

Total dairy, cheese and milk intake and arterial stiffness: A systematic review and meta-analysis of cross-sectional studies

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The aim of this review was to determine the relationship between dairy product consumption and arterial stiffness, measured by pulse wave velocity (PWV). We systematically searched the Medline, Embase and Web of Science databases until 30 January 2019 for cross-sectional data from studies addressing the association between dairy product consumption and PWV. This study was registered with PROSPERO (CRD42018110528). Both the inverse-variance fixed effects method and the DerSimonian and Laird method were used to compute pooled estimates of effect size (ES) and the respective 95% confidence intervals (CIs). Seven studies were included in the meta-analysis, with a total of 16,443 patients. Total dairy product (ES = -0.03 ; 95% CI [-0.04 , -0.01]) and cheese (ES = -0.04 ; 95% CI [-0.07 , -0.01]) consumption were weak, but significantly associated with lower PWV levels. Conversely, milk intake showed no significant association with PWV (ES = 0.02 ; 95% CI [-0.01 , 0.05]). Heterogeneity in the ES was not important for the three groups of dairy products assessed. This systematic review and meta-analysis of seven studies found no detrimental effects of dairy product consumption on arterial stiffness measured by PWV. Due to the scarcity of studies, further investigations are warranted to clarify the role of dairy products on arterial stiffness. © 2019 by the authors. Licensee MDPI, Basel, Switzerland.

Arterial stiffness

Dairy product

Meta-analysis

Milk

Pulse wave velocity

Systematic review

adult

arterial stiffness

cheese

cross-sectional study

dairy product

effect size

Embase

female

human

male

Medline

meta analysis

pulse wave

review

systematic review

Web of Science

animal

arterial stiffness

diet

drug effect

milk

Animals

Cheese

Diet

Humans

Milk

Vascular Stiffness