

Ramzi Ibrahim MD<sup>1,2</sup> & Chelsea Takamatsu MD<sup>1,2</sup>

<sup>1</sup>University of Arizona Internal Medicine Residency Program – Tucson

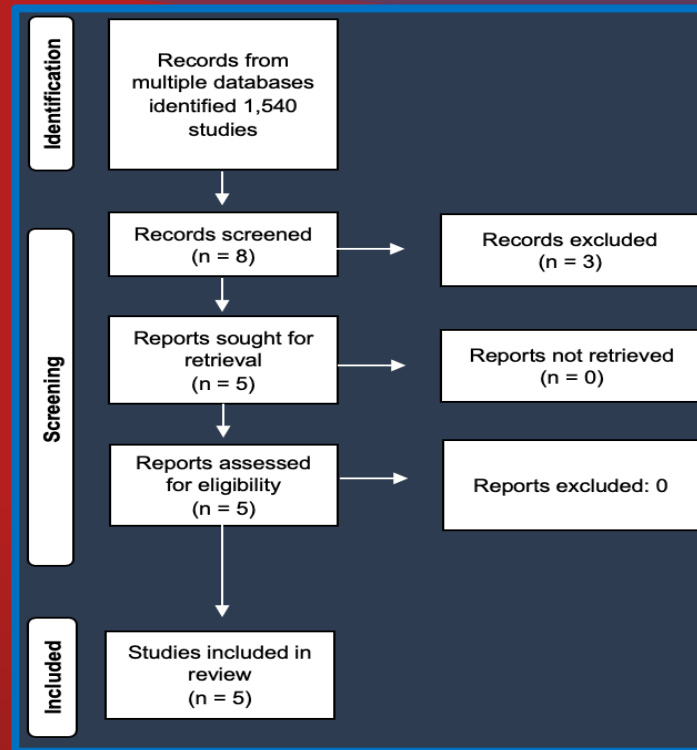
<sup>2</sup>Banner University Medical Center

## Introduction

Cardiovascular disease, specifically peripartum cardiomyopathy (PPCM), is a significant cause of morbidity and mortality across the globe, disproportionately affecting Black populations [1]. Underrepresentation of Black patients within cardiovascular clinical trials remains an issue [2]. With precision medicine on the uprise, the need for an in-depth understanding of subpopulation-specific pathophysiology and pharmacodynamics plays an important role in maximizing efficacy of the care provided. This review sought out to synthesize a quantitative overview of the representation of Black adults in trials studying peripartum cardiomyopathy.

## Methods

An extensive search was done with multiple databases using keywords ((peripartum [mesh] OR peripartum [tiab]) AND (cardiomyopathy [mesh] OR cardiomyopathy [tiab])) yielding 1,540 studies. Inclusion criteria included clinical trials on peripartum cardiomyopathy that reported ethnicities of their enrolled patients. Exclusion criteria included studies that enrolled patients with non-PPCM. Studies were independently evaluated by two independent physicians. After an extensive screening process, 5 studies were included. A total of 362 patients across multi-centers and countries were identified. Preferred Reporting Items for Systematic reviews was used for the basis of constructing a review protocol. Pooled outcomes were synthesized using Microsoft Excel. Continuous variables were reported as absolute values and respective percentages.



Study ID	Total Patients	Caucasian	Black	Hispanic	Other (not specified)	Location of Study
Haghikia 2019	40	40	0	0	0	Germany
Hilfiker-Kleiner 2017	63	62	1	0	0	Germany
Karaye 2020	100	0	88	0	12	Nigeria
Schelbert 2017	100	0	30	15	55	USA
Sliwa 2002	59	0	59	0	0	South Africa

## Participation to Prevalence Ratio

PPR =  $\frac{\text{Prevalence in disease population (\%)} }{\text{Percentage of patients of interest among disease population}}$

## Results

5 clinical trials with a total of 362 patients were included. Within these trials, 102 patients (28.2%) were identified as Caucasian, 178 patients (49.2%) were Black, 15 patients (4.1%) were Hispanic, and 67 patients (18.5%) did not have an ethnicity noted in the manuscripts. The participation to prevalence ratio (PPR) for Black adults was measured to be 1.53 using data from the largest population-based PPCM study [3].

## Conclusion

A significant ethnic disparity, characterized by underrepresentation of Black adults, remains a crucial issue in the literature, often the result of enrollment biases [2]. However, this disparity cannot be extrapolated to clinical trials on PPCM. The PPR in our study showed overestimation of Black adults in PPCM trials. Significant limitations include the limited availability of PPCM clinical trials and population-based studies on prevalence of Black adults with PPCM, and the small sample sizes in these studies. Nonetheless, further need for recruitment research still remains to mitigate this disparity in cardiovascular trials. Future direction includes greater efforts to allow black inclusion as a priority during trial design, enhanced transparency, and recruitment by healthcare providers.

## References

- Gentry, M. B., Dias, J. K., et al. (2010). African-American women have a higher risk for developing peripartum cardiomyopathy. *Journal of the American College of Cardiology*, 55(7), 654–659. <https://doi.org/10.1016/j.jacc.2009.09.043>
- Prasanna A, Miller HN, et al. Recruitment of Black Adults into Cardiovascular Disease Trials. *J Am Heart Assoc*. 2021 Sep 7;10(17):e021108. doi: 10.1161/JAHA.121.021108.
- Mielniczuk LM, Williams K, et al. Frequency of peripartum cardiomyopathy. *Am J Cardiol*. 2006 Jun 15;97(12):1765-8. doi: 10.1016/j.amjcard.2006.01.039.