Community pharmacist-led interventions, cardiovascular disease and medication adherence: a systematic review of randomised controlled trials

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Introduction

Medication adherence rates of preventative medication for cardiovascular disease (CVD) have been reported as 57% (1). Interventions to tackle nonadherence are important for improving health-related outcomes. Pharmacist-led interventions may have the potential to improve medication adherence and clinical outcomes in patients with CVD.

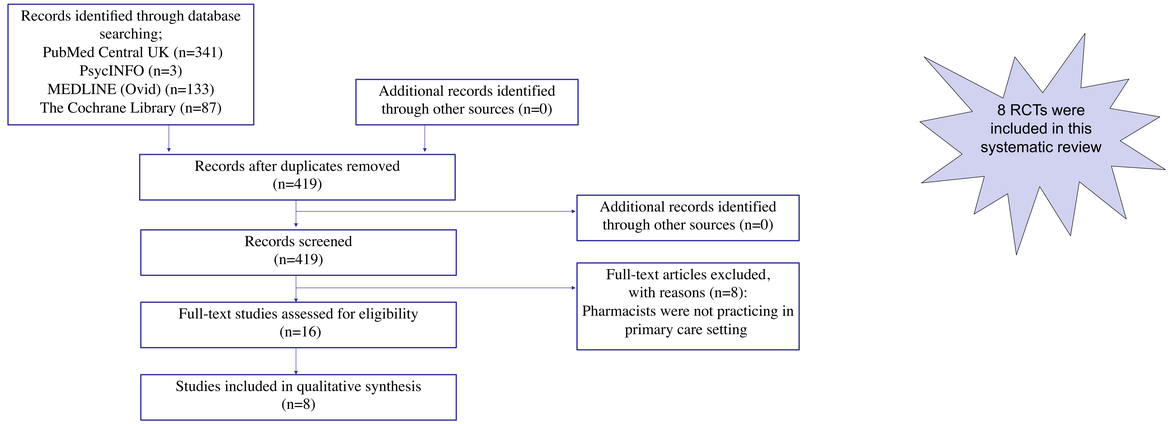
Aims/objectives

This study aimed to assess the impact of community pharmacist-led interventions on improving medication adherence and clinical outcomes in patients with CVD. This review also explores the characteristics of the interventions and the actual content of the interventions.

Methods

- ✓ Four databases (MEDLINE (Ovid), PubMed Central, PsycINFO (Ovid), and Cochrane library) were systematically searched.
- ✓ The reference lists of the identified RCTs were also searched.
- ✓ Narrative analysis was performed.
- ✓ Risk of bias assessed using Cochrane Risk of Bias tool.
- ✓ Registration in the international prospective register of systematic reviews (PROSPERO) of systematic review protocols (ID. CRD42021250361).
- ✓ Inclusion criteria: Randomised Control Trials (RCTs), assessing the impact of pharmacist-led interventions on medication adherence in patients in CVD; Studies published in English language.

Selection of studies



8 RCTs were included in this systematic review

Results

RCT characteristics

- Published between 2007 and 2019
- RCTs were conducted in different countries
- The range of CVDs targeted was diverse
- Participant numbers were small for all RCTs

Intervention characteristics

- Intervention duration ranged from 2 to 12 months
- Interventions were conducted in the primary care setting
- Interventions were multifaceted (n=7)
- Included medication review and adherence counselling

RCT	Self-report	Pharmacy refill record	Medication improvement (stat. sig.)
Blackburn et al 2016		✓	—
Eussen et al 2010		✓	✓ (*P*= 0.026)
Holland et al 2007	✓		✓
Schulz et al 2019		✓	✓ (*P*= 0.005)
Stewart et al 2014	✓		✓
Svarstad et al 2013		✓	✓ (*P*<0.05)
Villeneuve et al 2010		✓	✓
Wong et al 2013	✓		✓

✓: Improved MA —: No difference

RCT	Outcome measure	Blood pressure (stat. sig.)	LDL cholesterol level (stat. sig.)
Blackburn et al 2016	3 months		
Eussen et al 2010	12 months		✓ 17.2 mg/dL (95% CI 12.3-22.0)
Holland et al 2007	2 months		
Schulz et al 2019	12 months		
Stewart et al 2014	6 months	✓ (*P*=0.05)	
Svarstad et al 2013	6 months	✓ (*P*<0.001)	
Villeneuve et al 2010	12 months		✓ (*P*=0.05)
Wong et al 2013	12 months	✓ (*P*= 0.023)	

✓: Improved MA —: No difference ✻: Not assessed LDL: Low-density lipoprotein

Quality of evidence → Cochrane Risk of Bias Tool for RCTs

Poor quality → because of high risk of bias or insufficient reporting of information

Conclusion

Pharmacist-led interventions tend to improve medication adherence and clinical outcomes, but interventions varied in terms of content and delivery. The precise de- sign of the interventions with essential characteristics tailored to patients' needs could increase the effectiveness of these interventions. Further large RCTs are required. Limitations of this review include the exclusion of non-English language studies. Further, the clinical and methodological heterogeneity of included studies made clear a quantitative comparison difficult, thus, the findings are based on narrative analysis.

References

(1) Naderi SH, Bestwick JP, Wald DS. Adherence to drugs that pre- vent cardiovascular disease: meta-analysis on 376,162 patients. Am J Med. 2012;125(9):882-7.e1.
(2) Yepes-Nuñez JJ, Urrútia G, Romero-García M, Alonso- Fernández S. The PRISMA 2020 statement: an updated guide- line for reporting systematic reviews. Rev Esp Cardiol (Engl Ed). 2021;74(9):790-9.

Poster

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