage of using conventional qualitative data analysis may not represent the entire data, but only in building concepts from existing phenomena. Future studies by analyzing health outcomes data and from the perspective of the wider community and more affected communities can help understand how populism impacts public healthcare policies.

#### Reference

1. de Vreese CH, Esser F, Aalberg T, Reinemann C, Stanyer J. Populism as an Expression of Political Communication Content and Style: A New Perspective. *Int J Press*. 2018;23(4):423–38.
2. Lindström M. Populism and health inequality in high-income countries. *SSM - Popul Heal*. 2020;11(February 2020).
3. Rinaldi C, Bekker MPM. A scoping review of populist radical right parties' influence on welfare policy and its implications for population health in Europe. *Int J Heal Policy Manag [Internet]*. 2021;10(3):141–51.
4. Hunter EL. Politics and public health - Engaging the third rail. *J Public Heal Manag Pract*. 2016;22(5):436–41.
5. Speed E, Mannion R. The rise of post-truth populism in pluralist liberal democracies: Challenges for health policy. *Int J Heal Policy Manag [Internet]*. 2017;6(5):249–51.
6. Benatar S. Politics, power, poverty and global health: Systems and frames. *Int J Heal Policy Manag [Internet]*. 2016;5(10):599–604.
7. Biard B. The influence of radical right populist parties on law and order policy-making. *Policy Stud [Internet]*. 2019;40(1):40–57.
8. Arksey H, O'Malley L. Scoping studies: Towards a methodological framework. *Int J Soc Res Methodol Theory Pract*. 2005;8(1):19–32.
9. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res*. 2005;15(9):1277–88.
10. Žuk P, Žuk P. Right-wing populism in Poland and anti-vaccine myths on YouTube: Political and cultural threats to public health. *Glob Public Health [Internet]*. 2020;15(6):790–804.
11. Numerato D, Honová PA, Sedláčková T. Politicisation, depoliticisation, and repoliticisation of health care controversies: Vaccination and mental health care reform in the Czech Republic. *Soc Sci Med*. 2021;277(April).
12. Speed E, Mannion R. Populism and health policy: three international case studies of right-wing populist policy frames. *Sociol Heal Illn*. 2020;42(8):1967–81.
13. Lasco G, Larson HJ. Medical populism and immunisation programmes: Illustrative examples and consequences for public health. *Glob Public Health [Internet]*. 2020;15(3):334–44.
14. Pavolini E, Kuhlmann E, Agartan TI, Burau V, Mannion R, Speed E. Healthcare governance, professions and populism: Is there a relationship? An explorative comparison of five European countries. *Health Policy (New York) [Internet]*. 2018;122(10):1140–8.
15. Agartan TI, Kuhlmann E. New public management, physicians and populism: Turkey's experience with health reforms. *Sociol Heal Illn*. 2019;41(7):1410–25.
16. Mulukom V Van. Low Levels of Trust are associated with reduced Guideline Adherence and greater Conspiracy Belief during the COVID-19 Pandemic. *PsyArXiv*. 2021;

**PALAVRAS-CHAVE:** Healthcare policy, populism, public health, political system





# KNOWLEDGE AND ADHERENCE TO WARFARIN'S TREATMENT REGIMEN AMONG PATIENTS IN ALSHAAB AND AHMED GASIM HOSPITALS, SUDAN, 2018.

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## RESUMO

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**Summary:** Warfarin is an oral anticoagulant drug that needs continuous clinical and laboratory monitoring due to its narrow therapeutic index and life threatening complications. The aim of this study is to assess knowledge and adherence of patients toward their Warfarin treatment regimen and to identify barriers that prevent patients to take their warfarin therapy regularly. In this cross-sectional study, a systematic random sample of 307 patients was selected from Alshaab teaching hospital heart section and Ahmed Gasim Hospital. Data were collected by anonymous interview based questionnaires. 57.98% of the studied patients had moderate overall knowledge score, and more than half of them had good adherence levels (62.2%). The study shows that: Forgetting (43.7%) was the main barrier preventing the patients from taking their medication. In conclusion, majority of the studied patients had moderate overall knowledge score about Warfarin Oral Anticoagulant, and more than half of them had good adherence levels. "Forgetting" was the main barrier preventing the patients from taking their medication.

**Background:** Warfarin is an oral anticoagulant drug that needs continuous clinical and laboratory monitoring due to its narrow therapeutic index and life threatening complications (1). The main purpose of its utilization is to maintain a certain level of anticoagulation effect as well as minimizing the risk of hemorrhagic complications. A patient's risk of either complication (thrombosis or hemorrhage) is determined by time and the extent that his or her international normalized ratio (INR) lies outside the suggested therapeutic range (2). International Normalized Ratio (INR) must be monitored closely in patients taking warfarin therapy and the dose must be adjusted based on results of INR. Effective anticoagulation depends on: demographic factors, patient education, drug knowledge and adherence (3).

This study aims to assess knowledge and adherence of patients toward their Warfarin treatment regimen and to identify barriers that prevent patients to take their warfarin therapy regularly.

**Methods:** In this cross-sectional study, a systematic random sample of 307 patients was selected from Alshaab teaching hospital heart section and Ahmed Gasim Hospital. Data were collected by anonymous interview based questionnaires in the period between September 2018 and December 2018.

**Results:** Male patients (52.5%) exceeded females (44.8%), the mean age was 48.79. About 57.98% of the studied patients had moderate overall knowledge score, and more than half of them had good adherence levels (62.2%). The study shows that: Forgetting (43.7%) was the main barrier preventing the patients from taking their medication, followed by drug unavailability (36.8%) and high cost (19.5%). There are statistical significant differences between patient's age/education and their level of knowledge ( $p=0.008/p=0.011$ ). The correlations between

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patients' adherence to Warfarin Oral Anticoagulant and their level of knowledge is statistically insignificant ( $r=0.647$  ,  $p=0.739$ ). There are significant association between patients' level of adherence and the time from which the patient start to take warfarin ( $p\text{-value}= .034$ ).

**Conclusion:** The majority of the studied patients had moderate overall knowledge score about warfarin oral anticoagulant, and more than half of them had good adherence levels. Results highlighted positive significant correlations between patient's age/education and their level of knowledge ( $p=.008$ ,  $p=.011$ ). Also there are significant association between patients' level of adherence and the time from which the patients start to take warfarin ( $p\text{-value}=0.034$ ). Whereas, no significant correlations between patients' adherence to warfarin and their level of knowledge. "Forgetting" was the main barrier preventing the patients from taking their medication, followed by drug unavailability and high cost. Limitations of this study is that it's cross-sectional, which limits the establishment of cause and effect relationship between exposure and outcome. The researcher didn't use Morisky scale for adherence due to some issues. Didn't revise the patient's records and depend on patients' answer which sometimes may be misleading.

**Recommendation:**

- An instructional program for patients and their families should be developed to improve their knowledge, adherence, as well as reduce incidence of warfarin side effects prior to their discharge from the hospital.- Efficient multidisciplinary effort from all healthcare providers is needed to make warfarin treatment more successful.- Future researches about warfarin therapy should use Morisky scale for adherence assessment.

**Reference:**

1. Article O. Knowledge and information levels and adherence to oral anticoagulant therapy with warfarin in patients attending primary health care services. 2018;7301(2):109–16
2. Waqas S, Hira I, Richard A, Hassan S. Warfarin Therapy : Survey of Patients ' Knowledge of their Drug Regimen. 2014;21(4):37–41.
3. Shehata RS, Elassal AA, Gabal AA. Compliant to Warfarin Therapy after Mechanical Heart Valve Replacement. Open J Thorac Surg. 2014;04(02):39–43.

**PALAVRAS-CHAVE:** Warfarin – knowledge – adherence– barriers



## HEALTHCARE CHALLENGES AND COVID 19 PANDEMIC IN AFGHANISTAN - A POLITICAL AND SOCIAL PERSPECTIVE

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### RESUMO

#### SUMMARY:

**BACKGROUND/ INTRODUCTION:** The political and military conflicts in Afghanistan, as well as Taliban's advance in 2021, have significantly impacted the country's already fragile health infrastructure. The COVID 19 pandemic, the low vaccination rates and low population awareness significantly impact the access to quality health service.

**OBJECTIVES:** This abstract has the objective to inform the actual situation of Afghanistan during the Covid - 19 pandemic and measures that were taken.

**METHODOLOGY:** A literature review was done to identify articles that investigate the main effects of the covid 19 pandemic in Afghanistan and the consequences of the current political situation during the pandemic.

**RESULTS:** Besides the fragile political situation in Afghanistan, the major causes for the spreading of the Covid-19 virus were the lack of healthcare workers, insufficient basic needs (protective equipment, beds, oxygen supply) and high cost diagnosis.

**DISCUSSION:** A third wave of the Covid-19 pandemic could emerge in Afghanistan because the Taliban's military and political domination are causing a deficit in the healthcare capacity and imminent humanitarian crisis where 60% of cases were reported in June 2021 in Kabul from the Delta variant. Current, tests capacities are 4,000, and plans to increase the numbers are uncertain due to the Taliban regime, the result has been drastic for the healthcare system: bed shortages, lack of oxygen, low vaccination, and a decreasing in the number of healthcare workers<sup>1</sup> The COVID-19 vaccinations are being delayed due the Taliban's overthrow.<sup>1</sup> Even though Afghanistan received 3,068,000 doses of vaccines and was expected to receive more than 2 million additional doses. A vaccine hesitancy phenomenon is widely seen in the country since only 63% of its population is willing to take the vaccine.<sup>3</sup> All of these factors contribute to low vaccine coverage and a public health system crisis.<sup>4</sup>

**BACKGROUND/INTRODUCTION :** The COVID-19 pandemic in Afghanistan has already overwhelmed the public health system. However, this year's political and military conflicts involving the Taliban and their advance have further aggravated even more the country's fragile health care infrastructure. Adding up to this unstable situation, vaccination rates are low, such as the population's willingness to take the shot and different diseases are emerging in the country, turning the struggle to quality healthcare access even more difficult.

#### METHODS:

The Research was conducted by a literature review to identify studies that investigated the effect of the Covid-19 pandemic in Afghanistan and the influence of the Taliban regimen in the healthcare system, using databases PubMed and Google Scholar.

#### DISCUSSION AND RESULTS:

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Afghanistan's public infrastructure has been negatively affected by wars and internal instability during the previous few decades. Since the recent events regarding the United States and North Atlantic Treaty Organization (NATO) troops exiting Afghanistan territory, the situation has become even worse and degraded into a humanitarian crisis, and now the Taliban is the one ruling the entire country and has the responsibility of dealing with many issues, specially massive internal and external displacement of Afghan citizens and a public health crisis which was aggravated by the Covid-19 pandemics.

A third wave of the Covid-19 pandemic could emerge in Afghanistan because the Taliban's military and political domination are causing a deficit in the healthcare capacity and imminent humanitarian crisis where 60% of cases were reported in June 2021 in Kabul from the Delta variant. On June,16 2,313 cases were reported in one day, the highest number since the onset of the pandemic; from Sept 6, 2021, 153,534 COVID-19 positive cases have been reported, of whom 7,141 died.

. However, these numbers are not accurate due to the country's low testing capacity, with only 664,045 tests administered for a population of 40.4 million, the absence of a national death register, and weak infrastructure. Current, tests capacities are 4,000, and plans to increase the numbers are uncertain due to the Taliban regime, the result has been drastic for the healthcare system: bed shortages, lack of oxygen, low vaccination, and a decreasing in the number of healthcare workers<sup>1</sup>, that could be related to the Taliban politics that prohibited women to work and the difficulties for Non-Governmental Organizations (NGOs) to stay in the country.<sup>2</sup> According to the World Health Organization (WHO), Afghanistan is one of the most vulnerable countries in the world, with 9.4 skilled health professionals and 1.9 physicians, per 10,000 population, with a disproportion in the distribution across the country with 7.2 physicians per 10,000 population in urban areas and only 0.6 physicians per 10,000 population in rural areas.<sup>5</sup> Many Afghans do not have access to hospitals, the major reasons are because they are closed, destroyed, or never existed in the first place.

The COVID-19 vaccinations are being delayed due the Taliban's overthrow.<sup>1</sup> Even though Afghanistan received 3,068,000 doses of vaccines and was expected to receive more than 2 million additional doses. A vaccine hesitancy phenomenon is widely seen in the country since only 63% of its population is willing to take the vaccine.<sup>3</sup> All of these factors contribute to low vaccine coverage and a public health system crisis.

Besides COVID-19 third wave, Afghanistan has been reporting cases of mucormycosis, a fatal angioinvasive disease transmitted by a fungus, which was first reported in India.<sup>4</sup> Polio was also a prominent cause of distress in the country since there were several cases reported during the pandemic.<sup>4</sup>

Most of the population lives in rural areas, which challenges health care access even more. The WHO, the Jack Ma Foundation, China, India, and other countries have slightly improved the treatment capability by donating protective equipment and ventilator, but without the appropriate training and the lack of physicians, the numbers of Covid infection in Afghanistan will continue to rise.<sup>5</sup>

**CONCLUSIONS:** One of the main issues during the Coronavirus pandemic in Afghanistan, besides the political crisis and the Taliban government, is the lack of basic needs, such as protective equipment, cheap diagnostic, hospital infrastructure, oxygen supply, and healthcare workers. With the decrease in the number of NGOs these needs were difficult to achieve. Leaving political and military issues aside, global health forces are needed to improve the situation. Calling for actions directed to and made by NGOs, and global institutions such as The International Committee of the Red Cross and World Health Organization, recruiting volunteers, and delivering health supplies provided by donations could make a difference considering the COVID-19 cases spike and the severity of the situation.

#### References:

- 1- Essar, M.Y., Hasan, M.M., Islam, Z. et al. COVID-19 and multiple crises in Afghanistan: an urgent battle. *Confl Health* 15, 70 (2021). <https://doi.org/10.1186/s13031-021-00406-0>
- 2-Maley W. Health care under the Taliban, Afghanistan. *The Lancet*. 1997;350(9079):743-744.
- 3-Nemat, A., Bahez, A., Salih, M., Raufi, N., Noor, N. A. S., Essar, M. Y., Ehsan, E., & Asady, A. (2021). Public Willingness and Hesitancy to Take the COVID-19 Vaccine in Afghanistan, *The American Journal of Tropical Medicine and Hygiene*, 105(3), 713-717. Retrieved Oct 12, 2021, from <https://www.ajtmh.org/view/journals/tpmd/105/3/article-p713.xml>
- 4-Essar, M.Y., Khan, H., Babar, M.S., Hasan, M.M., Rackimuthu, S., dos Santos Costa, A.C., Ahmad, S. and Nemat, A. (2021), Mucormycosis, conflicts and COVID-19: A deadly recipe for the fragile health system of Afghanistan. *Int J Health Plann Mgmt*. <https://doi.org/10.1002/hpm.3292>
- 5-Mousavi SH, Abdi M, Zahid SU, Wardak K. Coronavirus disease 2019 (COVID-19) outbreak in Afghanistan: Measures and challenges. *Infection Control & Hospital Epidemiology*. Cambridge University Press; 2021;42(3):366–7.

**PALAVRAS-CHAVE:** public health, global health, covid-19, pandemic, afghanistan, crisis

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## THE RELATION BETWEEN VACCINATION AGAINST COVID-19 AND MORTALITY IN BRAZIL

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### RESUMO

#### THE RELATION BETWEEN VACCINATION AGAINST COVID-19 AND MORTALITY IN BRAZIL

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**KEYWORDS:** Coronavirus; Vaccination; Morbidity and Mortality Indicators.

### SUMMARY

**Introduction:** The World Health Organization (WHO) Emergency Committee classified the Covid-19 infection as a pandemic in March 2020, immunization being the best method to prevent its spread. In Brazil, population vaccination has been carried out since January 2021. This study aims to investigate if mass immunization against Covid-19 has effectively brought mortality reduction. **Methods:** An original, quantitative and documentary research was carried out. For theoretical basis, a narrative literature review was performed. The inclusion criteria were articles published between 2020 and 2021, in English, Portuguese and Spanish. The database used was the Virtual Health Library, using the following descriptors: "Vacinação", "Eficácia", "Mortalidade", "Coronavírus". To assist the search, the following Boolean operator was used: AND. **Results and Discussion:** An increase in population mortality was evidenced between February and April, with a peak in the last month of 12.86% deaths per million inhabitants. During this same period, even though population vaccination had already started, some factors contributed to the fact that mortality remained high, such as the arrival of new viral variants, such as Delta, and the lack of compliance with social isolation measures. From June onwards, there was a decline in the Covid-19 mortality rate, which continues until the month of September. This fact is related to the significant increase in vaccination, going from 12.11% at the beginning of June to 31.05% of individuals partially vaccinated at the end of September. **Conclusion:** The Covid-19 pandemic is a serious public health problem, with Brazil being one of the most affected countries. Only in mid-April, with the expansion of the distribution of immunizing agents, it was possible to observe the beginning of the drop in mortality, which continued until the month of September. However, we cannot minimize the number of deaths, which so far surpass the mark of 500 deaths per day. Thus, it is necessary to maintain protective measures and population vaccination so that the pandemic can come to an end.

### INTRODUCTION

The disease caused by the new coronavirus (Sars-Cov-2), which emerged in late 2019, had its epicenter in Hubei province, China, later spreading across the globe<sup>1</sup>. On January 30<sup>th</sup>, 2020, the World Health Organization (WHO) Emergency Committee declared the disease as a global health emergency, and in March 2020 classified it as a pandemic<sup>1</sup>. Since then, mass vaccination has been considered the greatest strategy for combating the coronavirus, in view of the exponential increase in contamination rates worldwide<sup>1,2</sup>. In 2020, Brazil was one of the

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five nations with the most confirmed cases of Covid-19, reaching an average of 30,000 notified cases every 7 days<sup>3</sup>. The vaccines used in Brazil so far are: ChAdOx1 (Oxford/Astrazeneca) and BNT162b (Pfizer/Biontech), which are definitely registered, while Ad26.COV2.S (Johnson & Johnson), CoronaVac (Sinovac), and mRNA-1273 (Moderna) are authorized for emergency use, while Sputnik V (Gamaleya) and Covaxin (Bharat Biotech) are for exceptional import only<sup>4</sup>. Currently, around 80 million Brazilians are fully vaccinated against Covid-19 and around 65 million are partially vaccinated<sup>5</sup>. With the start of mass vaccination, it was believed that mortality would reduce its rates in the country immediately, but with the emergence of new variants, such as Delta, and the inefficiency of social isolation, the effectiveness of this process ended up being reduced in the Brazilian scenario<sup>6</sup>. Therefore, this study seeks to demonstrate the relation between mortality rate and the administration of vaccines against Covid-19.

## METHODS

This is an original research, documentary and quantitative, that investigated the relation between mass vaccination against Covid-19 and mortality. The data regarding [share of people vaccinated against COVID-19](#) and mortality in Brazil, during the period [06-02-2021 to 19-09-2021](#), was obtained and extracted from the Our World in Data (<https://ourworldindata.org/>) dataset with recent official numbers. To support the theoretical framework, a narrative literature review was carried out. A search was performed in the Virtual Health Library database, using the following keywords: "Vacinação", "Eficácia", "Mortalidade", "Coronavírus". To assist in the searches, the following Boolean operator was used: AND. The inclusion criteria applied were all bibliographic productions published between 2020 and 2021, in English, Portuguese and Spanish. Letters to the editor, documents and audiovisual materials and books were not considered for the searches. Three independent authors performed a non-systematic analysis of the results found.

## RESULTS AND DISCUSSION

Graph 1 shows the correlation between the three variables considered in this study: the percentage of deaths per million people, the percentage of partially vaccinated individuals, and the percentage of fully vaccinated individuals in Brazil. An exponential increase in mortality values was registered between February and April 2021, with a peak, in this last month, of 12.86% deaths per million people. During this period vaccination had already started in the country, but only 6.32% of the population was partially vaccinated and 2.49% fully vaccinated. The increase in mortality rate after the vaccination had already started can be explained by relaxation of social isolation measures and the emergence of new variants of the coronavirus<sup>6,7</sup>. From June onwards, the Covid-19 mortality rate began to decline. This fact is related to the significant increase in partially vaccinated individuals, going from 12.11% at the beginning of June to 18.56% at the end of this month. Over time with the advance of vaccination, there was a great reduction in the number of daily deaths, reaching 2.6 per million people in September, with 31.05% of the population being partially vaccinated and 37.08% fully vaccinated, totaling 68.13% of vaccinated individuals. Studies show that the first dose alone of any Covid-19 immunizer can significantly reduce the risk of passing the infection from one person to another, thus also reducing the associated mortality<sup>7</sup>. Most vaccines used to fight the pandemic are given in two doses<sup>7,8</sup>. The second dose works as a "prime-boosting", since it maximizes immune protection and memory<sup>7</sup>. When the Pfizer, Moderna and Astrazeneca vaccines were first being tested, it was shown that the first dose caused an immune weak response, with a lower amount of antibodies, compared to a very effective response after the "prime-boosting" dose was administered<sup>7,8</sup>. Another study shows that the immune response after the second dose of the Pfizer vaccine also increases protection against Alpha and Delta variants<sup>9</sup>. It is necessary to take into account the time of seroconversion, that is, the real time of immunization, which occurs 14 days after the vaccine application<sup>8,9</sup>. Thus, when analyzing the graph, one should consider that people are only effectively immunized two weeks after the last dose, causing a delay on how the vaccination data impacts on the mortality rate.

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## CONCLUSION

The Covid-19 pandemic is a serious public health problem that has caused the death of millions of people worldwide, with Brazil being one of the most affected countries. Thus, a relentless search for the discovery of an immunizing agent capable of reversing this scenario began. However, after the vaccination of the population had started, the mortality rate didn't drop as expected. Only in mid-April, with the expansion of the distribution of immunizing agents, was it possible to observe the beginning of the decrease in numbers, which continues until the month of September. Although mortality rates have reduced considerably in the country, we cannot minimize the number of deaths, which to date, surpass the mark of 500 deaths per day. Thus, it is necessary to maintain protective measures of social distancing, wearing masks, and that people complete their vaccination schedule so that the pandemic can come to an end.

## BIBLIOGRAPHIC REFERENCES

1. Velavan TP, Meyer CG. The COVID-19 epidemic. *Tropical medicine & international health*. 2020 Feb 16;25(3):278.
2. Ciotti M, Ciccozzi M, Terroni A, Jiang WC, Wang CB, Bernardini S. The COVID-19 pandemic. *Critical reviews in clinical laboratory sciences*. 2020 Jun 09;57(6):365-388.
3. Tsallis C, Tirnakli U. Predicting COVID-19 peaks around the world. *Frontiers in Physics*. 2020 May 29;8:217.
4. Victora CG, Castro MC, Gurzenda S, Medeiros A, Franca GV, Barros AJ. Estimating the early impact of immunization against COVID-19 on deaths among elderly people in Brazil: analyses of routinely-collected data on vaccine coverage and mortality. *medRxiv*. 2021 Apr 30.
5. DeRoo SS, Pudalov NJ, Fu LY. Planning for a COVID-19 vaccination program. *Jama*. 2020 May 18;323(24):2458-2459.
6. Kupek, E. Low COVID-19 vaccination coverage and high COVID-19 mortality rates in Brazilian elderly. *Revista Brasileira de Epidemiologia*. 2021;24.
7. Livingston EH. Necessity of 2 doses of the Pfizer and Moderna COVID-19 vaccines. *JAMA*. 2021 Feb 03;325(9):898-898.
8. Polack FP, Thomas SJ, Kitchin N, Absalon J, Gurtman A, Lockhart S et al. Safety and efficacy of the BNT162b2 mRNA Covid-19 vaccine. *New England Journal of Medicine*. 2020 Dec 10;383:2603-2615.
9. Wall EC, Wu M, Harvey R, Kelly G, Warchal S, Sawyer C. et al. Neutralising antibody activity against SARS-CoV-2 VOCs B. 1.617. 2 and B. 1.351 by BNT162b2 vaccination. *The Lancet*. 2021 Jun 13;397(10292):2331-2333.

**PALAVRAS-CHAVE:** Coronavirus, Vaccination, Morbidity and Mortality Indicators

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# A Scoping Review of Populism Influence on Healthcare Policy and It's Impact on Public Health

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## INTRODUCTION

Today, populism has become increasingly popular in many countries and can be a threat to democracy.<sup>1</sup> Although the definition of populism is not clear, it can be characterized by setting themselves as part of the will from the homogeneous society that positions them to fight against the so-called 'elite' groups and any other considered dangerous groups that can threaten people's rights and values.<sup>2</sup> A political policy approach that is based on a chauvinist ideology characterized by populism can be dangerous because it can influence the making of various policies, one of which is related to healthcare.<sup>3</sup>

Public health is based on scientific evidence but can also be influenced by the political system in government run by politicians who do not understand the importance of a scientific approach in public policy.<sup>4</sup> Populism can be a threat to public health because public health policy is a multi-sectoral problem that interferes with sustainable development.<sup>5,6</sup> The current development of populism can influence the political policy decision-making process at various levels of government.<sup>7</sup> However, the impact of populism on healthcare policy has not been studied further. For seeking an explanation of this phenomenon, the aim of this study is to provide an overview and analysis of existing research on the effects of populism on various healthcare policies.

## METHODS

The scoping review was conducted using the five-step framework by Arksey and O'Malley (2005).<sup>8</sup> This scoping review is not to evaluate the quality of the available evidence, but to answer specific questions by assessing the various qualitative or quantitative studies available across multiple databases and mapping the gap from available studies on the impact of populism on public health.

### First stage

- Identify research question
- **'How does populism affect healthcare policy and its impact on public health?'**

### Second stage

- Literature search was conducted on the Google Scholar, Pubmed, and Scencedirect databases from Augustus-September 2021 with using a combination of the keywords "populism", "populist", "healthcare policy", and "public health".

### Third stage

- The selection of studies with inclusion criteria is qualitative or quantitative studies published in full-text journal articles published in less than 10 years and written in English.
- These inclusion criteria are restricted to studies that analyze the influence of populism in government on health care policies.

### Fourth stage

- All the included studies were extracted based on characteristics that included study author, year of publication, country, theme, and the relevant results. Data extraction was carried out independently during the study.

### Fifth stage

- All data are compiled and reported in tables.
- Analysis of the data obtained was carried out using conventional qualitative analysis as the purpose of this study was to determine the effect of populism on public health.<sup>9</sup>

## RESULTS AND DISCUSSION

After searching the literature, 500 studies were found that matched the keywords. After going through the exclusion process, 7 studies were obtained (Figure 1).

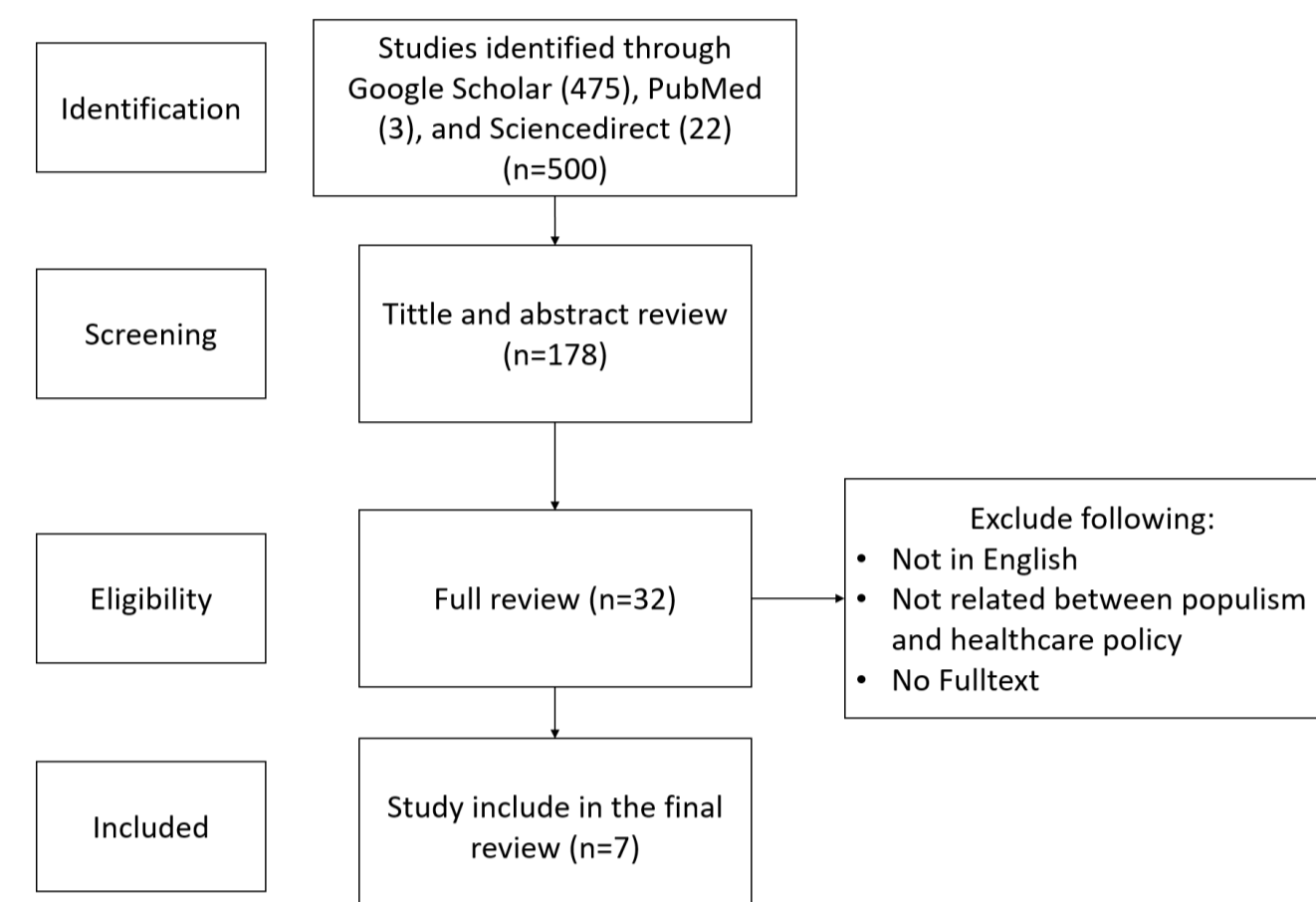


Figure 1. Flowchart of literature search.

Of the 7 included studies, 4 studies related to vaccination programs<sup>10-13</sup>, 3 studies related to healthcare governance reform<sup>12,14,15</sup>, 1 study related to mental healthcare reform<sup>11</sup>, and 1 study related to the influence of populism on the level of adherence to COVID-19 safeguard guidelines<sup>16</sup>. Three studies assessed findings in the main country of study and four studies assessed findings from several countries. The findings of this review explain that populist policies in the field of public health place healthcare workers and health organizations as the opposite party by influencing the level of public trust and nationalist sentiment to influence health regulation.

## CONCLUSIONS

This review explains the impact of populism on healthcare policies related to public health. Populism towards public health service policies can be influenced by encouragement from the community and ignoring health expert advice, although this factor can also be influenced by how well populist politicians understand the existing health issues.

The limitation of this study is not identifying the characteristics of the political system of each country. In addition, the disadvantage of using conventional qualitative data analysis may not represent the entire data, but only in building concepts from existing phenomena.

Future studies by analyzing health outcomes data and from the perspective of the wider community and more affected communities can help understand how populism impacts public healthcare policies.

## BIBLIOGRAPHIC REFERENCES

1. de Vreese CH, Esser F, Aalberg T, Reinemann C, Stanyer J. Populism as an Expression of Political Communication Content and Style: A New Perspective. *Int J Press*. 2018;23(4):423-38.
2. Lindström M. Populism and health inequality in high-income countries. *SSM - Popul Heal*. 2020;11(February 2020).
3. Rinaldi C, Bekker MPM. A scoping review of populist radical right parties' influence on welfare policy and its implications for population health in Europe. *Int J Heal Policy Manag [Internet]*. 2021;10(3):141-51.
4. Hunter EL. Politics and public health - Engaging the third rail. *J Public Heal Manag Pract*. 2016;22(5):436-41.
5. Speed E, Mannion R. The rise of post-truth populism in pluralist liberal democracies: Challenges for health policy. *Int J Heal Policy Manag [Internet]*. 2017;6(5):249-51.
6. Benatar S. Politics, power, poverty and global health: Systems and frames. *Int J Heal Policy Manag [Internet]*. 2016;5(10):599-604.
7. Biard B. The influence of radical right populist parties on law and order policy-making. *Policy Stud [Internet]*. 2019;40(1):40-57.
8. Arksey H, O'Malley L. Scoping studies: Towards a methodological framework. *Int J Soc Res Methodol Theory Pract*. 2005;8(1):19-32.
9. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res*. 2005;15(9):1277-88.
10. Žuk P, Žuk P. Right-wing populism in Poland and anti-vaccine myths on YouTube: Political and cultural threats to public health. *Glob Public Health [Internet]*. 2020;15(6):790-804.
11. Numerato D, Honová PA, Sedláčková T. Politicisation, depoliticisation, and repoliticisation of health care controversies: Vaccination and mental health care reform in the Czech Republic. *Soc Sci Med*. 2021;277(April).
12. Speed E, Mannion R. Populism and health policy: three international case studies of right-wing populist policy frames. *Sociol Heal Illn*. 2020;42(8):1967-81.
13. Lasco G, Larson HJ. Medical populism and immunisation programmes: Illustrative examples and consequences for public health. *Glob Public Health [Internet]*. 2020;15(3):334-44.
14. Pavolini E, Kuhlmann E, Agartan TI, Burau V, Mannion R, Speed E. Healthcare governance, professions and populism: Is there a relationship? An exploratory comparison of five European countries. *Health Policy (New York) [Internet]*. 2018;122(10):1140-8.
15. Agartan TI, Kuhlmann E. New public management, physicians and populism: Turkey's experience with health reforms. *Sociol Heal Illn*. 2019;41(7):1410-25.
16. Mulukom V Van. Low Levels of Trust are associated with reduced Guideline Adherence and greater Conspiracy Belief during the COVID-19 Pandemic. *PsyArXiv*. 2021;



# THE RELATION BETWEEN VACCINATION AGAINST COVID-19 AND MORTALITY IN BRAZIL

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## INTRODUCTION

The disease caused by the Sars-Cov-2, which emerged in late 2019, had its epicenter in Hubei province, China, later spreading across the globe<sup>1</sup>. On January 30<sup>th</sup>, 2020, the WHO Emergency Committee declared the disease as a global health emergency, and in March 2020 classified it as a pandemic<sup>1</sup>. Since then, mass vaccination has been considered the greatest strategy for combating the coronavirus, in view of the exponential increase in contamination rates worldwide<sup>1,2</sup>. In 2020, Brazil was one of the five nations with the most confirmed cases of Covid-19, reaching an average of 30,000 notified cases every 7 days<sup>3</sup>. The vaccines used in Brazil so far are: Oxford/Astrazeneca and Pfizer/Biontech, which are definitely registered, while Johnson & Johnson, CoronaVac, and Moderna are authorized for emergency use, and Sputnik V and Covaxin are for exceptional import only<sup>4</sup>. Currently, around 80 million Brazilians are fully vaccinated against Covid-19 and around 65 million are partially vaccinated<sup>5</sup>. With the start of mass vaccination, it was believed that mortality would reduce its rates in the country immediately, but with the emergence of new variants, such as Delta, and the inefficiency of social isolation, the effectiveness of this process was reduced in the Brazilian scenario<sup>6</sup>. Therefore, this study seeks to demonstrate the relation between mortality rate and vaccination against Covid-19.

Over time with the advance of vaccination, there was a great reduction in the number of daily deaths, reaching 2.6 per million people in September, with 31.05% of the population being partially vaccinated and 37.08% fully vaccinated, totaling 68.13% of vaccinated individuals. Studies show that the first dose alone of any Covid-19 immunizer can significantly reduce the risk of passing the infection from one person to another, thus also reducing the associated mortality<sup>7</sup>. Most vaccines used to fight the pandemic are given in two doses<sup>7,8</sup>. The second dose works as a “prime-boosting”, since it maximizes immune protection and memory<sup>7</sup>. When the Pfizer, Moderna and Astrazeneca vaccines were first being tested, it was shown that the first dose caused an immune weak response, with a lower number of antibodies, compared to a very effective response after the “prime-boosting” dose was administered<sup>7,8</sup>. Another study shows that the immune response after the second dose of the Pfizer vaccine also increases protection against Alpha and Delta variants<sup>9</sup>. It is necessary to take into account the time of seroconversion, that is, the real time of immunization, which occurs 14 days after the vaccine application<sup>8,9</sup>. Thus, when analyzing the graph, one should consider that people are only effectively immunized two weeks after the last dose, causing a delay on how the vaccination data impacts on the mortality rate.

## METHODS

This is an original research that investigated the relation between mass vaccination against Covid-19 and mortality in Brazil. The data during the period 06-02-2021 to 19-09-2021, was extracted from the Our World in Data (<https://ourworldindata.org/>) dataset with recent official numbers. To support the theoretical framework, a narrative literature review was carried out. A search was performed in the Virtual Health Library database, using the following keywords: “Vacinação”, “Eficácia”, “Mortalidade”, “Coronavírus”. To assist in the searches, the following Boolean operator was used: AND. The inclusion criteria was all bibliographic productions published between 2020 and 2021, in English, Portuguese and Spanish. Three independent authors performed a non-systematic analysis of the results found.

## CONCLUSIONS

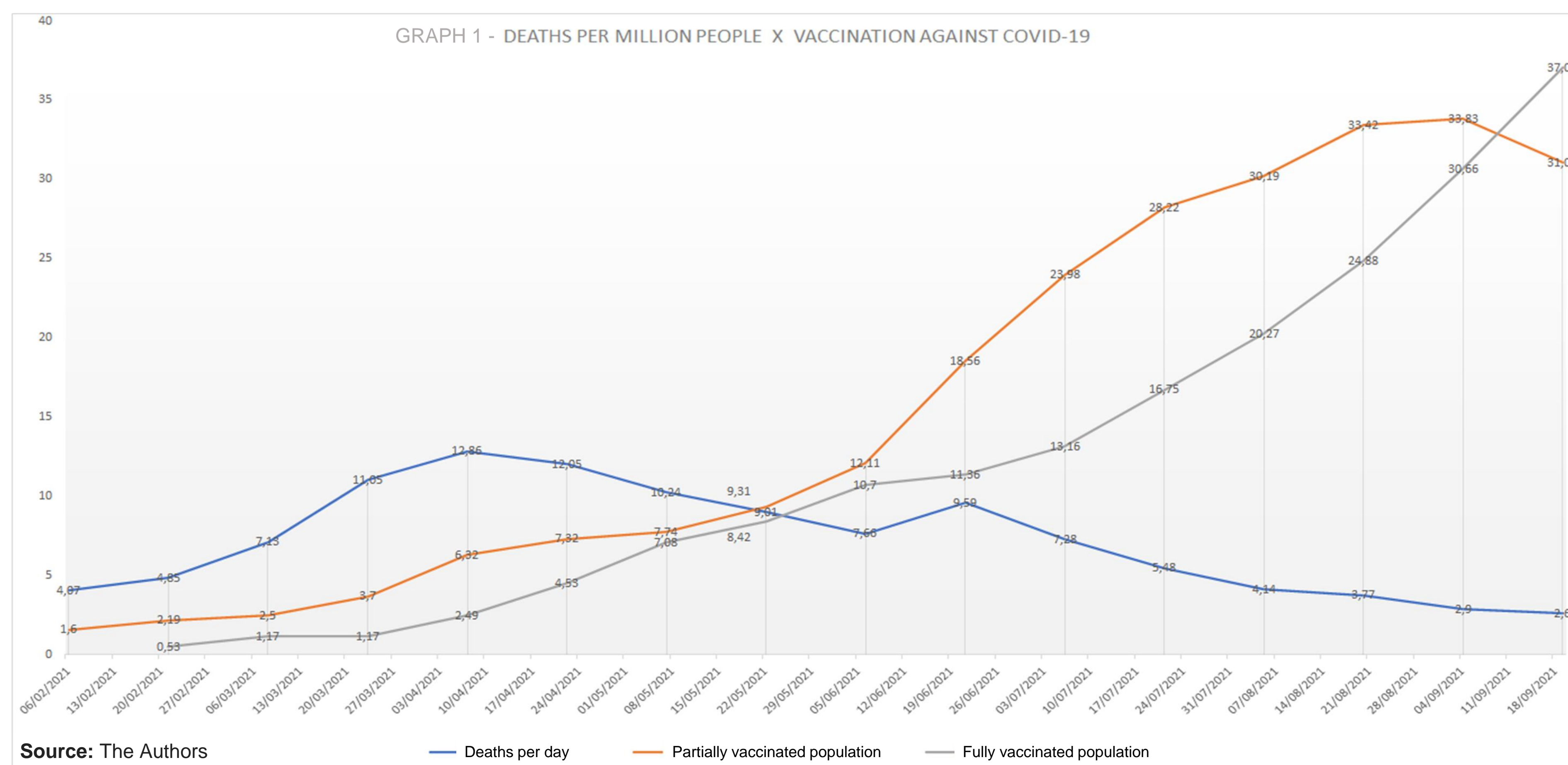
The Covid-19 pandemic is a serious public health problem that has caused the death of millions of people worldwide, with Brazil being one of the most affected countries. Thus, a relentless search for the discovery of an immunizing agent capable of reversing this scenario began. However, after the vaccination of the population had started, the mortality rate didn't drop as expected. Only in mid-April, with the expansion of the distribution of immunizing agents, was it possible to observe the beginning of the decrease in numbers, which continues until the month of September. Although mortality rates have reduced considerably in the country, we cannot minimize the number of deaths, which to date, surpass the mark of 500 deaths per day. Thus, it is necessary to maintain protective measures of social distancing, wearing masks, and that people complete their vaccination schedule so that the pandemic can come to an end.

## RESULTS AND DISCUSSION

Graph 1 shows the correlation between the three variables considered in this study: the number of deaths per million people, the percentage of partially vaccinated individuals, and the percentage of fully vaccinated individuals in Brazil. An exponential increase in mortality values was registered between February and April 2021, with a peak, in this last month, of 12.86 deaths per million people. During this period vaccination had already started in the country, but only 6.32% of the population was partially vaccinated and 2.49% fully vaccinated. The increase in mortality rate after the vaccination had already started can be explained by relaxation of social isolation measures and the emergence of new variants of the coronavirus<sup>6,7</sup>. From June onwards, the Covid-19 mortality rate began to decline. This fact is related to the significant increase in partially vaccinated individuals, going from 12.11% at the beginning of June to 18.56% at the end of this month.

## BIBLIOGRAPHIC REFERENCES

1. Velavan TP, Meyer CG. The COVID-19 epidemic. *Tropical medicine & international health*. 2020 Feb 16;25(3):278.
2. Ciotti M, Ciccozzi M, Terrinoni A, Jiang WC, Wang CB, Bernardini S. The COVID-19 pandemic. *Critical reviews in clinical laboratory sciences*. 2020 Jun 09;57(6):365-388.
3. Tsallis C, Tirnakli U. Predicting COVID-19 peaks around the world. *Frontiers in Physics*. 2020 May 29;8:217.
4. Victora CG, Castro MC, Gurzenda S, Medeiros A, Franca GV, Barros AJ. Estimating the early impact of immunization against COVID-19 on deaths among elderly people in Brazil: analyses of routinely-collected data on vaccine coverage and mortality. *medRxiv*. 2021 Apr 30.
5. DeRoo SS, Pudalov NJ, Fu LY. Planning for a COVID-19 vaccination program. *Jama*. 2020 May 18;323(24):2458-2459.
6. Kupek, E. Low COVID-19 vaccination coverage and high COVID-19 mortality rates in Brazilian elderly. *Revista Brasileira de Epidemiologia*. 2021;24.
7. Livingston EH. Necessity of 2 doses of the Pfizer and Moderna COVID-19 vaccines. *JAMA*. 2021 Feb 03;325(9):898-898.
8. Polack FP, Thomas SJ, Kitchin N, Absalon J, Gurtman A, Lockhart S et al. Safety and efficacy of the BNT162b2 mRNA Covid-19 vaccine. *New England Journal of Medicine*. 2020 Dec 10;383:2603-2615.
9. Wall EC, Wu M, Harvey R, Kelly G, Warchal S, Sawyer C. et al. Neutralising antibody activity against SARS-CoV-2 VOCs B. 1.617. 2 and B. 1.351 by BNT162b2 vaccination. *The Lancet*. 2021 Jun 13;397(10292):2331-2333.



## CHARACTERIZING HUNGER IN BRAZIL: IMPACT OF PROTEIN-ENERGY

### MALNUTRITION ACCORDING TO GBD COMPARE TOOL

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## INTRODUCTION

Protein-energy malnutrition (PEM) is a clinical-social disease and can be characterized as an imbalance between the supply of energy and nutrients and the need for these for growth and maintenance of body physiology.<sup>2</sup>

To gather data on the real scenario of the prevalence and severity of PEM in Brazil, this study used the platform GBD Compare, launched by the Global Burden of Disease study, which uses variate data and studies through international cooperation aiming the survey of mortality, invalidity and other rates, and allows the visualization of global data concerning diseases and their risk factors.

## METHODS

Historical study about the evolution of PEM in Brazil from 1990 to 2019. Data were collected from the GBD Compare tool, including prevalence, deaths and Disability-Adjusted Life Years (DALYs) of Brazil, its states and regions, through the years 1990, 2000, 2010 and 2019.

## RESULTS AND DISCUSSION

It is possible to observe, in table 1, the reduction of the rates of PEM through the years, on average of 6,2% every 10 years in all ages, totalizing 17,5% of shrinkage, and a 3% every 10 years in children under five years-old, totalizing 8,8%. However, in 2019, 3,1% of the population under five years-old suffered from malnutrition, which could represent up to 380.000 children living with the most severe level of hunger.

Table 1: Prevalence of PEM in all ages and in children under five years-old in Brazil from 1990 to 2019 per 100.000.

	<5 years				All ages			
	1990	2000	2010	2019	1990	2000	2010	2019
Brazil	3396,92	3279,29	3196,38	3099,05	762,01	706,29	660,85	628,4

Despite the decrease in the prevalence of PEM, disparities between the regions are alarming. While the South region had a reduction of 12%, the Northeast region had 2%, for children under five years-old. The comparisons between states for children under five years-old and for all ages are presented in figures 1 and 2, respectively.

Figure 1: Prevalence of PEM in children <5 years by Brazilian regions between 1990 and 2019 per 100.000.

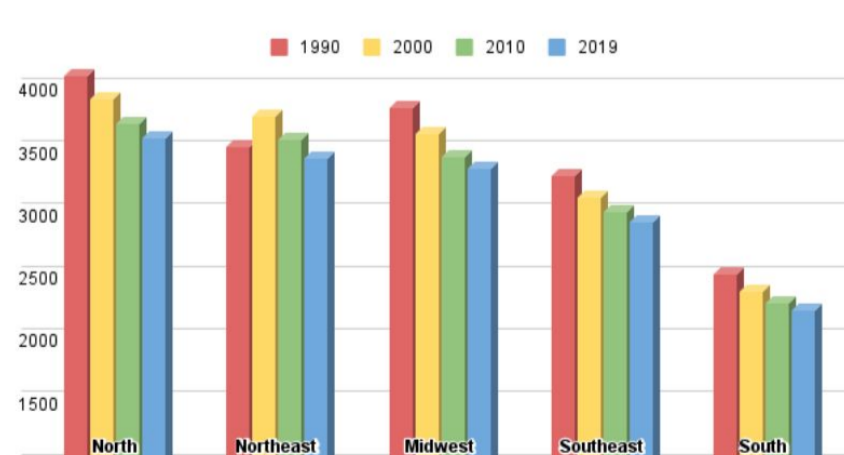
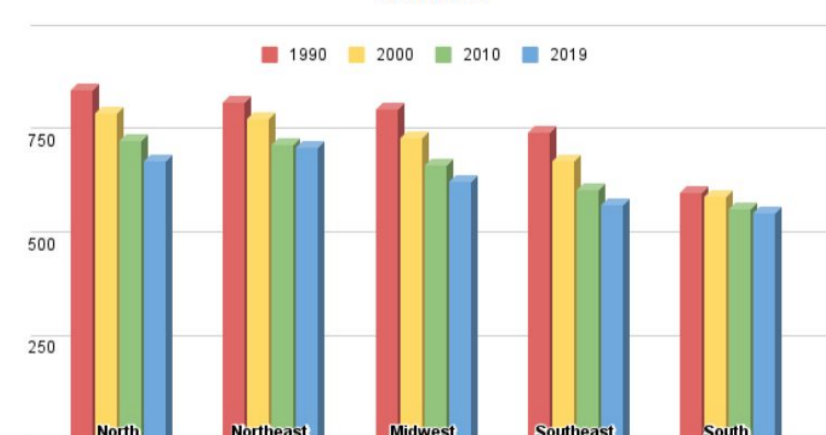


Figure 2: Prevalence of PEM in all ages by Brazilian regions between 1990 and 2019 per 100.000.



As for DALYs, PEM rates can be found in table 2. Like prevalence rates, it is possible to note the reduction of DALYs through the years. From 1990 to 2019, the reduction corresponded to 90.64% for children under five years-old, and 85,6% for all ages. As DALYs represent the sum of years of life lost due to premature mortality and years lived with disability due to the disease, we observe improvements in Brazilians' quality and duration of life, but losses - of lives and of lifetime - are still high.

Table 2: DALYs for PEM in all ages and in children <5 years in Brazil between 1990 and 2019 per 100.000.

	<5 years				All ages			
	1990	2000	2010	2019	1990	2000	2010	2019
Brazil	5752,99	3315,6	1082,79	538,62	751,51	404,01	166,48	108,27

Regarding deaths due to PEM, table 3 unites the collected date. It is possible to observe the reduction of deaths, especially between the years of 1990, 2000 and 2010 in children under five years-old. Also, in 1990 PEM was the seventh

Table 3: Deaths due to PEM in children <5 five years and in all ages by region through 1990 to 2019 per 100.000.

	<5				All ages			
	1990	2000	2010	2019	1990	2000	2010	2019
Brazil	64,94	37,22	11,89	5,74	10,48	6,79	4,16	3,53
North	37,93	28,85	13,22	8,05	6,60	4,97	2,91	2,47
Northeast	116,29	71,34	21,14	8,61	18,76	11,53	5,57	4,09
Midwest	22,53	16,15	6,84	4,66	4,52	3,79	2,74	2,56
Southeast	51,01	18,59	5,74	3,49	9,29	5,74	4,24	3,90
South	23,23	11,35	4,34	2,69	4,10	3,08	2,45	2,48

cause of death in children under five years-old, while in 2019 it occupied the 12<sup>th</sup> place in the ranking.

Between all ages, PEM is not so relevant but has been reduced in great scales, evolving from 16<sup>th</sup> in the ranking in 1990, to 43<sup>rd</sup> in 2019. This demonstrates the importance in concentrating efforts to avoid PEM in children, as they're more vulnerable to the consequences of hunger.

Food insecurity is multifactorial, but studies show that family income is the most relevant in determining hunger.<sup>1</sup> Some of the factors pointed out in studies that intensify food insecurity are less possession of consumer goods, unemployment and low education, all directly related to the socioeconomic level of the family.<sup>3</sup>

Specific programs that aim to reduce PEM were essential in the dropping rates presented in the study. Between 2004 and 2009 there was a significant drop in food insecurity in Brazil, moment that coincides with the implementation of specific policies for this purpose, such as Zero Hunger Strategy and redistribution policies, like Bolsa Família, and the appreciation of the minimum wage and reduction of unemployment.<sup>6</sup> However, it is important to emphasize that these programs are not able to attack the cause of hunger. The great land concentration and the focus on the production of commodities for export contribute to the unreachment of sovereignty.<sup>5</sup>

## CONCLUSIONS

The data showed that the situation of malnutrition in Brazil has decreased over the years. This drop can be associated with the creation of specific policies to fight hunger and income distribution in the country. However, it is clear that the cut in these policies results in a new increase of hunger in the country, once the structural cause of food insecurity has not been removed.

## BIBLIOGRAPHIC REFERENCES

- Bezerra, TA; Olinda, RA de; Pedraza, DF. Insegurança alimentar no Brasil segundo diferentes cenários sociodemográficos. *Ciência & Saúde Coletiva* [online]. 2017, v. 22, n. 2 [Access in October 2nd, 2021], pp. 637-651. Available in: <<https://doi.org/10.1590/1413-81232017222.19952015>>. ISSN 1678-4561. <https://doi.org/10.1590/1413-81232017222.19952015>.
- Lima, AM de; Gamallo, SM; Oliveira, Fernanda LC. Desnutrição energético-proteica grave durante a hospitalização: aspectos fisiopatológicos e terapêuticos. *Revista Paulista de Pediatria* [online]. 2010, v. 28, n. 3 [Access in October 2nd, 2021], pp. 353-361. Available in: <<https://doi.org/10.1590/S0103-05822010000300015>>. Epub 22 Nov 2010. ISSN 1984-0462. <https://doi.org/10.1590/S0103-05822010000300015>.
- Santos, TG dos et al. Tendência e fatores associados à insegurança alimentar no Brasil: Pesquisa Nacional por Amostra de Domicílios 2004, 2009 e 2013. *Cadernos de Saúde Pública* [online]. 2018, v. 34, n. 4 [Access in September 21st, 2021], e00066917. Available in: <<https://doi.org/10.1590/0102-311X00066917>>. Epub 29 Mar 2018. ISSN 1678-4464. <https://doi.org/10.1590/0102-311X00066917>.
- Rissi GP, Shibukawa BMC, Goes HLF, Oliveira RR de. Crianças menores de 5 anos ainda morrem por desnutrição?. *Rev enferm UFPE on line*. 2019;13:e239889 [Access in September 21st, 2021]; DOI: <https://doi.org/10.5205/1981-8963.2019.239889>

# DEMARCATIION OF INDIGENOUS LANDS IN BRAZIL AND HEALTH CARE OF ORIGINATING PEOPLE: A CORRELATIONS ANALYSIS

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## INTRODUCTION

In Brazil, the Unified Health System (Sistema Único de Saúde [SUS]) is one of the largest public health care programs in the world, designed to cover all levels of care and offer qualified, no-fee care to all individuals. However, the country's reality limits the provision of services to certain groups, whether due to political conflicts, difficulties in inserting programs into sociocultural realities or the negligence of government officials in serving marginalized citizens. Among these groups are indigenous communities, which face difficulties in ensuring civil recognition and respect for Brazilians' basic rights, such as health.

One of the biggest conflicts observed involving native peoples is the demarcation of indigenous lands in Brazil, contested by political groups and claimed by villages that demand respect for cultural and historical heritage related to the territories. These conflicts influence indigenous health care, interfering with the application of public policies aimed directly at the care of tribes.

## METHODS

The steps of the method were: problem identification, literature search, evaluation and analysis of the data obtained. The research was conducted in September 2021. The inclusion criteria for the studies were: articles in Portuguese published in the last five years, which presented considerations about indigenous peoples, social and environmental inequalities, health strategies for indigenous peoples. After analytical reading of the research, we built the object of study to answer the guiding question of this literature review.

## RESULTS AND DISCUSSION

The historical trajectory of indigenous peoples in Brazil, from colonization by Europeans until now, has an influence on the social, demographic and health situation of these peoples. The first reference to indigenous peoples in national legislation occurred in the Federal Constitution of 1988 (Constituição Federal de 1988 [CF88]). Chapter VIII Of the Indians, article 231, recognizes the rights indigenous peoples and original rights over the lands they traditionally occupy.

In theory, an area identified as indigenous land should be protected, however this does not happen. Recently, the current National President edited Provisional Measure No 870/2019 with the aim of transferring FUNAI to the Ministry of Family, Women and Human Rights, and demarcation activities to the Ministry of Agriculture, Livestock and Supply, led by Rural caucus. Due to the mobilization of indigenous and parliamentary groups in repudiation of these decisions, this item was not approved.

In the field of health indigenous people still find weaknesses in the guarantee of rights.

An example of a setback is the new Decree No 9,597, which brought changes in the management model, extinguishing the Department of Management of Indigenous Health and of National Indigenous Policy Commission, which acted as an interlocutor between ethnic groups and the federal administration.

This national portion presents several disparities, which translate into a worse profile of morbidity and mortality, poverty, malnutrition, occupational risks and social violence. The current situation of insecurity associated with the lack of guarantee of basic rights aggravates the reality already experienced, increasingly impairing the health and quality of life of this community.

## CONCLUSIONS

The analysis of the sociopolitical aspects presented allows us to conclude that the vulnerability of Brazilian native peoples, in the face of threats posed by land demarcation disputes, directly and indirectly harms their health. The difficulty of ethnic recognition, access to care for specific regions and peoples, and availability of resources to provide assistance in primary health care disadvantages these groups, not offering basic care. Therefore, it is necessary to reinforce efficient public policies, capable of diplomatically officializing the national indigenous territories, and state support to these people, guaranteeing the dignity of basic conditions of housing, education, food and health, gradually redeeming these marginalized populations and allowing a better quality of life for this important and memorable portion of Brazilians.

## BIBLIOGRAPHIC REFERENCES

Scalco N, Louvison M. Saúde indígena: lutas e resistências na construção de saberes. *Saúde e Sociedade* [Internet]. 2020 [cited 2021 Sep 23];29(3). Available from: <https://www.scielo.br/j/sausoc/a/Lv9b8tcFhSy9qPLxjgFhrhj/?lang=en>

Rocha DF da, Porto MF de S, Pacheco T. A luta dos povos indígenas por saúde em contextos de conflitos ambientais no Brasil (1999-2014). *Ciência & Saúde Coletiva* [Internet]. 2019 Feb [cited 2021 Sep 22];24(2):383–92. Available from: <https://pubmed.ncbi.nlm.nih.gov/30726371/>

Gugelmin SA, Jhessika S. Povos indígenas e o direito à saúde: acesso, insegurança e cenário político brasileiro. *Rev baiana enferm* [Internet]. 2021 [cited 2021 Sep 22];e42326–6. Available from:

<https://pesquisa.bvsalud.org/portal/resource/pt/biblio-1149691>  
Mendes AM, Leite MS, Langdon EJ, Grisotti M. O desafio da atenção primária na saúde indígena no Brasil. *Revista Panamericana de Salud Pública* [Internet]. 2018 [cited 2021 Sep 22];42. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6386040>

# EPIDEMIOLOGICAL EVALUATION OF NOTIFIED CASES OF TUBERCULOSIS IN MINAS GERAIS, BRASIL

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## INTRODUCTION

Tuberculosis is the leading cause of death from a single infectious agent worldwide and the leading cause of death for people living with HIV, according to the World Health Organization (WHO). In 2018, 10 million new cases of tuberculosis were estimated in the world and 1.5 million people died from this disease<sup>1</sup>. It is strongly socially determined, having a direct relationship with poverty and social exclusion<sup>2</sup>. This is because illness from tuberculosis is often linked to precarious living conditions. Thus, some population groups may present situations of greater vulnerability, such as indigenous people, deprived of liberty, homeless people or living with HIV<sup>3</sup>.

According to data from the Brazilian Institute of Geography and Statistics (IBGE), the state of Minas Gerais, Brazil, has an estimated population of 21,411,923 inhabitants in 2021, with a demographic density of 33.41 inhabitants/km<sup>2</sup>. Its nominal monthly household income per capita, in 2020, was 1,314 R\$, the tenth in the country, and the Human Development Index (IDH) of 0.731 in 2010, the ninth compared to other states of the federation<sup>4</sup>. Regarding poverty and extreme poverty, by 2015 the poverty rate reduced in the state, from 18.1% of the population in 2012 to 16.4% in 2015, while the extremely poor went from 7.8% to 6%. Between 2016 and 2018, there was a growth of the poor and extremely poor population in Minas Gerais. In 2016 there was an increase of 38.9% in the second group, reversing the entire decline of the past period. Among the poor people, the population showed successive increases, falling again in 2019 and reaching a level below 2012. However, both lines in 2019 are higher than 2015, where they were the lowest proportions<sup>5</sup>.

Thus, due to the situation of growing poverty in the state of Minas Gerais and the tuberculosis' severity, a pathology associated with poor living conditions, it is necessary to study the incidence of new cases of this pathology so that public health measures can be taken to revert this scenario. So, the objective of this study is to evaluate the incidence of notified cases of tuberculosis in the state of Minas Gerais between 2015 and 2020.

Males correspond to 71% and females to 29% of notifications between these years. These data are in agreement with the incidence of tuberculosis in Brazil between 2011 and 2019, in which 69% of new cases occurred in men<sup>6</sup>.

Regarding color or race, 44.8% declared themselves brown, 29.6% white, 18.5% black, 7.8% yellow, 2.3% indigenous and the others did not declare. In Brazil, we found a corresponding trend, as the black and brown race or color, from 2011 to 2019, was the one with the highest prevalence, ranging from 60.2% to 66.8% of new cases<sup>6</sup>.

Regarding co-infection with HIV, 67.9% had negative tests, 9.8% positive and the others had not been tested, the test result had not yet come out or they did not answer the question. Among the positive cases, there was no great variation in the number of new cases between years, with a rate of 404 with a standard deviation of 18.35. This differs from the national trend, which shows a vertiginous increase in cases of co-infection between tuberculosis and HIV between 2011 and 2019<sup>6</sup>.

Regarding the age range, most infections occurred between 20 and 59 years, with 36.6% between 20 and 39 years and 36.6% between 40 and 59 years. The other infections occurred 19.74% in people over 60 years old, 5.9% between 1 and 19 years old and 0.49% in children under 1 year old.

According to the global tuberculosis report released by the World Health Organization, Brazil integrates the list of 30 countries that concentrate 90% of all tuberculosis cases in the world, adding 96,000 new cases in 2019, for an incidence coefficient of 46 cases per 100,000 inhabitants, with a tendency to increase in the last 3 years. Furthermore, 11.4% of this total would have been registered in co-infection with HIV. However, among the high burden countries, Brazil was classified in the group with high levels of treatment coverage of the disease<sup>7</sup>.

As for the limitations of the study, it is important to emphasize that the numbers presented in this study are related to notifications made to the Surveillance of Respiratory Transmission Diseases of Chronic Conditions of the Unified Health System, which allows questioning the occurrence of underreporting cases.

## METHODS

The number of confirmed and notified cases of tuberculosis in the state of Minas Gerais from 2015 to 2020 was collected in the Information System of Notifiable Diseases of the IT department of the Brazilian Unified Health System (DATASUS), through the Tabnet system, available online at: <http://tabnet.datasus.gov.br/>. The data, in addition to relating to the year, were also distributed according to age group, sex, color or race, and HIV co-infection. Color or race variables are designated according to the IBGE classification. The tabulation and descriptive analysis of the data took place using the Microsoft Excel 2017 program.

## CONCLUSIONS

For all of the foregoing, the great significance and need for attention focused on the prevention and treatment of Tuberculosis is highlighted. More than improving indicators in Brazil and Minas Gerais regarding the disease, it is necessary to take care of the people, especially vulnerable populations, mitigating the negative factors in the social determination of the health-disease process.

## RESULTS AND DISCUSSION

Between 2015 and 2020, 24717 new cases of tuberculosis were reported in the Brazilian state of Minas Gerais. Regarding the year, 4053 occurred in 2015, 4071 in 2016, 4055 in 2017, 4214 in 2018, 4349 in 2019 and 3975 in 2020. In these six years, the rate of cases was 4119.5 with a standard deviation of 136, 69. These data show that the number of new infections is very close in each year in this state of the country, showing a difference with the trend in the incidence rate of this pathology in Brazil in the same period, as this marker decreased between 2011 and 2016, increase between 2017 and 2019 and fall in the year 2020<sup>6</sup>.

## BIBLIOGRAPHIC REFERENCES

- 1 World Health Organization. Are Updated Every Year. for the Tuberculosis. 2020. 1–2 p.
- 2 Ministério da Saúde. Doenças de Condições Crônicas e Infecções Determinantes sociais [Internet]. 2019 [cited 2021 Oct 1]. Available from: <http://www.aids.gov.br/pt-br/determinantes-sociais>
- 3 Ministério da Saúde. Doenças de Condições Crônicas e Infecções Populações vulneráveis - tuberculose [Internet]. 2019. [cited 1 October 2021] Available from: <http://www.aids.gov.br/pt-br/publico-geral/tuberculose/populacoes-vulneraveis-tuberculose>
- 4 Instituto Brasileiro de Geografia e Estatística. Panorama Minas Gerais. [Internet]. 2021.[cited 1 October 2021] Available from: <https://cidades.ibge.gov.br/brasil/mg/panorama>
- 5 Fundação João Pinheiro. A dinâmica recente da pobreza e extrema pobreza em Minas Gerais [Internet]. [cited 2021 Oct 1]. Available from: <http://observatoriodesigualdades.fjp.mg.gov.br/?p=1665>
- 6 Brasil. Tuberculose | 2021. Bol Epidemiológico [Internet]. 2021;3(1):44. Available from: [https://www.gov.br/saude/pt-br/media/pdf/2021/marco/24/boletim-tuberculose-2021\\_24.03](https://www.gov.br/saude/pt-br/media/pdf/2021/marco/24/boletim-tuberculose-2021_24.03)
- 7 Ministério da Saúde. Doenças de Condições Crônicas e Infecções. Doença tem 10 milhões de novos casos no mundo em 2019; Brasil registra 96 mil ocorrências [Internet]. 2021 [cited 2021 Oct 1]. Available from: <http://www.aids.gov.br/pt-br/noticias/doenca-tem-10-milhoes-de-novos-casos-no-mundo-em-2019-brasil-registra-96-mil-ocorrencias>

**Socio-economic condition, lifestyle, occupational Behavior of the sanitation worker in the selected area of old Dhaka city, Bangladesh**

Ashish Paul , Department of Medicine & Surgery , Dhaka National Medical College, University of Dhaka, Bangladesh

## INTRODUCTION

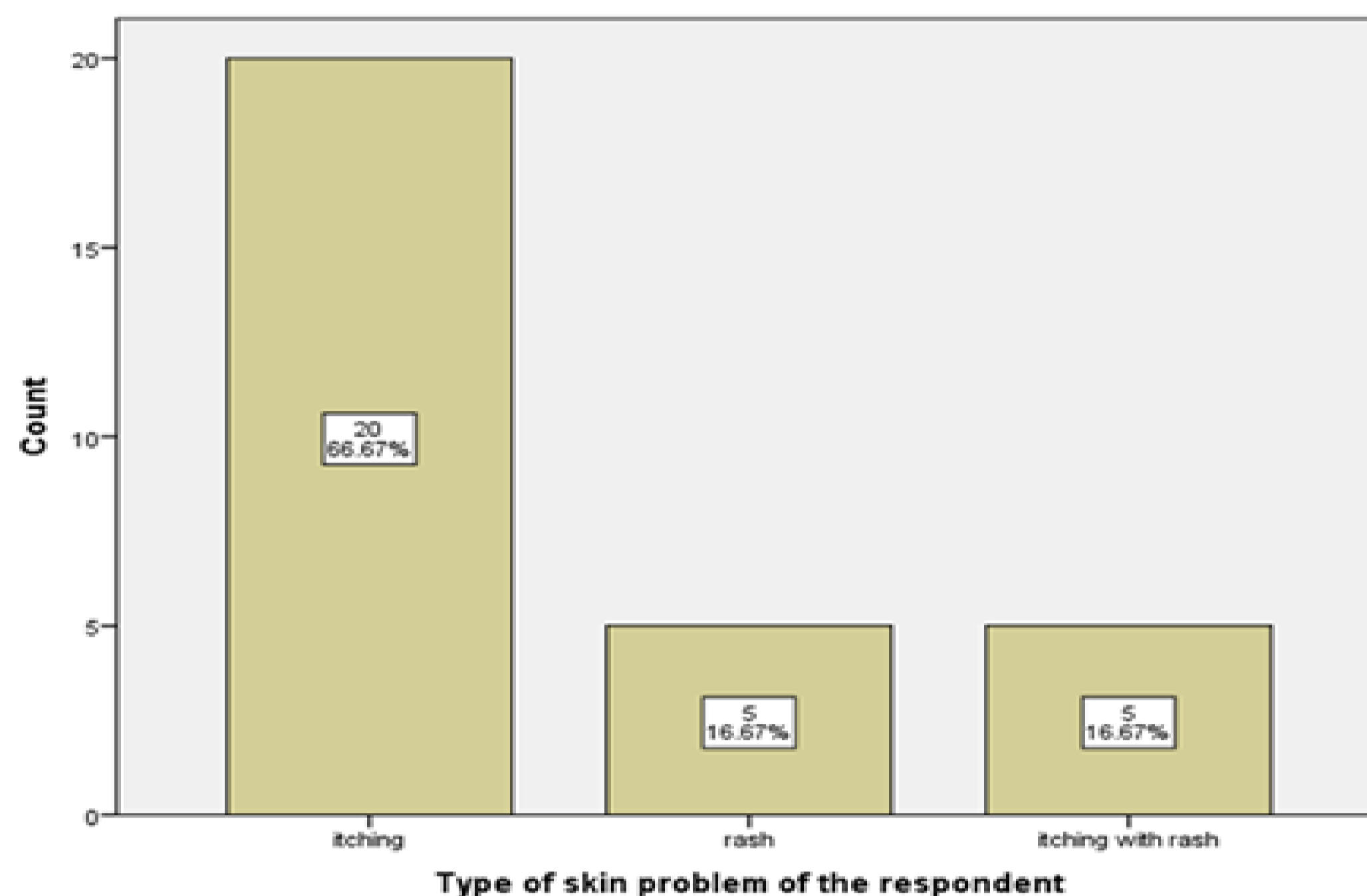
Sanitation workers play an important role in maintaining the health- hygiene in the communities. The aim of this study is to find out socio-economic condition, lifestyle, common health problems, occupational behavior of the sanitary workers. Sanitation worker or sweeper are a part and parcel of our society. They work hard from morning to evening to clean the Dhaka city. But they are treated polluted or untouchable in working sector. we should respect them and their job for the society and make a good human relationship with them. They have been deprived of all types of civil facilities including education and health care services. They have been passing their days in unbearable sorrows and sufferings without electricity, pure drinking water and supply of gas[1] . they are exposed to certain health problems by virtue of their occupation. These health hazards include exposure to harmful gases such as methane and hydrogen sulphide, cardiovascular degeneration, musculoskeletal disorders like osteoarthritic changes and intervertebral disc herniation, infections like hepatitis, and skin problems, respiratory system problems and altered pulmonary function parameters.[2]

## METHODS

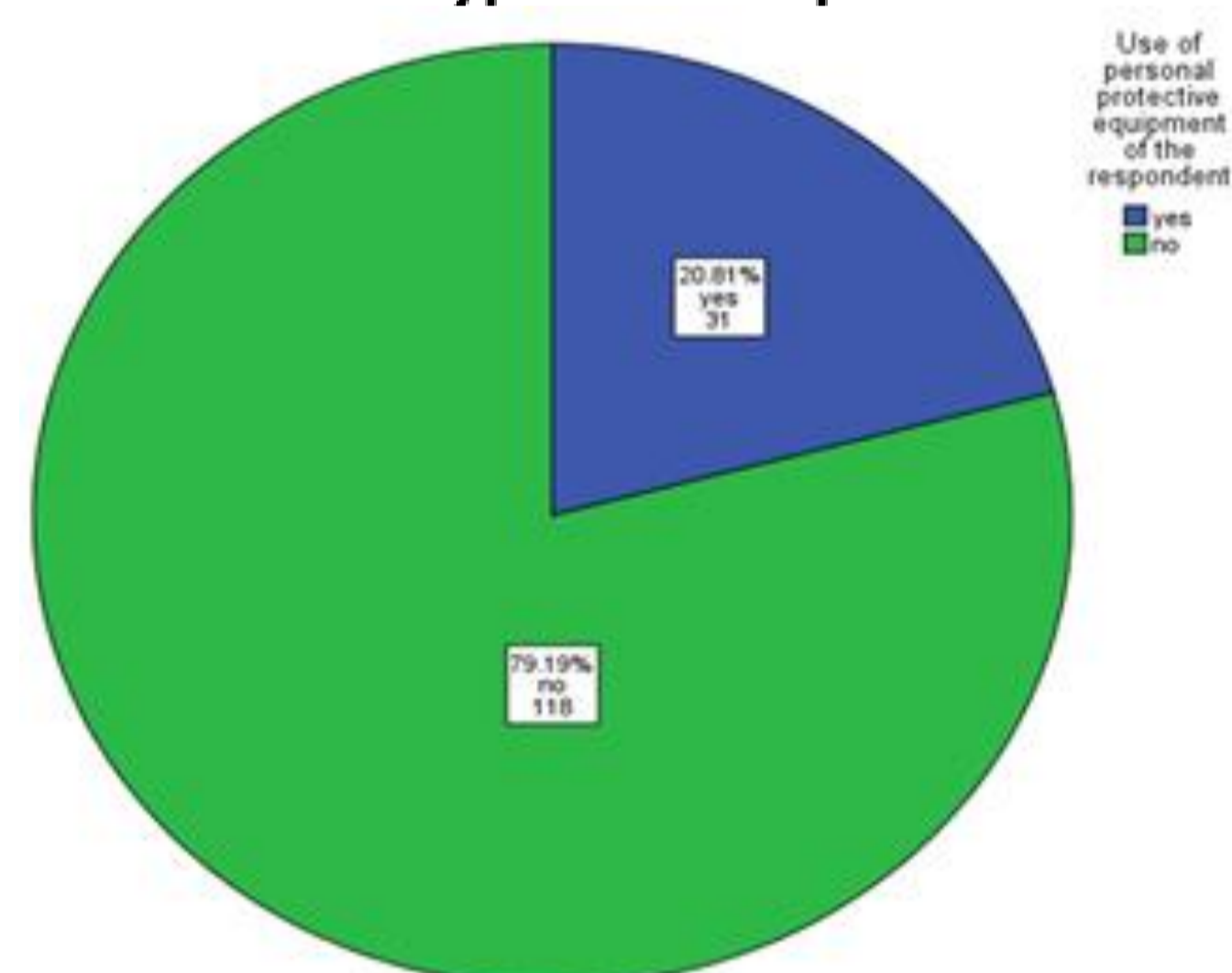
This was a cross sectional type of descriptive study .149 respondents were selected and data was collected from them by Face-to-face interview. The sampling technique was Convenient type of non -probability sampling. Structural questionnaire was used as research instrument .Graphical presentation (pie chart), tables were applied and analyzed by SPSS 20 programme.

## RESULTS AND DISCUSSION

Among the total respondents 145(97.3%) were sweeper and 4 were sc 67 (45%) were literate .124 lived in Semi Paccya house. 15(10.07%) had sore throat,21(14.09%) had cough,9(6%) had breathlessness and 16(10.74%) had chest tightness.7 (20%) had lacrimation ,15(42.9%) had redness of eye,13(37.1%) had itching problem in eye. 7 (4.10%) had abdominal pain and 2(1.03%) had diarrhea. 92(61.74%) had musculoskeletal pain. 43(46.7%) had leg pain,37(40.2%) had back pain. 31(20.81%) had knowledge about personal protection equipment, 12(37.50%) used mask,8(25%) used hand gloves. 7(4.70%) had a regular health checkup . 51(46.36%) had a habit of taking betel nut ,31(28.18%) took cigarette, 27(24.55%) took gul and 1(0.91%) took tobacco.



**Fig2 : Distribution of the respondent on type of skin problem**



**Fig 1: Distribution of the respondent on Use of personal protective equipment**

## CONCLUSIONS

The occupational health hazards, the knowledge and attitude about the health conditions and occupation, socio-economic condition, lifestyle of the sanitation workers are not satisfactory. Sanitation worker or sweeper are a part and parcel of our society. They work hard from morning to evening to clean the Dhaka city. But they are treated polluted or untouchable in working sector. we should respect them and their job for the society and make a good human relationship with them.

## BIBLIOGRAPHIC REFERENCES

- 1 .Kabir A Farhana N Aleter F Jesmin S Ali A . Sweeping practices , perception and knowledge about occupational safety and health hazards of street sweeper in Dhaka city, Bangladesh : a qualitative inquiry . Int J community ned public health 2015 Aug; 2(3):237-243
2. Ewis AA RahmaMA Mohamed ES Hifnewy TM Arafa AE Occupational Health related morbidities among street sweepers and waste collectors at Beni-Suef, Egypt. . Egyptian Journal of Occupational medicine 2013 ; 37(1):79-94
- 3 . Tara PA . Health problems of scavengers ; the case of kathmondu metropolitan city , Nepal . The third pole , vol. 8-10 ,PP57-61:2010
- 4 . Porag RS , Acherjee R. A study on Occpational Health and safety of scavenger in Dhaka City : Safety and Right society ; 2013 July. 26p

# Palestine and Israel: Impact of 73 Years of Colonialism, Apartheid and Genocide

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## INTRODUCTION

Occupation of Palestine was structured through a colonialist and orientalist perspective. Edward Said, in his work, emphasizes that the vision of Palestine was structured as an unoccupied land, the Palestinians as a barbaric population, and the East was once again inferior to the West. Resistance movements were labeled as terrorists. The counter-hegemonic vision is highly silenced, at the same time that there is a devaluation of the culture and history of these people. An apartheid regime is also installed, where Palestinian citizens are deprived of their land with their population surrounded and controlled in all aspects of daily life.<sup>2</sup>

In May/2021, Israeli attacks on Palestine began once again, killing more than 250 people and leaving almost 2,000 injured in the coastal enclave of the Gaza Strip. In only 11 days, many Gazans lost their homes and livelihoods, suffering both physical and psychological injuries. Gaza's vital infrastructure, including water and sanitation networks, health and educational facilities, were also damaged. Half of the electricity lines in Gaza didn't work and more than a dozen medical facilities, including the central COVID-19 testing lab, were damaged. Today, the situation remains and Palestinian rights continue to be under attack.<sup>4</sup>

## METHODS

Narrative Review of literature Data were taken from the Humanitarian Needs Overview (2020 and 2021), as well as reports from Médecins Sans Frontières organization (MSF). Theoretical foundation was carried out through a search on Google Academic, Pubmed and Scielo platforms, in which were selected articles between 2010 and 2021, on english and portuguese.

## RESULTS AND DISCUSSION

According to 2021 OCHA data, Palestine has a total population of 5.2 million people, of which, 2.45 million require some form of humanitarian assistance. Among these people, 60% have severe needs, while in 2020, there were 40%. Approximately 77% of the people with severe needs are in Gaza.<sup>5</sup>

A recurrent problem is the expansion of Israeli settlements and the annexation of land to Israeli territories, which is against international law. The most recent famous episode was the occupation of the Shaik Jerrah neighborhood. Majority of the people in need are related to protection and forced displacement consequences (2.1M). It is important to note that Israel controls the entry and exit of people and goods throughout the occupied Palestinian territory, which creates a shortage of supply and explain the 1.5M people who have needs related to access to essential services.

### HUMANITARIAN NEEDS OVERVIEW 2021:

2M

Needs related to resilience and recovery

1.5M

Needs related to access to essential service

1.5M

UNDER THE POVERTY LINE

1.3M

REFUGEES

Resistance against Israeli domination exists and was the reason for the creation of the Great March of Return (GMR). The protests, mostly peaceful, were fought with great military armament by the Israeli army.

### GREAT MARCH OF RETURN NUMBERS

36,143

PEOPLE INJURED

214

PALESTINIAN KILLED

46

CHILDREN

1,200

REQUIRE LONG-TERM REHABILITATION

The great difference in armament between the two sides indicates that the situation is not a simple conflict, but an attempt to genocide a people.

Israel also makes it difficult for the Palestinian population to access fundamental rights. About 3000 farmers who own or work on land located 1000 meters from the Israeli perimeter are discouraged from carrying out family farming due to the insecurity of the place. The lack of electricity (in 2019 it was provided 12 hours a day) makes it impossible to deliver essential services, including healthcare.<sup>5</sup>

Apartheid between Israel and Palestine became most apparent during the COVID-19 pandemic. A February 2021 article of MSF reported that by that time, Israel had vaccinated nearly 50% of its population with the first dose and 30% with the second dose. Meanwhile, Palestine had vaccinated only 0.8% of its population. As the occupying power, Israel should have the responsibility to provide medical supplies and the application of measures to combat the spread of contagious diseases and epidemics, as enshrined in the Fourth Geneva Convention, which is clearly not happening.<sup>8</sup>

## CONCLUSIONS

The Palestinians, since the occupation of their territory, has lived in an apartheid regime by a colonizing power that subjugates its inhabitants and exposes them to constant violence and loss of fundamental rights. International humanitarian aid for the 2.45 million people living in vulnerable situations will not be enough to end the inequality experienced in the region. All this is caused by the region's political context, which is increasingly dominant and segregated.<sup>1,2</sup>

## BIBLIOGRAPHIC REFERENCES

- Costa, LS; Barbosa, CV. A colonização da Palestina. REJUS [Internet]. 28 fev.2019 [Access in September 26th, 2021];(1):152. Available in: <<http://www.revistas.unirn.edu.br/index.php/revistajuridica/article/view/561>>.
- Sadh, FB. Edward Said and the Parallels Between the Occupation of Palestine and Apartheid in South Africa. Hist. R., Goiânia, v. 25, n. 3, p. 89–110, set./dez. 2020
- Ocampo JE. Palestinian Refugees: Old Problems, New Challenges. Human Displacement from a Global South Perspective. Palgrave Pivot, Cham. pp 101-116. 19 March 2021. [https://doi.org/10.1007/978-3-030-64819-0\\_6](https://doi.org/10.1007/978-3-030-64819-0_6)
- Medecins Sans Frontieres. Trauma continues long after the bombing stops in Gaza. [Access in September 27 of 2021]. Available in: <<https://www.msf.org/trauma-continues-long-after-bombing-stops-gaza-palestine>>.
- United Nations Office for Coordination of Humanitarian Affairs. Occupied Palestinian Territory (oPt) - Humanitarian Needs Overview 2021. December 23rd, 2020.
- United Nations Office for Coordination of Humanitarian Affairs. Occupied Palestinian Territory (oPt) - Humanitarian Needs Overview 2020. December 31st, 2019.
- Medecins Sans Frontieres. Great March of Return. [Access in September 24th, 2021] Available in: <<https://www.msf.org/great-march-return>>.
- Kennes, M; Medecins Sans Frontieres. In Israel, you're 60 times more likely to have a COVID vaccine than in Palestine. 22 February 2021. [Accessed September 24th, 2021] Available in: <<https://www.msf.org/stark-inequality-covid-19-vaccination-between-israel-and-palestine>>.
- United Nations. Two Years On: People Injured and Traumatized During the "Great March of Return" are Still Struggling. April 06th, 2020. [Access in September 24th], 2021 Available in: <<https://www.un.org/unispal/document/two-years-on-people-injured-and-traumatized-during-the-great-march-of-return-are-still-struggling/>>.



# Knowledge and Adherence to Warfarin's Treatment Regimen among Patients in Alshaab and Ahmed Gasim Hospitals, Sudan, 2018.



Lina Nasr Mahmoud Ahmed<sup>1</sup>

1: MBBS at Khartoum University, Faculty of Medicine

## Introduction:

Warfarin is an oral anticoagulant drug that needs continuous clinical and laboratory monitoring due to its narrow therapeutic index and life threatening complications.

## Objectives:

This study aims to assess knowledge and adherence of patients to their warfarin treatment regimen and to identify barriers that prevent patients to take their warfarin therapy regularly.

## Methods:

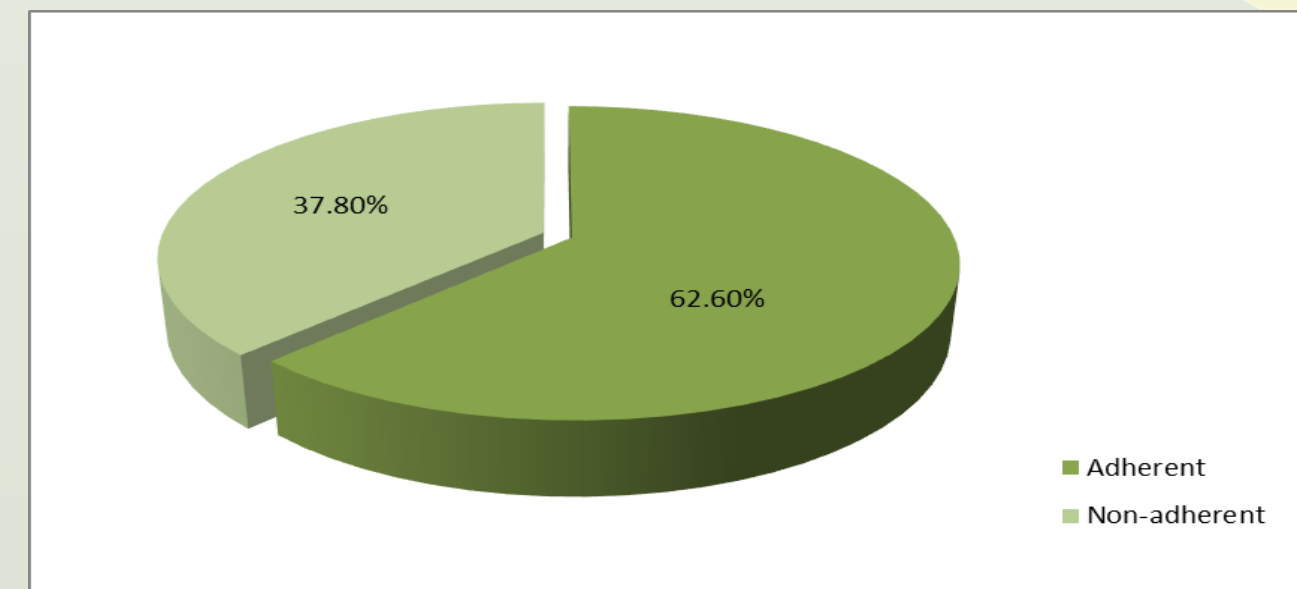
In this cross-sectional study, a systematic random sample of 307 patients was selected from Alshaab teaching hospital heart section and Ahmed Gasim Hospital. Data was collected by anonymous interview based questionnaires.

## Results:

Male patients (52.5%) exceeded females (44.8%), the mean age was 48.79. About 57.98% of the studied patients had moderate overall knowledge score, and more than half of them had good adherence levels (62.2%).

High	103	33.55%
Moderate	178	57.98%
Low	26	8.46%

Distribution of knowledge score from knowledge questions among participants' in Alshaab teaching hospital and Ahmed Gasim hospital (n=307).



Distribution of adherence to warfarin therapy among participants' in Alshaab hospital and Ahmed Gasim hospital (n=307).

The study shows that: Forgetting (43.7%) was the main barrier preventing the patients from taking their medication, followed by drug unavailability (36.8%) and high cost (19.5%). There are statistical significant differences between patient's age/education and their level of knowledge (p=0.008/p=0.011). The correlations between patients' adherence to warfarin oral anticoagulant and their level of knowledge is statistically insignificant (r=0.647, p=0.739). There are significant association between patients' level of adherence and the time from which the patient start to take warfarin (p-value= .034).

## CONCLUSION:

The majority of the studied patients had moderate overall knowledge score about Warfarin oral anticoagulant, and more than half of them had good adherence levels. "Forgetting" was the main barrier preventing the patients from taking their medication.

## Reference:

Thais, O. et al (2018) 'Knowledge and information levels and adherence to oral anticoagulant therapy with warfarin in patients attending primary health care services', 7301(2), pp. 109–116.  
Waqas, S. et al. (2014) 'Warfarin Therapy : Survey of Patients' Knowledge of their Drug Regimen', 21(4), pp. 37–41.

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# AGRADECIMENTOS

Obter informações sobre os mais variados assuntos se tornou muito mais rápido e prático com a expansão da internet e dos meios de comunicação que, embora o acesso seja amplo, a divulgação científica ainda se encontra distante de muitas pessoas. Democratizar, inserir o conhecimento científico na sociedade e melhorar a vida das pessoas através dele, é um desafio que a Congresse.me se propôs.

Fazemos com que as ações científicas tenham maior visibilidade, divulgando os avanços nas mais variadas áreas e segmentos, de modo que as pesquisas sejam mais facilmente assimiladas pelas pessoas, se tornando essencial para o conhecimento e para a melhoria de vida da sociedade como um todo.

Através desta divulgação acreditamos que estamos transmitindo novas ideias através de pesquisas inovadoras, estamos propagando e democratizando o aprendizado e contribuindo para a criação e existência de novos conceitos relativos a diversas áreas do conhecimento. O reconhecimento da pesquisa através da comprovação e publicação é fundamental para que se produzam novos e melhores materiais científicos, de forma que estimule o pensamento crítico dos leitores.

Agradecemos à todos os envolvidos pela confiança, dedicação e parceria para a concretização deste evento e pelos novos conhecimentos compartilhados através deste livro.

