

Lipid-lowering agent

Lipid-lowering agents, also sometimes referred to as hypolipidemic agents, cholesterol-lowering drugs, or antihyperlipidemic agents are a diverse group of pharmaceuticals that are used to lower the level of **lipids** and **lipoproteins** such as **cholesterol**, in the blood (**hyperlipidemia**). The American Heart Association recommends the descriptor 'lipid lowering agent' be used for this class of drugs rather than the term 'hypolipidemic'.

Conventional **lipid-lowering agents**, including **statins**, **ezetimibe**, **fibrates**, **bile acid sequestrants**, **nicotinic acid**, **bempedoic acid** and **Omega-3 fatty acid**, are essential to the management of **dyslipidemia**. However, these agents have been shown to increase the level of **plasma** proprotein convertase subtilisin/kexin 9 (**PCSK9**), a **serine protease** associated with increased - cardiovascular risk.

A review of Luo et al. aimed to investigate the impact of commonly available conventional lipid-lowering agents on circulating PCSK9 levels and lipid profiles.

This protocol was conducted in accordance with the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols guidelines. A **systematic literature search** will be conducted in the following databases: **MEDLINE**, Cochrane Central Register of Controlled Trials (**CENTRAL**), **EMBASE**, **Web of Science**, **SCOPUS** and **ScienceDirect**. Additional information will be retrieved from **clinical trial** registries or from reference list searches. Published and peer-reviewed randomised controlled trials with adults receiving statin, ezetimibe, fibrate, bile acid sequestrant, nicotinic acid, bempedoic acid or Omega-3 monotherapy or in combination for at least 2 weeks, with availability of plasma PCSK9 at the beginning and end of treatment or the net changes in values, will be included. Study selection, data extraction and assessment of the risk of **bias** will be independently conducted by two investigators. Continuous data will be presented as a standardised mean difference with 95% **confidence interval** (CI) and dichotomous data as risk ratios with 95% CI. Subgroup analysis and sensitivity analysis will be performed when sufficient studies are included. Publication bias will be assessed with a **funnel plot** and **Egger's test**.¹⁾

1)

Luo J, Huang T, Xu R, Wang X, Yang Y, Li L, Zhang X, Zhang Y, Yang R, Wang J, Yang H, Ma Y, Yang B, Wang T, Jiao L. **Impact** of conventional lipid-lowering therapy on circulating levels of PCSK9: protocol for a systematic review and meta-analysis of randomised controlled trials. *BMJ Open*. 2022 Sep 8;12(9):e061884. doi: 10.1136/bmjopen-2022-061884. PMID: 36691198.

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