

In a recent study, adult participants with the lowest magnesium urinary excretion, an indicator of magnesium uptake, had a significantly increased risk of ischemic heart disease.

Higher magnesium intake may reduce risk of ischemic heart disease

Large surveys suggest that a substantial number of adults in the United States fail to get even the minimal recommended amounts of magnesium in their diets. The RDI for magnesium is 400 mg/day, but average dietary intakes typically fall between 200-300 mg per day. Several previous studies on dietary magnesium have suggested a potential link to a decreased risk of ischemic heart disease (IHD) with higher magnesium intake. However, possibly due to lack of direct measure of actual magnesium uptakes, results have been somewhat inconsistent.

In a new study published in the *American Journal of Clinical Nutrition*, researchers sought to determine whether urinary excretion of magnesium, an indicator of dietary magnesium uptake, would result in more consistent outcomes.

The research participants included 7,664 adults that were part of a population-based cohort study known as the Prevention of Renal and Vascular End-Stage Disease (PREVEND) study. All participants were free of known cardiovascular disease at the beginning of the trial. Urinary magnesium excretion was measured in 2 baseline 24-hour urine collections.

During an average follow-up of 10.5 years, 462 fatal and nonfatal IHD events occurred. Research indicated a relationship between urinary magnesium excretion and IHD risk. The participants with the lowest 20% of magnesium excretion were 60% more likely to experience a fatal or nonfatal IHD event than those with higher magnesium urinary excretion. Similarly, the group with the lowest magnesium excretion experienced a 70% increased risk of mortality resulting from IHD. There was no significant association between circulating plasma magnesium and risk of IHD.

The results of this study suggest that low magnesium urinary excretion, an indicator of magnesium status, may be associated with an increased risk of IHD incidence. Therefore, the risk of ischemic heart disease may be reduced by increasing dietary intake of magnesium, especially in those with the lowest urinary magnesium excretion.

Michel M Joosten et al. Urinary and plasma magnesium and risk of ischemic heart disease. First published March 13, 2013, doi: 10.3945/ajcn.112.054114.