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Adherence to secondary prevention medications after a stroke: a systematic review

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Background and aim

Ischemic stroke (IS) and transient ischemic attack (TIA) are health-threatening disorders leading to a decrease in survivors' quality of life and a significant risk of further neurological and cardiovascular events, especially recurrent stroke. Thus, adherence to secondary prevention treatments (including antiplatelet agents or anticoagulants, antidiabetics, lipid-lowering drugs and antihypertensive drugs) is necessary to reduce this risk. Stroke patients have often polypharmacy due to high prevalence of multimorbidity, resulting in an important treatment burden for patients.

Aim: to review articles on adherence to secondary prevention medication (SPM) and its determinants, among IS or TIA patients.

Methods

- Search strategy
 - articles in English or French language
 - published **between January 2000 and December 2017**
 - search conducted in PubMed/Medline, Science Direct, and Web of Science databases, and in Cochrane and Wiley Online Library
- Inclusion criteria: **observational studies describing adherence to SPM and/or investigating its determinants among IS or TIA patients**
- Independent screening of records and full-text articles by two reviewers
- Quality evaluation of quantitative studies: using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) check-list

Results

- 43 original articles included (figure 1)
- **4 qualitative studies** (3 in UK and 1 in France) which evaluated barriers to medication adherence through interviews with healthcare professionals, patients and caregivers
- **39 quantitative studies**
 - objectives: **7 described adherence levels and 32 investigated determinants of adherence**
 - design: **14 retrospective cohort studies, 17 prospective cohort studies, and 8 cross-sectional studies**
 - countries: 16 in Europe, 9 in USA, 3 in Canada, 9 in Asia, 1 in Chile, and 1 in New Zealand
 - 13 studies evaluated adherence to only one therapeutic class of SPM
 - evaluation times were highly variable between studies (3 months to 3 years)
 - methods/tools used to assess adherence:
 - **27 studies with self-report of persistence or adherence** (Morisky questionnaire, Medication adherence report scale, Adh-T, ...)
 - **12 studies with utilization of health insurance claims data** to calculate MPR, PDC, or persistence
 - quality scores using STROBE checklist ranged from 39% to 77%, with a mean of 60%
- **Adherence levels considerably differed between studies**, and often depended on drug class (lower level of adherence with lipid-lowering drug and antidiabetics)
- **Age, gender, comorbid conditions, polypharmacy and concerns about medications** were the main factors associated with adherence level. Economic factors such as drug cost and level of income were associated to adherence level in several studies. Few studies have explored care pathway as determinants of adherence.

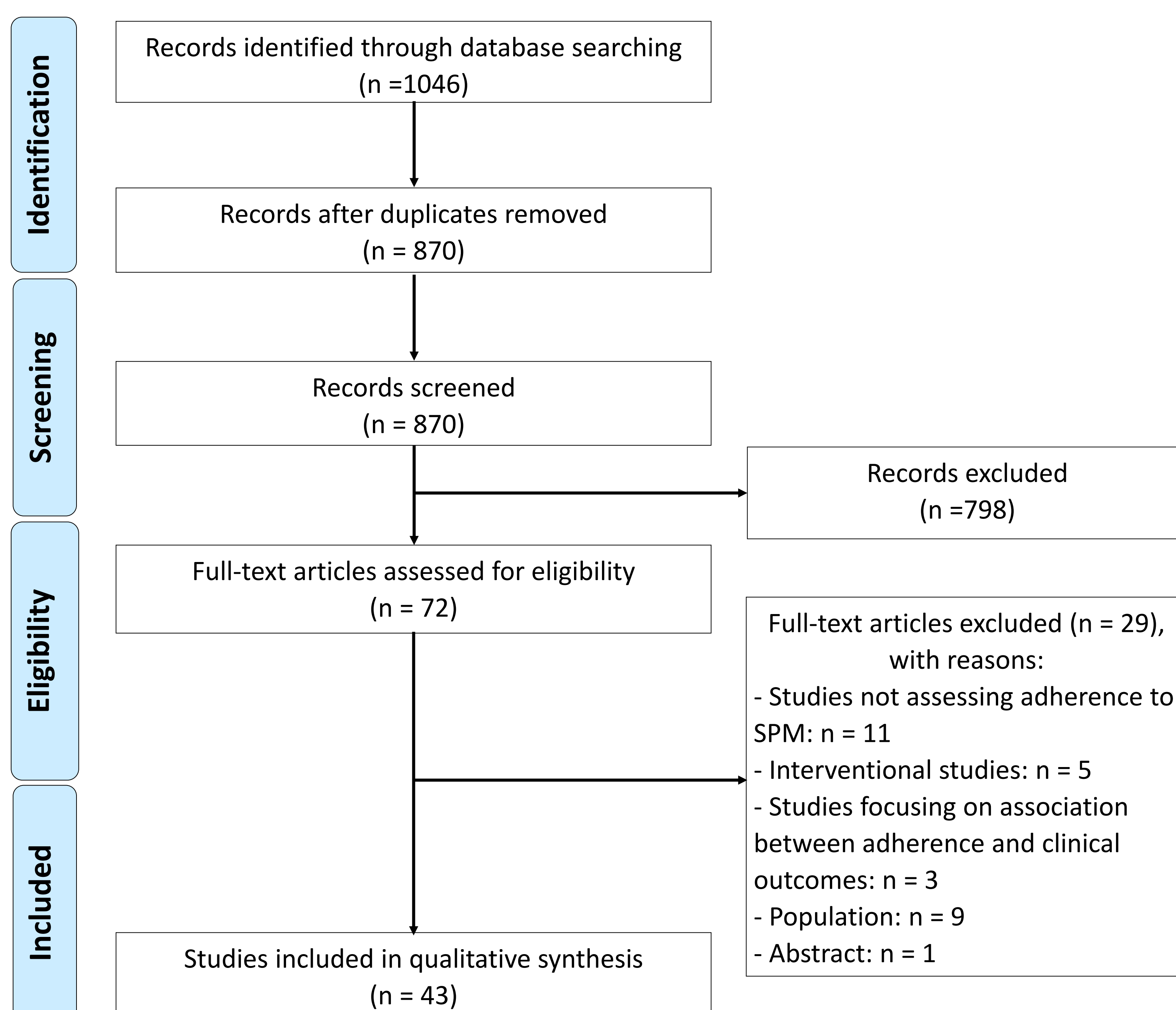


Figure 1: PRISMA flow diagram of study selection

Conclusion

Exploring adherence level to SPM in IS and TIA patients and understanding factors associated with this adherence level are necessary to **implement specific actions aimed to improve adherence**. Additional research is required to explore how socio-economic factors and patient pathway could affect adherence to SPM. **Mixt methods associating qualitative and quantitative studies are required to assess more determinants of adherence from the patient's perspective.**