Race, Adiposity-Related Anthropometrics, and Clinical Outcomes in Cardiovascular-Kidney-Metabolic Disease

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FINEHEART

Background

- Obesity is prevalent and associated with adverse outcomes in persons with cardiovascular (CV), kidney, and metabolic (CKM) diseases
- However, the extent to which race modifies the association between adiposity-related anthropometrics and cardiovascular outcomes in persons with CKM diseases is uncertain

Study Aims

- In this participant-level analysis of 3 phase III, global, double-blind, randomized clinical trials of finerenone (FINE-HEART), we evaluated:
  1. Prevalences of obesity by self-reported race
  2. Associations between adiposity-related anthropometrics and cardiovascular outcomes, by self-reported race
  3. Treatment effects of finerenone on CV events, by anthropometrics and race

Methods

- Participant-level data from the FIDELIO-DKD, FIGARO-DKD, and FINEARTS-HF trials were pooled with harmonized data elements
- Participants with available BMI, waist circumference (WC), waist-to-height ratio (WHtR), and waist-hip ratio (WHR) were included
- First, we compared the prevalence of obesity using BMI criteria alone vs. *Lancet* Commission criteria (any excess adiposity) according to self-reported race (Asian, Black, White, and Other)
  - Other race includes American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, Multiracial, and unknown
  - Any excess adiposity was defined as elevated BMI, WC, WHtR, or WHR, using race/ethnicity-specific thresholds (as applicable)
- Multivariable-adjusted associations between BMI, WC, and WHtR were examined using Poisson regression and restricted cubic splines
- The effect of finerenone on cardiovascular outcomes across the spectrum of adiposity was assessed by race using Poisson regression and Cox proportional hazards regression

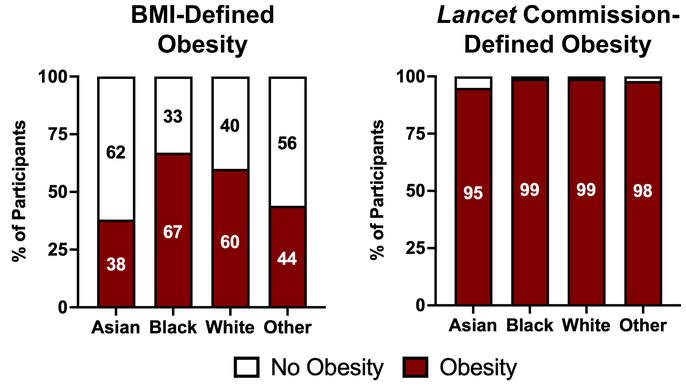
Baseline Characteristics in FINE-HEART, by Race

FINE-HEART: FIDELIO-DKD, FIGARO-DKD, FINEARTS-HF

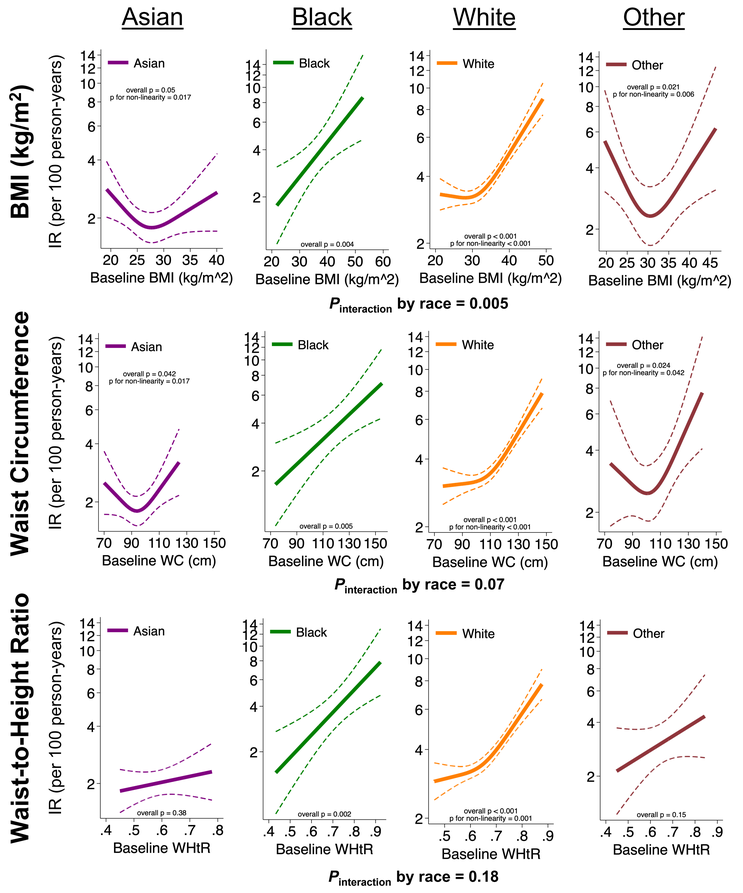
18,858 individuals with T2D and CKD and/or HF with mildly reduced or preserved ejection fraction

Characteristic	Asian (n=3,847)	Black (n=598)	White (n=13,497)	Other (n=916)
Age, y	64 ± 11	63 ± 10	68 ± 10	65 ± 10
Female	1110 (29%)	282 (47%)	4823 (36%)	397 (43%)
BMI, kg/m^2	27 ± 4	34 ± 7	32 ± 6	30 ± 6
WHtR	0.58 ± 0.07	0.66 ± 0.11	0.65 ± 0.09	0.64 ± 0.08
Systolic BP, mm Hg	132 ± 16	138 ± 16	135 ± 14	136 ± 16
HbA_{1c}, %	7.3 ± 1.3	7.7 ± 1.6	7.3 ± 1.4	7.7 ± 1.6
eGFR, mL/min/1.73 m^2	57 ± 21	56 ± 23	60 ± 21	58 ± 22
UACR, mg/g	396 [75, 1087]	431 [127, 1113]	231 [37, 737]	499 [103, 1255]
History of T2D	3243 (84%)	555 (93%)	10732 (80%)	796 (87%)
History of HF	1069 (28%)	136 (23%)	5538 (41%)	212 (23%)

Prevalence of Obesity, by Self-Reported Race

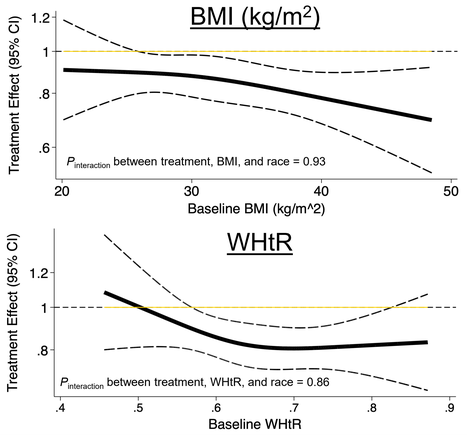


Association Between Adiposity-Related Anthropometrics and CV Death or HHF, by Race



Incidence rates (and 95% CI) estimated through Poisson regression with restricted cubic splines (number of knots selected to minimize the AIC), adjusted for age, sex, trial, randomized treatment, smoking history, history of atherosclerotic cardiovascular disease, and estimated glomerular filtration rate.
Abbreviations: CV = cardiovascular; HHF = heart failure hospitalization; IR = incidence rate

Effect of Finerenone on CV Death or HHF, by Baseline BMI and WHtR



Key Findings

In this prespecified pooled analysis of the complementary FINE-HEART trials, obesity was near-universally present across all racial categories when broader anthropometrics were considered

Race appeared to significantly modify the association between BMI and adverse cardiovascular outcomes, with U-shaped associations observed for persons with Asian and Other race, but not Black or White race

Finerenone consistently reduced CV death and HF hospitalization irrespective of baseline BMI and WHtR in persons with CKM disease; these associations were not modified by race

Funding

FIDELIO-DKD, FIGARO-DKD, and FINEARTS-HF were sponsored by Bayer AG.

Excess adiposity was nearly universally present and associated with adverse outcomes in all racial groups represented in FINE-HEART. Race did not modify the consistent cardiovascular benefits of finerenone across the spectrum of adiposity.