



ORIGINAL ARTICLE

Burden of disease and cost of illness of atrial fibrillation in Portugal[☆]



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KEYWORDS

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Burden of disease;
Disability-adjusted
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Abstract

Introduction and Objectives: Atrial fibrillation is the most prevalent sustained arrhythmia. This paper estimates the burden and cost of illness attributable to atrial fibrillation in Portugal based on demographic and health statistics.

Methods: Mortality data by cause of death came from the European Detailed Mortality Database of the World Health Organization (WHO). Hospital data were taken from the Portuguese diagnosis-related groups database. The burden of disease was measured using DALYs (disability-adjusted life years), a metric adopted by the WHO. Costs studied included resource use and lost productivity. The burden and cost of illness are those attributable to atrial fibrillation and its main complication, ischemic stroke.

Results: In Portugal, 4070 deaths were attributable to atrial fibrillation in 2010, corresponding to 3.8% of all deaths. In total, the burden of disease attributable to atrial fibrillation was estimated at 23 084 DALYs: 10 521 resulting from premature deaths (1.7% of the total DALYs due to death in 2010 in Portugal), and 12 563 resulting from disability. The total estimated direct costs attributable to atrial fibrillation at 2013 prices were €115 million: €34 million for inpatient care and €81 million for outpatient care. Indirect costs resulting from lost production due to disability were estimated at €25 million.

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PALAVRAS-CHAVE

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ajustados por
incapacidade

Conclusions: Atrial fibrillation has an important social impact in Portugal due to its associated mortality and morbidity, and was responsible in 2013 for a total cost of €140 million, about 0.08% of gross domestic product.

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Carga e custo da fibrilhação auricular em Portugal**Resumo**

Introdução e objetivos: A fibrilhação auricular é a disritmia persistente mais prevalente. Pretendemos estimar a carga e custos da doença atribuíveis à fibrilhação auricular em Portugal com base nas estatísticas demográficas e de saúde.

Métodos: Utilizou-se informação sobre mortalidade por causa da OMS-Europa. Dados hospitalares foram provenientes da base de dados dos GDH. A carga da doença foi medida pelos DALY (*disability-adjusted life years*) ou anos de vida perdidos ajustados por incapacidade, uma métrica adotada pela Organização Mundial de Saúde. Os custos incluíram os consumos de recursos e as perdas de produtividade. A carga e os custos da doença estimados são os atribuíveis à fibrilhação auricular e à sua principal complicação, o acidente vascular cerebral isquémico.

Resultados: Em Portugal, no ano 2010, podem atribuir-se à fibrilhação auricular 4070 mortes correspondendo a 3,8% do total das mortes ocorridas. A carga da doença atribuível à fibrilhação auricular foi estimada em 23.084 DALY: 10.521 decorrentes das mortes prematuras (1,7% dos DALY por morte em Portugal em 2010) e 12 563 devidos à incapacidade gerada pela morbidade. O total estimado de custos diretos para o sistema de saúde a preços de 2013 atribuíveis à fibrilhação auricular foi de 115 M€ (milhões de euros): 34 M€ em internamento e 81 M€ em ambulatório. Os custos indiretos gerados pela produção perdida devidos à incapacidade causada pela doença foram estimados em 25 M€.

Conclusões: A fibrilhação auricular tem um importante impacto social em Portugal devido à mortalidade e morbidade geradas, podendo-se-lhe atribuir em 2013 um custo total de 140 M€, cerca de 0,08% do produto interno bruto.

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List of abbreviations

AF	atrial fibrillation
DALY	disability-adjusted life year
DRG	diagnosis-related group
ICD 9-CM	International Classification of Diseases, Ninth Edition, Clinical Modification
MI	myocardial infarction
NHS	national health service
PAF	population attributable fraction
RR	relative risk
WHO	World Health Organization

European Union (EU),² had AF; the number in the EU is predicted to double to nearly 18 million by 2060. AF is associated with advanced age, male gender and various comorbidities including hypertension, heart failure, valve disease and coronary artery disease.³⁻⁷

AF can be silent, only being diagnosed when a complication develops.^{8,9} The main complication is systemic thromboembolism leading to stroke; AF patients are at 3–5 times higher risk of ischemic stroke, and more severe stroke.^{7,10-14} It is estimated that 14% of AF patients in Portugal have suffered stroke. AF is thus an important cause of mortality and morbidity in itself and due to the associated risk of ischemic stroke.¹⁵

Against this background, it is important to assess the economic impact and burden and cost of illness of AF in Portugal, which is the aim of the present study.

The purpose of studies on cost of illness is to measure the impact of a disease or risk factor in terms of use of economic resources and reduction in economic activity due to associated disability. Studies on burden and cost of illness are not strictly speaking economic evaluations, since they do not address specific interventions or compare alternative

Introduction

Atrial fibrillation (AF) is the most common sustained arrhythmia. It was estimated in 2010 that 33.5 million individuals worldwide,¹ and nearly nine million individuals in the

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