
Does multivitamin supplementation improve cardiovascular outcomes?



The use of multivitamin/mineral supplements is quite high in the US and other developed countries. There is a widespread belief that MVM supplementation has a positive effect on cardiovascular health.

Several clinical studies have been conducted to identify the association between multivitamin/mineral (MVM) supplementation and cardiovascular disease (CVD) outcomes. However, the benefits of MVM still remain controversial.

The US Preventive Services Task Force and the National Institute of Health both recommend against the routine use of MVM supplements for chronic disease prevention because of their weak and controversial benefit. Still, MVM supplementation use remains very high. According to the National Health and Nutrition Examination Survey, 30% of the population in the US use MVM supplements. The global nutrition supplement industry is expected to reach nearly \$278 billion USD by 2024.

A systematic review and meta-analysis was conducted to investigate the association between MVM supplementation and CVD outcomes. The analysis included eighteen clinical trials and cohort studies.

The definition of MVM varied among these studies, but for this analysis, the researchers followed the definition by the National Institutes of Health which describes MVM as dietary supplements that comprise >3 vitamin and mineral ingredients. Supplements that contain herbs, hormones or drugs were excluded from this analysis. The primary cardiovascular outcomes that were assessed in the analysis included CVD mortality, CHD mortality, stroke mortality, incident CHD events, and incident stroke.

Findings show no association between MVM supplementation and CVD mortality, CHD mortality, stroke mortality or stroke incidence. No association was observed in pre-specified subgroups categorised by age, MVM use, sex, type of population, medical history, smoking, physical activity, study site and follow-up period. However, MVM use was found to be associated with a lower risk of CHD incidence, but this association was not very significant. The analysis thus demonstrates that MVM supplementation does not improve cardiovascular outcomes in the general population.

It is still unclear as to why MVM supplement use is associated with a lower risk of CVD despite the fact that no benefit was found among studies. There are nutritional studies that have established the benefit of fruits and vegetables as they are a good source of vitamins and can lower the risk of stroke and CHD, but there is no such evidence associated with MVM supplements.

This study supports the guidelines that recommend against the routine use of MVM supplements to promote cardiovascular health.

Source: [Circulation: Cardiovascular Quality & Outcomes](#)

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