Community screening programs to identify unknown atrial fibrillation: A systematic review

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BACKGROUND AND AIMS

• Atrial fibrillation (AF) prevalence is escalating
• AF is associated with a 5-7 fold increased risk of stroke
• Oral anticoagulant therapy (OAC) reduces stroke incidence by 66%
• AF may be asymptomatic and unrecognised prior to stroke

Aims
1. Determine the overall prevalence of known AF and incidence of unknown AF identified through screening
2. Examine if screening setting influences incidence
3. Compare unrestricted screening to restricting age of those screened to ≥65
4. Examine characteristics of overall stroke risk & eligibility for treatment

METHODS

Data sources
• Clinical trials identified by searching multiple electronic databases, reference lists, grey literature and key-word searching of the internet
• Studies were selected if they evaluated a general ambulant population, using either ECG or pulse palpation to identify AF

Data extraction
• 9,580 titles and abstracts were independently assessed by two reviewers against the inclusion and exclusion criteria; leading to review of 161 full manuscripts

RESULTS

Included papers
• 28 individual studies from 7 countries
• 111,723 participants
• Mean age 66±6 years
• 55% male

Study Characteristics
Participants recruited from:
• General practitioner (GP)/outpatient clinics (12 studies)
• Community based or population screening (16 studies)

Lower age limit:
• >16 (11 studies) or >60 years (3 studies)
• >65 (13 studies)

Screening methods for AF:
• 12- or single-lead ECG (22 studies)
• Pulse palpation (3 studies)
• ECG & pulse (3 studies)

Prevalence of AF
• AF prevalence for the total cohort was 2.2% (28 studies)
• Prevalence rose to 4.1% in adults ≥65 yrs (13 studies)

Prevalence of AF

<table>
<thead>
<tr>
<th>TABLE 1: Prevalence of AF</th>
<th>Total cohort</th>
<th>Over 65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number studies</td>
<td>Number participants</td>
<td>% AF identified (95% CI)</td>
</tr>
<tr>
<td>All settings</td>
<td>28</td>
<td>111,723</td>
</tr>
<tr>
<td>GP Clinic or Outpatient</td>
<td>12</td>
<td>23,829</td>
</tr>
<tr>
<td>Community</td>
<td>16</td>
<td>87,894</td>
</tr>
</tbody>
</table>

* p <0.001 Clinic/Outpatient vs Community

CONCLUSION

• Screening for AF in subjects ≥65 yrs can identify 1.6% with previously undiagnosed AF, in either general practice or community settings
• Many of those identified would be eligible for, and would benefit from OAC to prevent stroke
• Identification of previously unknown AF through screening may reduce the overall health burden associated with AF

DECLARATION OF INTEREST

No interests declared for NL, LN and JR
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