

# The incorporation of race and ethnicity in rehabilitation trials for Post COVID-19 Condition/Long COVID: A scoping review

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## Background

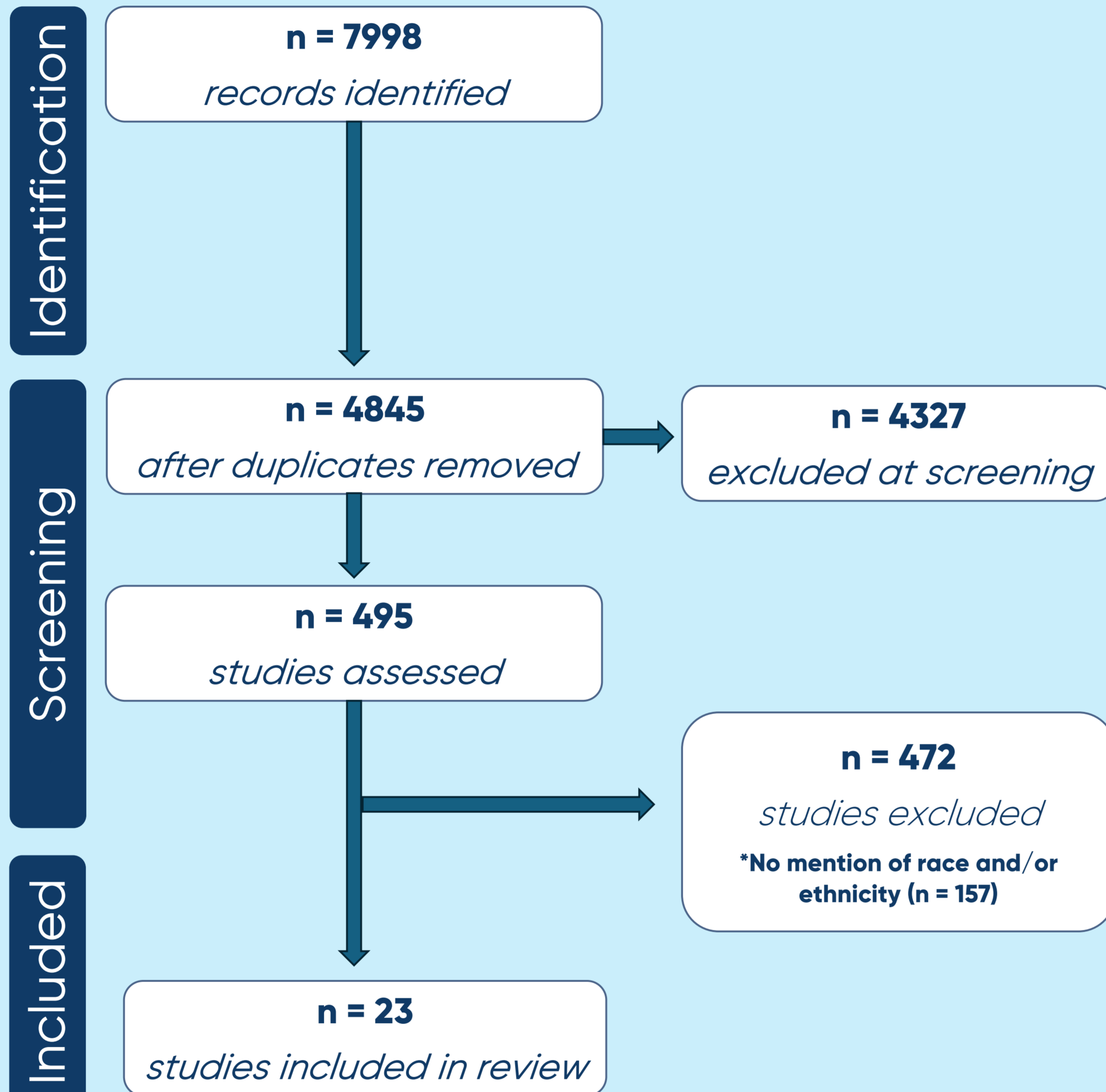
- Post COVID-19 condition, most commonly known as Long COVID, is defined as persistent symptoms post COVID-19 infection.
- Certain racial and ethnic populations may experience higher rates of the condition and more severe symptomatology.
- Understanding and addressing these disparities is important for equitable healthcare and effective rehabilitation.

## Purpose

- To determine the extent to which Long COVID/ Post COVID-19 condition rehabilitation studies consider race and/or ethnicity in defining eligibility criteria, planning recruitment and retention strategies, designing intervention delivery and adherence promoting approaches, selecting outcome measures, and reporting results.

## Methods

- **Databases:** MEDLINE, EMBASE, CINAHL, CENTRAL, and Web of Science.
- **Screening/Reviewing Process:** Systematic approach with at least 2 reviewers.
- **General Extracted Information:** Objective, population characteristics, intervention type, and outcomes.
- **Information on Race & Ethnicity:** Recruitment strategies, adherence strategies, and stratification of outcomes based on race/ethnicity.



**Figure 1.** PRISMA diagram outlining the number of studies identified, excluded, and included in the review.

## Results

Study Elements	How Race/Ethnicity was Considered
Defining Eligibility Criteria	• <b>No articles</b> described race/ethnicity in their inclusion or exclusion criteria.
Selecting Outcome Measures	• <b>No articles</b> described race and/or ethnic considerations in selecting measures.
Planning Recruitment and Retention Strategies	• <b>2 protocols</b> detailed the use of purposive sampling to recruit from minority groups <sup>1,2</sup> . • <b>1 quasi-experimental clinical trial</b> aimed to ensure sociodemographic diversity in recruitment <sup>3</sup> . • <b>1 protocol</b> reported working with an organization to engage minority ethnic communities in recruitment <sup>1</sup> .

**Table 1.** Details on how race/ethnicity was considered in various study elements.

**Table 1.** Continued

Study Element	How Race/Ethnicity was Considered
Reporting Results	<ul style="list-style-type: none"> <li>• <b>3 protocols</b> described how data on ethnicity of participants would be collected<sup>4,5,6</sup>.</li> <li>• <b>16 studies</b> reported on the race/ ethnicity of participants in their sample<sup>7-22</sup>.</li> <li>• <b>1 cohort study</b> entered ethnicity into their ANOVA analysis<sup>11</sup> and reported pre-intervention differences in health-related QoL, particularly lower among minority participants. However, the sample size post-course was insufficient to evaluate differences in outcome across groups.</li> <li>• <b>1 protocol</b> described how the analysis would adjust the effect of the intervention for variables including ethnicity<sup>2</sup>.</li> <li>• <b>1 protocol</b> described how they would use a health equity impact assessment approach (HEIA) in their analysis<sup>5</sup>.</li> <li>• <b>1 protocol</b> of an intervention aimed to adjust pulmonary test results by using a race-based calculator for norm-adjusted percentile scores<sup>23</sup>.</li> <li>• <b>1 protocol</b> described how they planned to analyze outcome measures to examine factors related to the uptake of the exercise application being tested across different demographic groups<sup>6</sup>.</li> </ul>

## Studies that Mention Race and/or Ethnicity in Recruitment Efforts



**Only 1 out of 23** articles described how all participant facing communications would be reviewed to ensure they are inclusive, accessible and representative of a range of populations<sup>2</sup>.

**Table 1.** Pivot chart showcasing the proportion of articles that mentioned race/ethnicity in their recruitment efforts.

## Preliminary Findings & Implications

- The total number of participants across all studies was n = 1234 with 1079 (**87%**) being White.
- Although studies report the demographic profile of participants, no articles stratified findings or reported outcomes of racial/ethnic minorities separately.
- This study provides data showing that racial and ethnic minorities are largely underrepresented in existing Long COVID rehabilitation research and that only a few studies have incorporated race and/or ethnicity into their study designs.

## Conclusions

- Greater racial and ethnic diversity is needed within rehabilitation trials for Long COVID due to the large underrepresentation of racial and/or ethnic minorities in existing studies.
- Furthermore, more Long COVID rehabilitation studies need to incorporate racial and/or ethnic considerations into their study design as it is not well understood whether existing rehabilitation strategies are effective within racial/ ethnic minority communities.

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