

Brazilian Population Presents Prevalence of Atrial Fibrillation Similar to Higher Income Countries, and a Low Use of Anticoagulation Therapy

Desiderio Favarato¹ 

Faculdade de Medicina da Universidade de São Paulo, Hospital das Clínicas, Instituto do Coração – Unidade Clínica de Aterosclerose,¹ São Paulo, SP – Brazil

Short Editorial related to the article: *Atrial Fibrillation Diagnosis using ECG Records and Self-Report in the Community: Cross-Sectional Analysis from ELSA-Brasil*

Atrial fibrillation (AF) is the most incident arrhythmia and its frequency is increasing as a greater proportion of people over 60 years of age have become a worldwide tendency.

There is an exponential increase of AF with the advancing of age from 50-59 years, of 5 fold in 60 – 69 years, of 7 fold in 70 – 79 years, and of 9 fold over 80 years.¹

Men present a higher incidence of AF.¹⁻³

A large survey in male veterans also showed ethnic differences in age-adjusted prevalence of AF: 3% in Hispanics, 3.4% in blacks, 3.6% in Asians, 5.2% in Pacific Islanders, 5.4% in Native Americans, and 5.7% in whites.⁴

Other risk factors for AF include a sedentary lifestyle, smoking, obesity, Diabetes Mellitus, obstructive sleep apnea, hypertension, alcohol consumption, coronary heart disease, and heart failure.⁵

A systematic review of studies published since 2015 showed that 30% of strokes were caused by AF.⁶

Keywords

Atrial Fibrillation; Epidemiology; Prevalence; Risk Factors; Rate, Survival; Young Adult; Middle-Aged; Arrhythmias, Cardiac.

Mailing Address: Desiderio Favarato •

Incor – Av. Eneas Carvalho de Aguiar, 40, bloco II, 2nd floor, room 2. Postal Code 05403-000, São Paulo, SP – Brazil
E-mail: desiderio.favarato@gmail.com

DOI: <https://doi.org/10.36660/abc.20210562>

As observed from these initial considerations, AF is a potentially dangerous condition with a great impact on disability, death, and health costs.⁷ The latter has been studied extensively by Barros & Silva et al.⁸

Brazilian age-adjusted mortality rate by ischemic stroke and its complications in 2019 was 28.62/100,000 inhabitants between 35 to 74 years of age (37.10 in men and 21.39 in women) (calculated from DATASUS and IBGE data with Joinpoint software)

On this issue, Santos et al.⁹ presents the results of AF prevalence in an extensive Brazilian cohort – ELSA-Brasil: 15,105 civil servants from six Brazilian state capitals (São Paulo, Belo Horizonte, Porto Alegre, Salvador, Rio de Janeiro, and Vitória).¹⁰

AF frequency of 2.5% was similar to other international studies¹¹ as well as to a retrospective Brazilian study from the state of Minas Gerais.³

The main associated conditions with AF were heart failure (OR 7.35), coronary disease (OR 5.11), rheumatic fever (3.38), age increment (OR 1.05 per year), and hypertension (OR 1.44). The rate of anticoagulation therapy was very low, 7.25% in the basal condition. Although low, this anticoagulation frequency was higher than that found in the initial condition of KP-RHTYTHM (0.7%) but less than after diagnosis in that study (38%).¹²

In conclusion, the AF burden in the Brazilian population is similar to the global population and the poor anticoagulation rate in the self-reporting subjects, 85% of all cases, a bad consortium for public health.

References

- Schnabel RB, Yin X, Gona P, Larson MG, Beiser AS, McManus DD, et al. 50 years trends in atrial fibrillation prevalence, incidence, risk factors, and mortality in the Framingham Heart Study: a cohort study. *Lancet*. 2015; 386(9989):154-62M.
- Odozynsky G, Dal Forno ARJ, Lewandowsky A, Nascimento HG, D'Avila A. Paroxysmal atrial fibrillation in females: understanding gender differences. *Arq Bras Cardiol* 2018;110(5):449-53.
- Marcolino MS, Palhares DMF, Benjamin EJ, Ribeiro AL. Atrial fibrillation: prevalence in a large database of primary care patients in Brazil. *Eurospace*. 2015;17(12):1787-90
- Borzecki AM, Bridgers DK, Liebschutz JM, Kader B, Kazis LE, Berlowitz DR. Racial differences in the prevalence of atrial fibrillation among males. *J Natl Med Assoc*. 2008;100(2):237-45.
- Lau DH, Nattel S, Kalman JM, Sanders P. Modifiable risk factors and atrial fibrillation. *Circulation* 2017;136(6):583-96.
- Yiin GSC, LI L, Bejot Y. Time trends in atrial fibrillation-associated stroke and pre-morbid anticoagulation. A population-based study and systematic review. *Stroke* 2019;50:21-7. doi:10.1161/STROKEAHA.118.022249.
- Goulart AC, Olmos RD, Santos IS, Tunes G, Alencar A, Thomas N, et al.. The impact of atrial fibrillation and long-term oral anticoagulant use on all-cause and cardiovascular mortality: A 12-year evaluation of the prospective Brazilian Study of Stroke Mortality and Morbidity. *Int J Stroke*. 2021 Feb 25:1747493021995592. doi: 10.1177/1747493021995592.
- Silva PGM, Szejder H, Vasconcellos R, Mendonça Filho HTF, Mardekian J, Nascimento R, et al. Anticoagulation therapy in patients with non-valvular atrial fibrillation in a private setting in Brazil: a real-world study. *Arq Bras Cardiol* 2020;114(3):457-66.

9. Santos IS, Lotufo PA, Brant L, Pinto-Filho MM, Pereira AC, Barreto SM, Ribeiro AL, et al. Atrial Fibrillation Diagnosis using ECG Records and Self-Report in the Community: Cross-Sectional Analysis from ELSA-Brasil. *Arq Bras Cardiol.* 2021; 117(3):426-434.
10. Aquino EML, Barreto SA, Bensenor IM, Carvalho MS, Chor D, Lotufo PA, et al. Brazilian Longitudinal Study of Adult Health (ELSA-Brasil): objectives and design. *Am J Epidemiol.* 2012;175(4):315-24.
11. Rodriguez CJ, Soliman EZ, Alonso A, Swett K, Okin PM, et al. Atrial fibrillation incidence and risk factors in relation to race-ethnicity and the population attributable fraction of atrial fibrillation risk factors: the Multi-Ethnic Study of Atherosclerosis. *Ann Epidemiol.* 2015;25(2):71–6, 76.e1. <https://doi.org/10.1016/j.annepidem.2014.11.024>.
12. Go AS, Reynolds K, Yang J, Gupta N, Lenane J, Sung SH, et al. Association of burden of atrial fibrillation with risk of ischemic stroke in adults with paroxysmal atrial fibrillation: The KP-RHTYTHM. *JAMA Cardiol.* 2018;3(7):601-8.



This is an open-access article distributed under the terms of the Creative Commons Attribution License