American Heart Association Preparticipation Cardiovascular Screening of Competitive Athletes History Elements Applied to a Diverse International Screening Program

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ABSTRACT

The history portion of the American Heart Association (AHA) preparticipation evaluation (PPE) consists of personal and family history questions that have been evaluated for sudden cardiac arrest/death by the American Heart Association. The generally accepted purpose of pre-participation screening of competitive athletes is to identify or raise suspicion of those cardiovascular abnormalities that have been associated for sudden cardiac arrest/death. The American Heart Association originally published specific screening recommendations for competitive athletes in 1996 (2) with the most recent update in 2014 expanding the number of personal and family history questions. The broad nature of these history questions often leads to a high percentage of YES responses in healthy athletes. The 2015 World University Games in Gwanju (KOR) organized by FISU provided an opportunity to evaluate the responses to the personal and family history portion of the AHA 14-element PPE in a more ethnically and racially diverse population of athletes.

RESULTS

- The most common YES responses related to prior testing on your heart ordered by a physician (8.4%), 23.4%, 10.7%, 9.7%, 4.6%, 25% <.0001.
- Systolic BP (mmHg) 119 ± 10.7
- Country (N=90): Baseball/Volleyball/Table tennis/Fencing 16.3%, Korea 5.1%, Russia 39.2%, Russian, Korean, Chinese, Danish, Dutch, Finnish, German, Greek, Hungarian, Italian, Japanese, Kazakhstani, Korean, Latvian, Lithuanian, Malaysian, Moldovan, Norwegian, Polish, Portuguese, Russian, Slovak, Slovenian, South Korean, Spanish, Syrian, Turkish, Ukrainian, Uzbek, Vietnamese, Welsh, Yiddish, Japanese, Norwegian, Polish, Portuguese, Slovak, Slovenian, South Korean, Spanish, Syrian, Turkish, Ukrainian, Uzbek, Vietnamese, Welsh, Yiddish.

METHODS

At the 2015 Summer World University Games (Gwangju, South Korea, July 3-14, 2015), the International University Sports Federation (FISU) sponsored a voluntary cardiac pre-participation event for athletes. After providing consent, each athlete completed the personal and family history portion of the AHA 14-element PPE, an evidence-based cardiovascular screening recommendations for competitive athletes. The AHA 14-element PPE included 7 personal history questions and 3 family history questions. This analysis was exploratory, p-values were not adjusted for multiple comparisons.

CONCLUSIONS

- The YES response rate to the AHA 14-element PPE personal and family history questions is quite high with ≥4.1% (ranging from 7.6% to 7.1%) in our sample.
- There was significant variation by both race and region in YES responses, particularly those related to personal testing.
- Regions were significantly associated with answering YES to any history question by both univariate and multiple regression.

REFERENCES


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