Therapeutic Decisions in Atrial Fibrillation for Stroke Prevention: The Role of Aversion to Ambiguity and Physicians' Risk Preferences

Luciano A. Sposato, MD,[*,†,‡,§] Devin Stirling,[‖] and Gustavo Saposnik, MD[¶,#,**]

Background: Knowledge-to-action gaps influence therapeutic decisions in atrial fibrillation (AF). Physician-related factors are common, but the least studied. We evaluated the prevalence and determinants of physician-related factors and knowledge-to-action gaps among physicians involved in the management of AF patients. *Design:* In this cross-sectional study, participants from 6 South American countries recruited during an educational program answered questions regarding 16 case scenarios of patients with AF and completed experiments assessing 3 outcome measures: therapeutic inertia, herding, and errors in risk stratification knowledge translated into action (ERSKTA) based on commonly used stratification tools (Congestive heart failure, Hypertension, Age ≥75 years (double), Diabetes mellitus, previous Stroke/transient ischemic attack/thromboembolism (double), Vascular disease, Age 65-74 years, and female gender (score of 0 for males and 1 for female) (CHA_2DS_2-VASc) and Congestive heart failure, Hypertension, Age ≥75 years, Diabetes mellitus, and previous Stroke/transient ischemic attack (double) ($CHADS_2$)). Logistic regression analysis was conducted to determine factors associated with the outcomes. *Results:* Overall, 149 physicians were invited to participate, of which 88 (59.1%) completed the online assessment tool. Cardiology was the most frequent specialty (69.3%). Therapeutic inertia was present in 53 participants (60.2%), herding in 66 (75.0%), and ERSKTA in 46 (52.3%). Therapeutic inertia was inversely associated with willingness to take financial risks (odds ratio [OR] .72, 95% confidence interval [CI] .59-.89 per point in the financial risk propensity score), herding was associated with aversion to ambiguity in the medical domain (OR 5.35, 95% CI 1.40-20.46), and ERSKTA was associated with the willingness to take risks (OR

From the *Department of Clinical Neurological Sciences; †Stroke Dementia and Heart Disease Laboratory; ‡Department of Epidemiology and Biostatistics; §Department of Anatomy and Cell Biology; ‖Schulich School of Medicine and Dentistry, Western University, London, Ontario, Canada; ¶Division of Neurology, Department of Medicine; #Stroke Outcome Research Center, Division of Neurology, Department of Medicine, University of Toronto, Toronto, Ontario, Canada; and **Laboratory for Social and Neural Systems Research, Department of Economics, University of Zurich, Zurich, Switzerland.

Received January 15, 2018; revision received February 24, 2018; accepted March 9, 2018.

Grant support: This study was partially supported by an unrestricted grant from Boehringer Ingelheim, South American Division. L.A.S. is supported by the Kathleen & Dr Henry Barnett Research Chair in Stroke Research, the Edward and Alma Saraydar Neurosciences Fund, and the Opportunities Fund of the Academic Health Sciences Center Alternative Funding Plan of the Academic Medical Organization of Southwestern Ontario (AMOSO). Dr. Gustavo Saposnik is supported by the Heart and Stroke Foundation of Canada Scientist Award following an open peer-reviewed competition.

Conflict of interest: L.A.S. has received research support from Boehringer Ingelheim, and speaker honoraria from Boehringer Ingelheim and Pfizer. G.S. has received research funds from Boehringer Ingelheim, Roche Pharma (Spain), and HOFFMAN La Roche (Canada), and speaker honoraria from Boehringer Ingelheim.

Address correspondence to Gustavo Saposnik, MD, Stroke Outcomes and Decision Neuroscience Research Unit, Department of Medicine, St. Michael's Hospital, University of Toronto, 55 Queen St E, Suite 931, Toronto, Ontario, M5C 1R6, Canada. E-mail: saposnikg@smh.ca.

1052-3057/$ - see front matter

© 2018 National Stroke Association. Published by Elsevier Inc. All rights reserved.

https://doi.org/10.1016/j.jstrokecerebrovasdis.2018.03.005

1.70, 95% CI 1.15-2.50, per point in score). *Conclusions:* Among physicians involved in stroke prevention in AF, individual risk preferences and aversion to ambiguity lead to therapeutic inertia, herding, and errors in risk stratification and subsequent use of oral anticoagulants. Educational interventions, including formal training in risk management and decision-making are needed. **Key Words:** Atrial fibrillation—decision-making—uncertainty—stroke—herding—risk aversion.
© 2018 National Stroke Association. Published by Elsevier Inc. All rights reserved.

Atrial fibrillation (AF) is an extremely common arrhythmia, affecting an estimated 33.5 million people worldwide.[1] It has been long established that patients with AF are exposed to an increased risk of stroke, as well as cardiovascular mortality.[2] Despite substantial evidence showing that anticoagulation based on risk stratification decreases the incident risk of ischemic stroke, AF remains undertreated.[3] Given the rising prevalence of AF with age and the population aging, it is crucial to understand factors influencing the decision-making process.

Several factors related to physicians' individual perceptions can affect medical decision-making. These are common to a wide spectrum of disciplines and medical specialties,[4] and have a substantial impact on diagnostic accuracy, medical management, and outcomes.[5] Therapeutic inertia[6-8] and, to a lower extent, herding,[9] have been the focus of research in recent years and have been found to be prevalent among health-care professionals. Other factors, which are more specific to a given disease, can also influence decision-making. It is well established that risk stratification using available scores is the crucial first step when deciding on oral anticoagulation.[10] Risk stratification scores are regarded as highly valuable heuristic tools to facilitate medical decisions. However, they are commonly underused. In a cohort of Canadian family physicians responsible for prescribing oral anticoagulants (OACs), a stratification risk score was applied among only 43% of the patients.[11] Another challenge resulting from the use of risk stratification scores is translating the results into action, a phenomenon known as "knowledge-to-action gap." Specifically, in the case of stroke prevention in AF (SPAF), the risk stratification knowledge subsequently translated into action encompasses the knowledge about which score strata warrant the use of OACs (e.g., OACs are indicated in male patients with a Congestive heart failure, Hypertension, Age ≥75 years (double), Diabetes mellitus, previous Stroke/transient ischemic attack/thromboembolism (double), Vascular disease, Age 65-74 years, and female gender (score of 0 for males and 1 for female) (CHA_2DS_2-VASc) score >1)[12] and the ensuing action of prescribing the drug.

We aimed to estimate the prevalence of therapeutic inertia, herding, and errors in risk stratification knowledge translated into action (ERSKTA) among regular prescribers of OAC for SPAF, and to identify their associated factors.

Methods

Study Population

The study population comprised physicians from 6 South American countries attending an anticoagulation educational program in Chile. Participants completed an online survey before the event. Participants were invited by Boehringer Ingelheim, the sponsor of the meeting, based on several factors including being opinion leaders in the region, seeing a high volume of patients with AF, or being recognized specialists in their own countries.

Assessment Tools

The study comprised 3 components,[1] including (1) demographic and practical information regarding participants' clinical practice (e.g., specialty, academic versus nonacademic center, outpatient versus inpatient practice, country, mean number of AF patients seen per month)[2]; (2) 16 case scenarios comprising questions regarding risk assessment; and (3) a survey to assess the propensity to take risks and uncertainty aversion. The case scenarios were developed based on risk stratification using CHA_2DS_2-VASc[12] and $CHADS_2$[13] scores. They were prepared considering that the correct decision to anticoagulate did not change whether participants used CHA_2DS_2-VASc or $CHADS_2$ scores. Participants were provided with clinical data, and they were asked to decide whether anticoagulation was indicated for each case scenario to mimic their standard practice. They were allowed to use any tool as they do in their routine clinical practice. Given that poor knowledge about SPAF could impact on ERSKTA, we included 3 case scenarios to determine the proportion of knowledge-to-action care gaps based on the most updated guidelines on the management of AF.[14] ERSKTA is a proxy measure of medical errors[3]; a validated behavioral battery, as defined in our previous studies, was incorporated to determine participants' willingness to take risks (e.g., driving, financial, sports, work, health, and meeting new people), and aversion to uncertainty.[7,15] In addition, we included 3 additional questions regarding (1) confidence when using direct oral anticoagulants (DOACs), (2) satisfaction with the

Download English Version:

https://daneshyari.com/en/article/8594313

Download Persian Version:

https://daneshyari.com/article/8594313

Daneshyari.com