Development of systematic care pathways to tackle multimorbidity in elderly patients with atrial fibrillation: results of a Delphi process among the Horizon 2020 EHRA-PATHS investigators

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Background: Atrial fibrillation (AF) is the result of underlying diseases and many underlying comorbidities impact clinical outcomes. Elderly AF patients (≥65 years) have on average five comorbidities. Comorbidity management requires a systematic approach and interdisciplinary care pathways, which are lacking in most care settings. The EHRA-PATHS H2020 project No. 945260, coordinated by EHRA and ESC, aims to tackle this problem.

Purpose: Searching consensus on the development of care pathways to systematically address multimorbidity in elderly patients with AF.

Methods: The EHRA-PATHS project comprises a consortium of 14 partners from 11 different European countries. Each partner comprised at least one other specialty besides cardiology, forming a multidisciplinary scientific team. Several steps were executed to develop care pathways for each comorbidity or risk factor, while guarding the overall feasibility of patient evaluation. (i) An extensive literature study identified the most common and relevant AF-related comorbidities. (ii) Groups of consortium partners created uniformly structured templates for each comorbidity care pathway through online meetings and discussions. (iii) A Two-Round Delphi study was performed to obtain consortium consensus on the final pathways, with experts reviewing the care pathway templates (for which they felt qualified). Templates with insufficient agreement (i.e. <80%) during Round 1 were adapted and presented during Round 2 for re-evaluation. The second Delphi Round was also used to rank/prioritize all the comorbidities for their impact on the clinical outcome of AF patients, and a grouping in those with mandatory vs. optional evaluation in AF patients.

Results: The literature study led to the initial identification of 22 different AF-related comorbidities, which was adjusted to 23 comorbidities after Delphi Round 1. The Delphi survey was sent to 37 experts from the consortium (Round 1: n=28 and Round 2: n=27 responses). After Round 1, 13 comorbidity templates had an agreement ≥80% and 9 comorbidities did not (Figure 1A). Based on these results, 12 comorbidities were included in Delphi Round 2 (since physical (in)activity and polypharmacy were added due to major adjustments, and osteoporosis was considered a separate comorbidity). After Round 2, 8 of these 12 comorbidity templates received an agreement ≥80% (Figure 1B). The final 4 comorbidity templates were finalized after further expert discussion. In the group of 'mandatory' comorbidities, hypertension, heart failure and overweight were seen as the most important ones. Sleep apnoea, low medication adherence and mild cognitive impairment, dementia, frailty were the top optional comorbidities.

Conclusion: A structured process of expert meetings and two Delphi Rounds led to the development and ranking of 23 care pathways to evaluate and manage comorbidities in AF patients. All pathways will now be combined and implemented into a decision support software system.
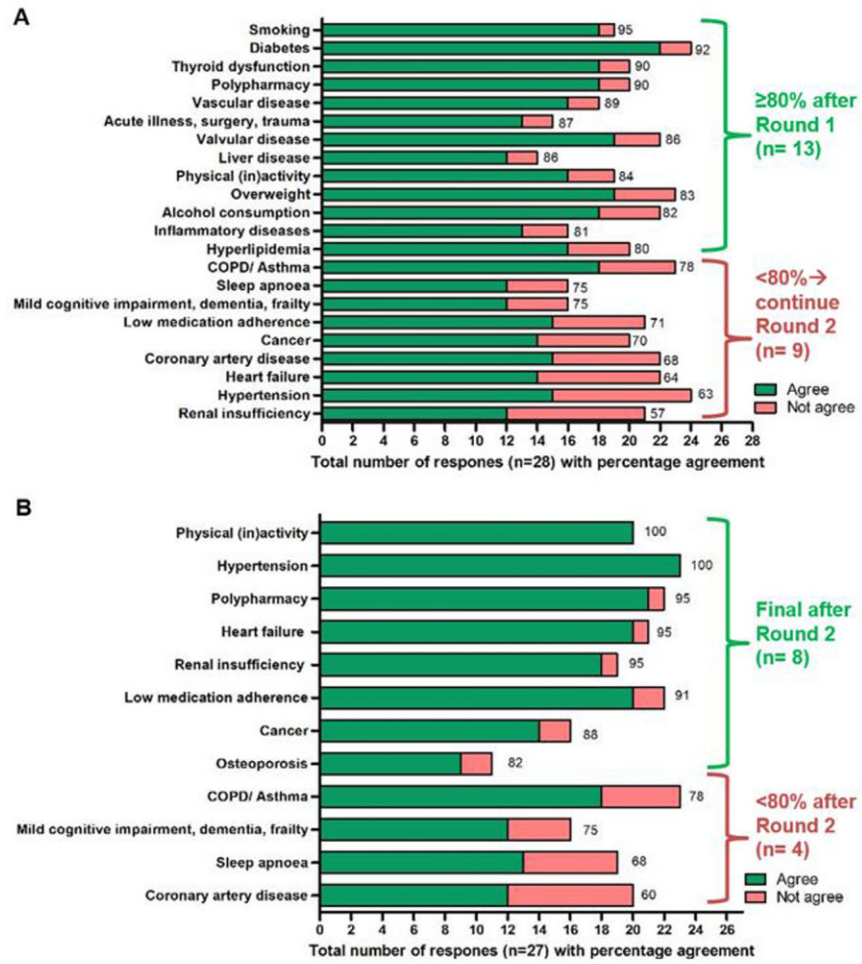
Figure 1: The final analysis of Delphi study. A) Round 1: The total number of responses of experts feeling qualified (n=28) with percentage agreement. **B)** Round 2: The total number of responses (n=27) with percentage agreement.

Figure 1