

## Letters

### A Transatlantic Comparison of Patient-Reported Access to and Use of Aspirin in Contemporary Preventive Cardiology



Aspirin is effective in the secondary prevention of cardiovascular disease (CVD). By contrast, aspirin's role in primary prevention is controversial, with the most recent data demonstrating a reduction in nonfatal CVD that is largely counterbalanced by excess risk of major bleeding (1). Current guidelines for primary prevention aspirin differ on both sides of the Atlantic (2,3). Accordingly, patients may have heard mixed messages about aspirin use in primary prevention, and some may even now be uncertain about its use in the secondary prevention of CVD. We aimed to survey contemporary patients with a history of or risk factors for CVD to evaluate their use and understanding of aspirin. We enrolled participants in the United States and Europe so that comparisons could be made in responses by location.

We developed an anonymous survey instrument to collect demographic and clinical information on participants; estimate their 10-year risk of future CVD; record their use of and access to aspirin; and examine their understanding of the risks, benefits, and indications for aspirin. Taking a convenience sample approach, consecutive patients attending hospital-based cardiology or internal medicine outpatient clinics at a tertiary care academic center in both the United States (Johns Hopkins Hospital) and Europe (National University of Ireland, Galway, Ireland) were invited to participate. Estimated 10-year CVD risk was calculated using QRISK3, which is validated and allowed calculation using patient-reported data alone (4). We prespecified that 300 patients would be needed to determine a >15% difference in the primary outcome of accurate patient understanding regarding guideline recommendations for routine aspirin use in primary vs secondary CVD prevention (assuming chi-

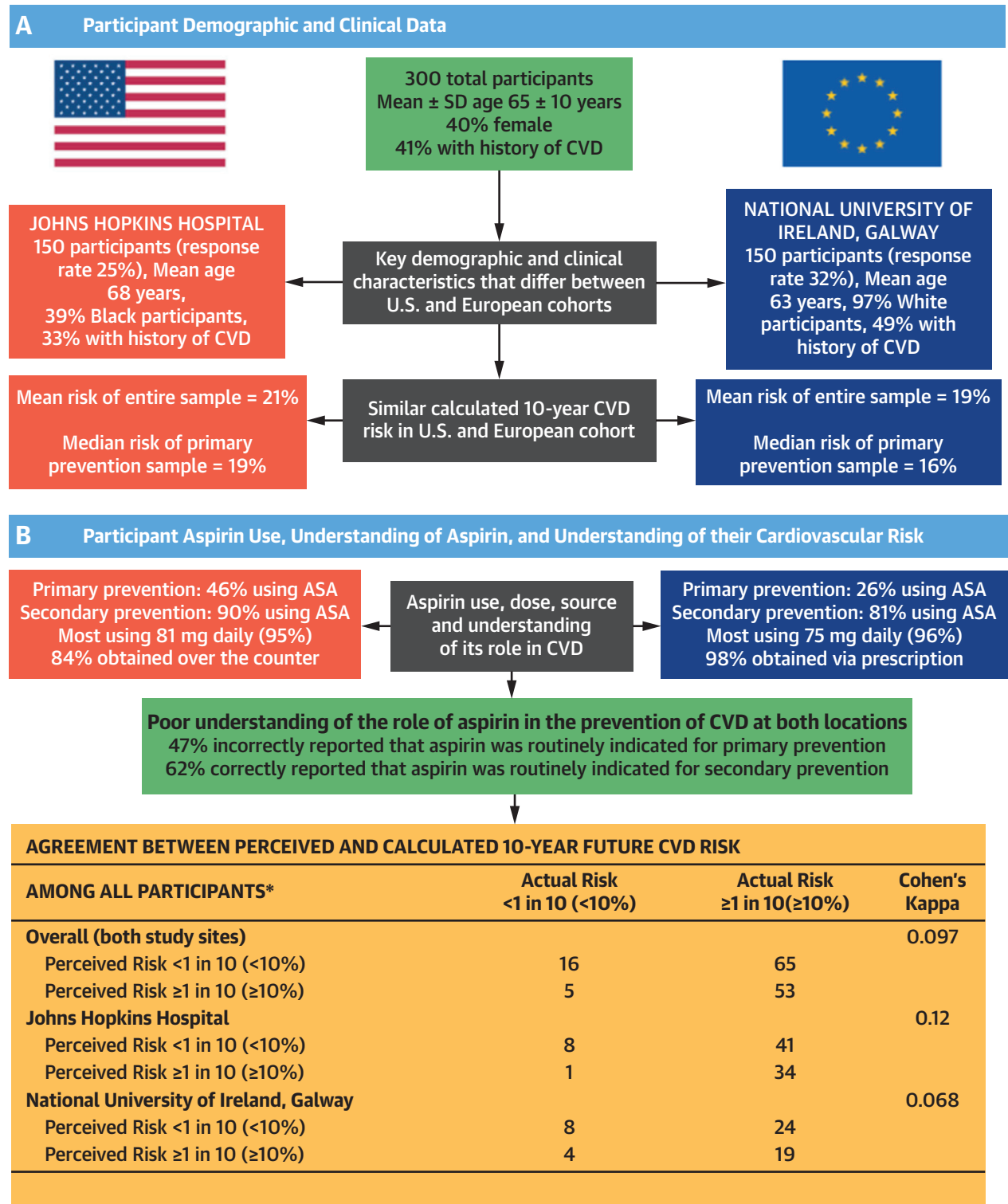
square testing at an alpha level of 0.05 and beta of 0.2). All patients who reported a history of CVD were allocated a 10-year CVD risk of 20% in continuous analyses or to the  $\geq 10\%$  category in categorical analyses. Because the survey was anonymous, the relevant ethics committees waived the requirement for informed consent.

Between November 2019 and September 2020, we received 300 complete survey responses (29% of those invited); 150 at each site (Figure 1). Almost one-half of the European cohort (49%) reported a personal history of CVD compared with 32.7% of the U.S. cohort ( $P = 0.01$ ). However, the median 10-year CVD risk in the primary prevention subgroup was similar at both sites (United States 19% vs Europe 16%;  $P = 0.06$ ).

A greater percentage of the U.S. primary prevention subgroup was taking aspirin compared with Europe (46% vs 26%;  $P = 0.01$ ). Almost all participants who reported aspirin use were taking low-dose aspirin ( $\leq 81$  mg daily); however, 96% of the European group reported obtaining aspirin via prescription, whereas 84% of the U.S. group obtained aspirin as an over-the-counter (OTC) medication. Many participants in both the United States and Europe were unable to quantify the relative magnitude of aspirin's benefits (61% reported uncertainty) and risks (69% reported uncertainty). Just 62% of all participants correctly reported that aspirin was routinely indicated for secondary prevention, whereas 47% incorrectly answered that aspirin was routinely indicated for primary prevention, meeting the prespecified level of statistical significance for the primary outcome ( $P = 0.048$ ). Notably, there was also poor agreement between participants' self-reported and calculated cardiovascular risk using QRISK3 (Cohen's Kappa 0.1 [with values  $< 0.4$  considered low]). Major limitations of the study are that results from these tertiary centers were self-reported and may also not be generalizable to all of the United States or Europe.

This survey demonstrated that a significant proportion of patients continue to take aspirin for primary prevention, particularly in the United States where aspirin is obtained OTC far more often than in Europe. In both the United States and Europe, the following was true of many patients: 1) they did not

**FIGURE 1** A Transatlantic Survey on Aspirin Use in CVD Prevention



(A) Participants at both sites had similar age and 10-year CVD risk. (B) Most participants used low-dose aspirin. However, more primary prevention adults in America were taking aspirin than in Europe. Aspirin was predominantly obtained over-the-counter in the United States but by prescription in Europe. At both sites, there was poor agreement between perceived CVD risk and actual (calculated) CVD risk using QRISK3. \*Of all 300 participants, 161 selected "don't know/not sure" when asked to estimate their CVD risk and were not included in the analysis of Cohen's Kappa. ASA = acetylsalicylic acid; CVD = cardiovascular disease.

know the difference between aspirin guideline recommendations for primary and secondary CVD prevention; 2) they misunderstood the relative risks and benefits of aspirin; and 3) they lacked insight into their own CVD risk.

These findings challenge the widespread availability of OTC aspirin for CVD prevention in America, particularly when compared with Europe, where either a prescription or a risk-benefit discussion with a pharmacist is necessary to gain access to low-dose aspirin from behind the pharmacy counter.

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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](#).

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