Infectious Diseases Diagnosis & Treatment

Dantuluri KL, et al.Infect Dis Diag Treat 7: 204.

www.doi.org/ 10.29011/2577- 1515.100204

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Brief Report

Improving Minority Representation through COVID-19 Community Research Partnership

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Citation: Dantuluri KL, Rossman W, Lu LC, Dunn CO, Harris AM, et al. (2023) Improving Minority Representation through COVID-19 Community Research Partnership. Infect Dis Diag Treat 7: 204. DOI: 10.29011/2577-1515.100204

Received Date: 31 December 2022; **Accepted Date:** 9 January 2023; **Published Date:** 12 January 2023

Abstract

Despite enhancing recruitment efforts of minority children for our serological surveillance study of COVID-19 in the community, we found that the proportion of enrolled Black and Hispanic children was less than that of the targeted population. However, less racial and ethnic disparity was noted among those who completed serologic testing.

Introduction

Minority populations in the United States (US) experience disproportionately higher rates of SARS-CoV-2 infection and mortality [1,2]. These disparities also extend to children. Black and Hispanic children have higher rates of multi-system inflammatory syndrome (MIS-C) than expected by proportion in the general US population; additionally, Black children have higher rates of MIS-C compared to all children with COVID-19 [3]. Disparities also exist in access to testing and treatment for COVID-19 [4].

Despite the recognized association of race and ethnicity with outcomes, there continues to be underrepresentation of minorities in COVID-19 related research. The underrepresentation of minorities in clinical research is a longstanding issue. The COVID-19 pandemic has highlighted the longstanding underrepresentation of minorities in clinical research.[5] Community mistrust and lack of resources have historically been common barriers to minority engagement in research [6]. Racial and ethnic disparities in the outcomes of individuals with COVID-19 highlight the importance of inclusivity in research to improve public health measures and enhance equity in healthcare advances. For our COVID-19 Community Research Partnership (CCRP) study [7,8], we focused recruitment efforts on minority children and assessed the racial and ethnic distribution of children enrolled from a single healthcare institution.

Materials and Methods

The COVID-19 Community Research Partnership (CCRP) is a multi-site, prospective study combining electronic symptom surveillance with at-home longitudinal serological surveillance in adults and children at multiple sites [8]. This analysis includes children aged 2 – 17 years enrolled children at a large healthcare system serving populations in North and South Carolina from April 2 through June 24, 2021 [1]. Participants were recruited through email, public-facing advertisement, social media or in person, both in English and Spanish. Community-based partnerships were established with a faith-based organization to recruit minorities at community events. We also conducted in-person recruitment at a church serving the Hispanic/Latino community and at ethnic grocery stores. At enrollment, parents/guardians of participants consented to symptom surveillance alone or symptom surveillance and at-home serological testing; adolescents 13 years and older provided assent. The study was approved by a centralized Institutional Review Board.

Participants self-reported demographic data and health history including prior history of SARS CoV-2 infection at enrollment. Daily electronic surveys developed and administered by Oracle Corporation (Redwood, CA, USA) solicited symptoms of COVID-19-like illness, infection with or exposure to SARS-CoV-2, masking habits, and any receipt of COVID-19 vaccines. Participants consenting to serological surveillance were mailed at least 4 serology kits for at-home testing of finger-prick capillary blood; written instructions were provided in English and Spanish.

We performed a descriptive analysis of the racial and ethnic distribution of children enrolled in our CCRP study. We used chi-square tests to compare the racial and ethnic distribution of enrolled children to that of all children receiving care at the site during the same timeframe, as well as among participants who completed serological testing to those who consented to testing. We also calculated propensity for completing an at-home test versus consenting and not completing any test based on race and ethnicity via logistic regression. Results were reported as adjusted odds ratios (aOR) and 95% confidence intervals (CI). All statistical tests were two-tailed, with $p < 0.05$ considered statistically significant. Analyses were performed using SPSS v. 27.

Results

A total of 1,501 children were enrolled during the recruitment period. Most children were older than 5 years, 51.2% were female, and 88.3% were from mostly urban counties **(Table 1)**. Of enrolled children, 6.9% were Hispanic, 8.5% were Black, and 80.4% were White **(Figure 1A)**. Among 190,009 unique children who received care at the institution during the same time, 12.5% were Hispanic, 23.0% were Black, and 63.0% were White (Figure 1A). Of 1,412 participants who consented to serologic testing, 7.1% were Hispanic, 8.6% were Black, and 80.0% were White (Figure 1B). Only745 of the 1,412 participants consenting to testing actually completed a serology test; of these, 6.6% were Hispanic, 7.9% were Black, and 82.0% were White **(Figure 1B)**. The aOR of Black and Hispanic children who consented and completed testing compared to White children who consented and completed testing was 0.79 (95% CI 0.66 – 1.03) and 0.91 (95% CI 0.73 – 1.05), respectively.

Characteristics	N (%)
Number of Atrium Health enrollees (N)	1501
Age (years):	
≥2 – ≤ 5	334 (22.3)
>5 – ≤10	480 (32.0)
>10 – ≤15	544 (36.2)
>15 – ≤18	143 (9.5)
Sex at Birth:	
Female	769 (51.2)
Male	732 (48.8)
Rurality of County of Residence:	
Mostly urban	1326 (88.3)
Mostly rural	174 (11.6)
Completely rural	1 (0.1)

Table 1: Characteristics of enrolled children in COVID-19 Community Research Partnership study.

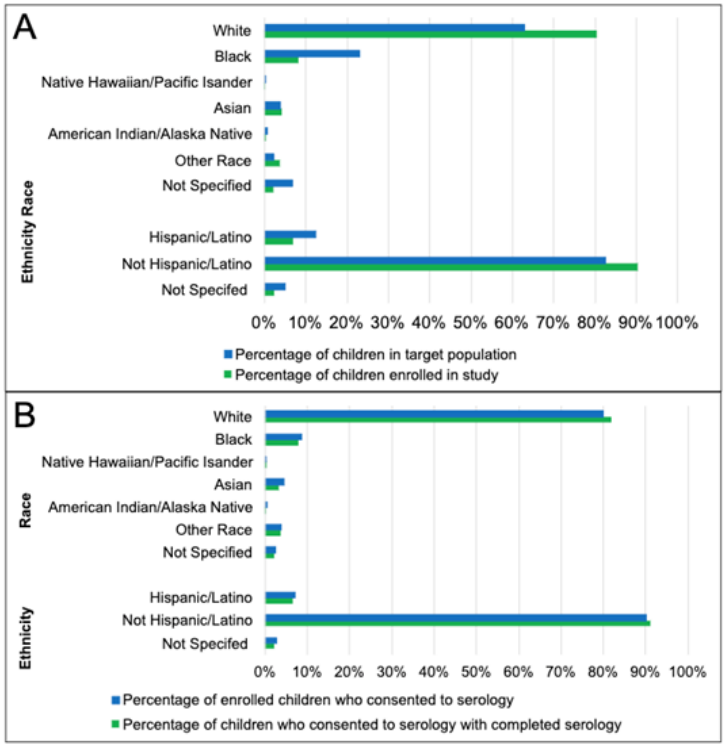

Figure 1: Racial and ethnic distribution of children enrolled in the study compared to that of target population (A) and racial and ethnic distribution of children who consented to study compared those to completed serology testing (B). In Panel A, all proportional differences are statistically significant at $p < 0.05$ except for Asian race group ($p = 0.50$). In Panel B, none of the proportional differences are statistically significant.

Discussion

For our CCRP study, we aimed to recruit a diverse group of children by disseminating both English and Spanish advertisements, emails, flyers, and videos. We performed in-person recruitment activities at local ethnic grocery stores, churches and a large academic pediatric clinic serving a high proportion of minority patients. Despite these efforts, the proportion of minority children enrolled in the study underrepresents the targeted population, thus affecting the generalizability of any findings from the syndromic and serological surveillance. The percentage of White and Non-Hispanic children enrolled was higher than that of the targeted population, whereas the percentage of Black and Hispanic children enrolled was lower than that of the targeted population. However, among children who enrolled in the study and consented to serologic testing, less racial and ethnic disparity was noted among those who completed at-home testing. Our findings indicate that once enrolled, participants of all races and ethnicities are likely to complete study procedures. Therefore, diverse representation in research may be achieved by strengthening efforts to recruit underrepresented minorities early in study planning.

A focus group of clinical trial recruiters who work with minority populations found that taking time to build relationships with potential participants and offering flexibility to facilitate their enrollment are vital for recruitment and retention [9]. Several descriptive studies have also highlighted the importance of partnering with diverse community stakeholders in the recruitment process to engage minority populations in research [10]. A more recent study compared demographics of participants enrolled in COVID-19 clinical trials by in-person recruitment versus those enrolled by online recruitment, including social media advertising; online advertising with inclusive social media recruitment led to increase in racial, ethnic, and geographic diversity among study participants [11].

Efforts to improve diverse representation in clinical research should focus on recruitment early in the study period. Future comparative studies are required to identify optimal methods to enhance pediatric minority participation in research of disease processes like COVID-19, which disproportionally affect Black and Hispanic individuals.

Conclusion

Children of minority race and ethnicity were underrepresented in our COVID-19 surveillance study; however, the racial and ethnic distribution of children who completed serological testing was similar to those who enrolled and consented to testing. This study demonstrates that recruitment strategies need to be focused on enhancing minority representation to aid in reducing racial and ethnic disparities.

Acknowledgments

The authors are grateful for Atrium Health Myers Park Pediatric Clinic, Our Lady of Guadalupe Church and Compare Foods for their support in our recruitment efforts for this study.

The study was approved by a centralized Institutional Review Board. All phases of this study were supported by a grant from North Carolina Department of Health and Human Services. The State of North Carolina had no role in the design and conduct of the study. The authors have no conflicts of interest to disclose.

References

1. Mackey K, Ayers CK, Kondo KK, Saha S, Advani SM, et al. (2021) Racial and Ethnic Disparities in COVID-19-Related Infections, Hospitalizations, and Deaths: A Systematic Review. Ann Intern Med 174:362-373.
2. Centers for Disease Control and Prevention. Disparities in COVID-19 Illness.; 2020. Accessed May 24, 2020.
3. Stierman B, Abrams JY, Godfred-Cato SE, Oster ME, Meng L, et al. (2021) Racial and Ethnic Disparities in Multisystem Inflammatory Syndrome in Children in the United States, March 2020 to February 2021. Pediatr Infect Dis J 40: e400-e406.
4. Vicetti Miguel CP, Dasgupta-Tsinikas S, Lamb GS, Olarte L, Santos RP (2022) Race, Ethnicity, and Health Disparities in US Children With COVID-19: A Review of the Evidence and Recommendations for the Future. J Pediatric Infect Dis Soc 11(Supplement_4): S132-S140.
5. Sheikh A (2006) Why are ethnic minorities under-represented in US research studies? PLoS Med 3: e49.
6. Barrett NJ, Ingraham KL, Vann Hawkins T, Moorman PG (2017) Engaging African Americans in Research: The Recruiter's Perspective. Ethn Dis 27: 453-462.
7. Peacock JE, Herrington DM, Edelstein SL, Seals AL, Plumb ID, et al. (2022) Survey of Adherence with COVID-19 Prevention Behaviors During the 2020 Thanksgiving and Winter Holidays Among Members of the COVID-19 Community Research Partnership. J Community Health 47:71-78.
8. The COVID-19 Community Research Partnership Study Group, Herrington DM, Sanders JW, et al. (2021) Duration of SARS-CoV-2 sero-positivity in a large longitudinal sero-surveillance cohort: the COVID-19 Community Research Partnership. BMC Infect Dis 21:889.
9. Morgan SE, Occa A, Potter J, Mouton A, Peter ME (2017) "You Need to Be a Good Listener": Recruiters' Use of Relational Communication Behaviors to Enhance Clinical Trial and Research Study Accrual. J Health Commun 22: 95-101.
10. Wieland ML, Njeru JW, Alahdab F, Doubeni CA, Sia IG (2021) Community-Engaged Approaches for Minority Recruitment Into Clinical Research: A Scoping Review of the Literature. Mayo Clin Proc 96:733-743.
11. Stewart J, Krows ML, Schaafsma TT, Heller KB, Brown ER, et al. (2022) Comparison of Racial, Ethnic, and Geographic Location Diversity of Participants Enrolled in Clinic-Based vs 2 Remote COVID-19 Clinical Trials. JAMA Netw Open 5: e2148325.