

# BLOOD TYPE DIETS: ARE THE CLAIMED HEALTH BENEFITS FACT OR FICTION? A SYSTEMATIC REVIEW [1]

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## BACKGROUND AND OBJECTIVES

- An association between particular blood types and vulnerability towards certain diseases has been researched.
- This association between blood types and disease has been translated into a range of blood type diets.
- Blood type diets are designed specifically for each blood type and claim to improve health and decrease the risk of disease.
- There are many blood type diet authors and millions of books in print over the last decade.



Evidence of the health benefits associated with blood type diets was examined in a systematic review based on the PICO question, "In humans grouped according to blood type (Population), does adherence to a specific diet (Intervention) improve health and/or decrease the risk of disease (Outcome) compared with non-adherence to the diet (Comparison)?"

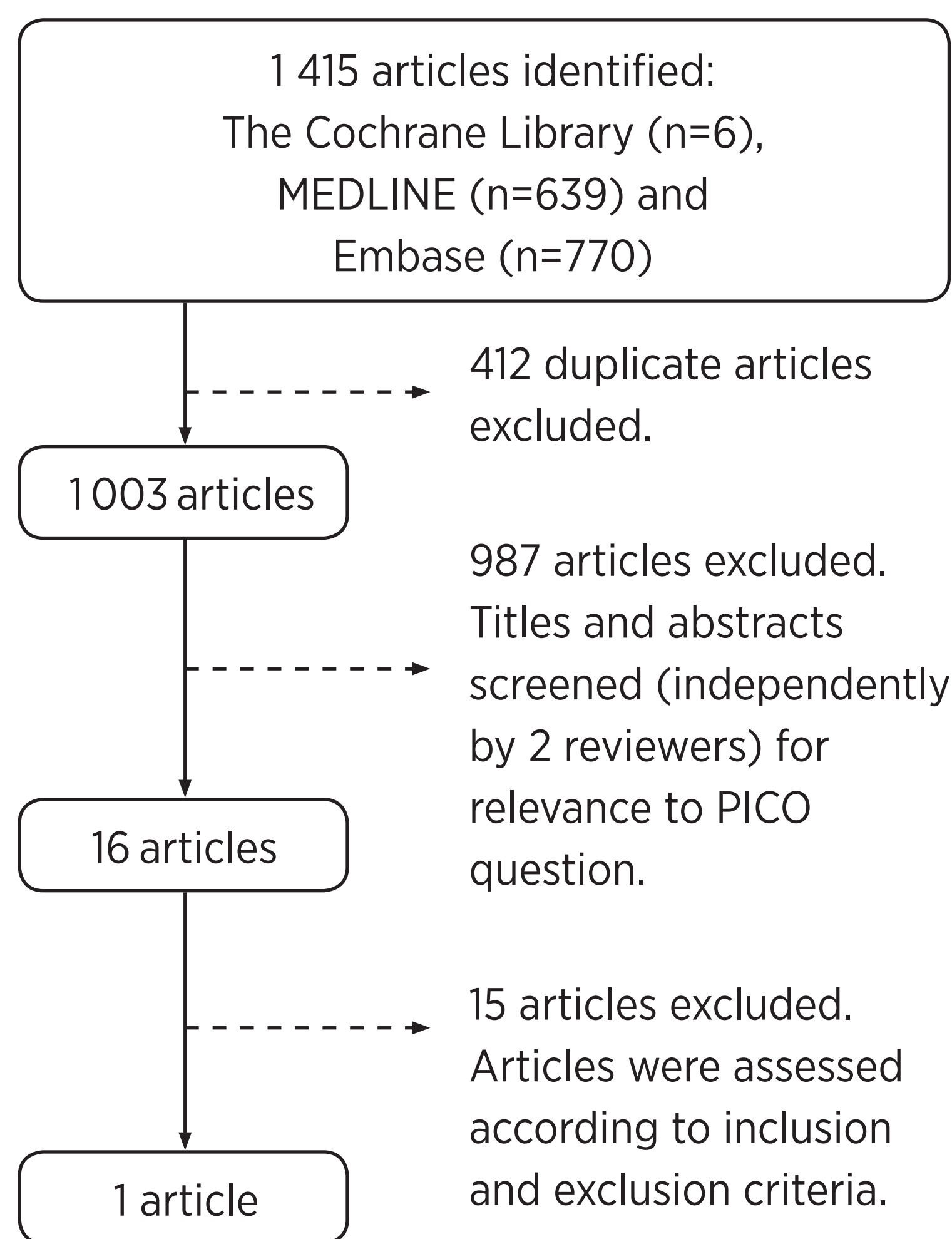
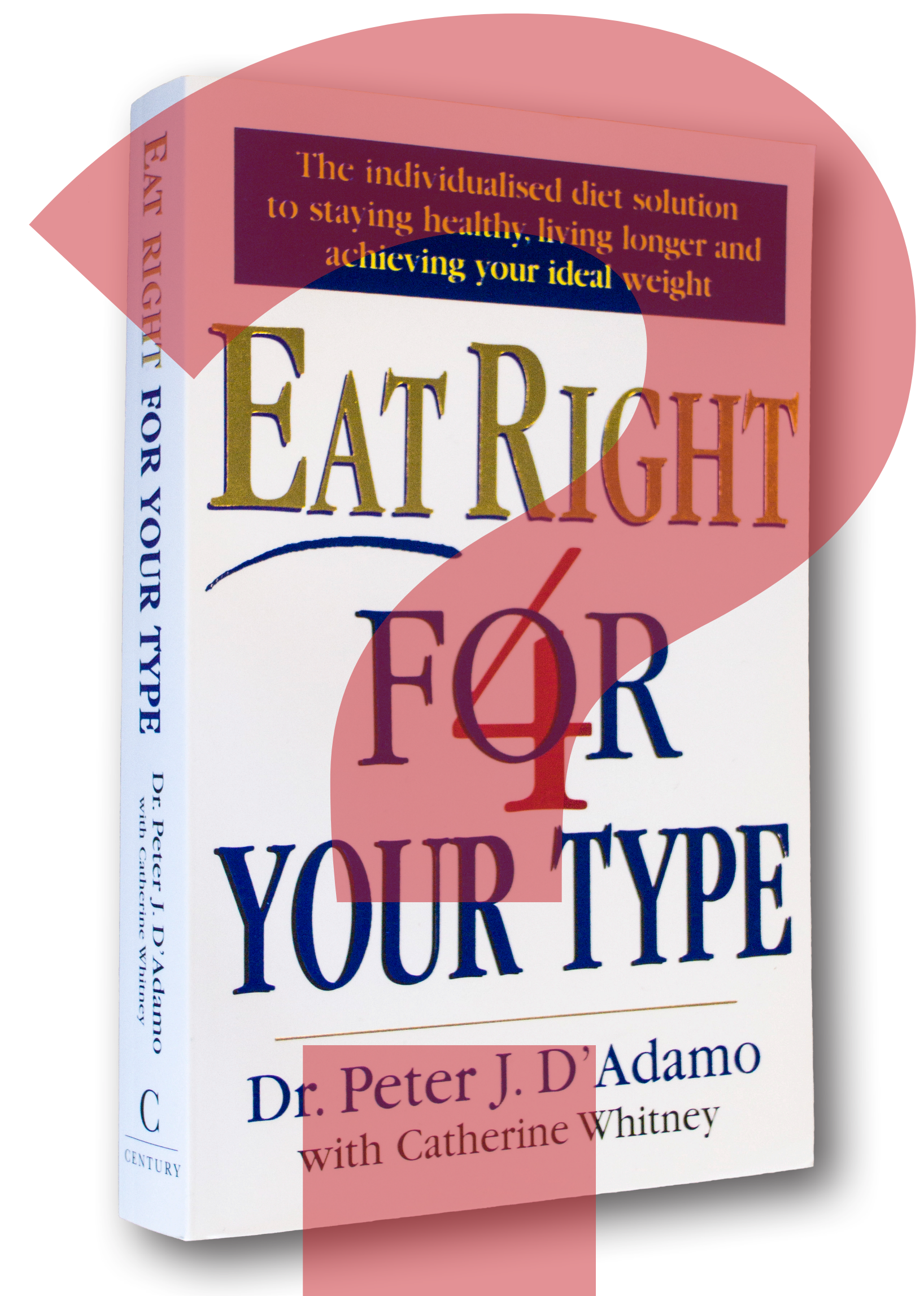


Figure 1

## METHODS

A systematic review was developed according to the principles of the Cochrane Collaboration:

- **Literature search:** Performed by two independent reviewers
- **Sources:** The Cochrane Library, MEDLINE, Embase (searched until Oct 2012)
- **Types of studies included:** Randomised controlled trials, controlled clinical trials, cohort studies, case-control studies and case-series.
- **Quality assessment of the evidence:** GRADE methodology

## RESULTS

From 1415 articles initially identified, only one study [2] met the inclusion/exclusion criteria (Figure 1). This study assessed the variation in LDL (low-density-lipoprotein) cholesterol responses of different MNS blood types to a low fat diet. However, this was a comparison of the results from across intervention arms of the MNS blood types, demonstrating a significant difference in the responses between the intervention arms of the combined MM and NN blood types and the MN blood type.

## DISCUSSION

- Studies comparing responses between intervention groups are useful to demonstrate a heterogeneous response according to genotypic variation, yet these results do not validate the health effects of blood type diets.
- Another systematic review [3] has considered the relationship between genetic variations and lipid response, concluding that evidence is limited and the effects of genetic variation are not consistent, sometimes conflicting.
- To validate the health benefits of a promoted diet (ie. a blood type diet), studies must focus on the outcome of an experimental group (adhering to the diet) compared with a control group (continuing with a standard diet), within a specific population (ie. grouped according to blood type).

## CONCLUSION

- No direct evidence was found to validate the health claims associated with blood type diets.



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[1] Cusack L, De Buck E, Compennolle V, Vandekerckhove P. Blood type diets lack supporting evidence: a systematic review. Am J Clin Nutr 2013. First published May 22, 2013. doi: 10.3945/ajcn.113.058693  
 [2] Birley AJ, MacLennan R, Wahlqvist M, Gerns L, Pangan T, Martin NG. MN blood group affects response of serum LDL cholesterol level to a low fat diet. Clin Genet 1997;51:291-5.  
 [3] Masson LF, McNeill G, Avenell A. Genetic variation and the lipid response to dietary intervention: a systematic review. Am J Clin Nutr 2003;77:1098-111.