REPLY: Heart Failure Burden in Asia

The Full Picture

We thank Drs Manla and Bader for their interest in our state-of-the-art-review[1] in a recent issue of *JACC: Asia*. Our review summarized the occurrence, causes, outcomes, and management of heart failure (HF) in Asia, from both GBD (Global Burden of Disease) data and registry studies. Asia, marked by its vast population, territories, and rich diversity of ethnicities, confronts challenges in aggregating countries and dividing regions in studies. To provide information on HF not only at the country level but also at the regional level, we include and divide Asia according to the GBD 21 regional division method and finally include 5 Asian regions: East Asia, South Asia, Southeast Asia, Central Asia, and high-income regions of Asia-Pacific. However, the GBD region division system considers both the geographic and the epidemiologic features of nations and territories. Thus, the countries from geographic Western Asia are included in the North Africa and Middle East GBD region but not 5 Asian regions. Dr Manla has supplemented that countries in Western Asia such as Kuwait and Jordan also have high age-standardized rates of HF prevalence in GBD 2019, which provides very important epidemiologic data on the HF burden in Asia.

We further searched the literature to obtain data on the characteristics, management, and outcome of HF in Western Asia from registry studies. Although such data resources in Western Asia are relatively limited, some global HF registries provide information on regions that contain countries of geographic Western Asia. For example, the INTER-CHF (International Congestive Heart Failure)[2] and G-CHF (Global Congestive Heart Failure)[3] studies included the Middle East region, and REPORT-HF included the Eastern Mediterranean region and Africa. Such regions defined in these global registries involved some Western Asian countries but also included some African countries. The main cause of HF in these regions was ischemic heart disease, and patients have a high prevalence of comorbidities such as hypertension and diabetes mellitus. The majority of HF patients in these regions had an ejection fraction lower than 40% (Table 1). In terms of the outcome of HF patients among the Western Asian countries, the REPORT-HF (prospective international REgistry to assess medical

TABLE 1 Characteristics of Patients From Regions Containing Geographic Western Asian Countries in Global Heart Failure Registries

	INTER-CHF[2]	REPORT-HF[4]	G-CHF[3]
Year	2012-2014	2014-2017	2016-2020
Region, as described in the original study	Middle East	Eastern Mediterranean region and Africa	Middle East
Countries	Egypt, Qatar, Saudi Arabia	Algeria, Egypt, Jordan, Lebanon, Morocco, Saudi Arabia, South Africa, Tunisia, United Arab Emirates	Saudi Arabia, Turkey, Egypt, United Arab Emirates
Sample size	1,000	2,172	1,824
Age, y	56 ± 14	64 (55-73)	58 ± 14
Male	72%	62%	68%
Ejection fraction <40%	73%	58%	73%
Cause			
Ischemic heart disease	50%	48%	–
Hypertensive heart disease	10%	19%	–
Valvular heart disease	8%	13%	–
Comorbidities			
Hypertension	–	60%	61%
Diabetes mellitus	57%	47%	49%
CKD	12%	18%	–
COPD	4%	–	9%
Atrial fibrillation	–	21%	18%
Medications			
ACEI or ARB or ARNI	82%	73%	83%
Beta-blocker	85%	75%	94%
MRA	46%	50%	83%

Values are n, mean ± SD, median (Q1-Q3), or %.

ACEI = angiotensin-converting enzyme inhibitor; ARB = angiotensin receptor blocker; ARNI = angiotensin receptor-neprilysin inhibitor; CKD = chronic kidney disease; COPD = chronic obstructive pulmonary disease; MRA = mineralocorticoid receptor antagonist; G-CHF = Global Congestive Heart Failure; INTER-CHF = International Congestive Heart Failure; REPORT-HF = prospective international REgistry to assess medical Practice with lOngitudinal obseRvation for Treatment of Heart Failure.

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Practice with lOngitudinal obseRvation for Treatment of Heart Failure) study showed that the 1-year mortality was highest in Lebanon (24.3%), followed by Jordan (17.7%), Saudi Arabia (14.5%), and the United Arab Emirates (12.7%).[4] We hope that these data can supplement the epidemiology of HF in Asia.

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The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the Author Center.

REFERENCES

1. Feng J, Zhang Y, Zhang J. Epidemiology and burden of heart failure in Asia. *JACC: Asia*. 2024;4(4):249–264.

2. Dokainish H, Teo K, Zhu J, et al. Global mortality variations in patients with heart failure: results from the International Congestive Heart Failure (INTER-CHF) prospective cohort study. *Lancet Glob Health*. 2017;5:e665–e672.

3. Johansson I, Joseph P, Balasubramanian K, et al. Health-related quality of life and mortality in heart failure: the Global Congestive Heart Failure study of 23 000 patients from 40 countries. *Circulation*. 2021;143:2129–2142.

4. Tromp J, Bamadhaj S, Cleland JGF, et al. Post-discharge prognosis of patients admitted to hospital for heart failure by world region, and national level of income and income disparity (REPORT-HF): a cohort study. *Lancet Glob Health*. 2020;8:e411–e422.