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## Review backs sea buckthorn's heart health benefits

By Nathan Gray, 18-Feb-2011

Related topics: Phytochemicals, plant extracts, Cardiovascular health, Research

**A review of the evidence for the beneficial effects of sea buckthorn concludes that the nutrient rich plant may have some effects on heart health, but more research is needed.**

The new study suggests that daily consumption of sea buckthorn (in quantities of more than (28 grams per day berry or 5 grams per day of oil) may hold promising health benefits for humans, particularly for cardiovascular disease (CVD).

*"Sea buckthorn is a natural source of vitamins and several other bioactive compounds such as carotenoids and flavonoids, which have been claimed to lower cholesterol, platelet aggregation, blood pressure and blood sugar,"* said the authors, led by Yan-Jun Xu from the Institute of Cardiovascular Sciences, at the University of Manitoba, Canada.

The new study, published in *Journal of Functional Foods*, suggests that the cardio-protective effects of sea buckthorn flavonoids have been attributed to their ability to: Increase circulating lipid markers; act as powerful antioxidants; improve cardiac cell health; and prevent cardiac cell death from oxidative stress and injuries.

### Heart health

*"Dietary modification by inclusion of foods with bioactive components (such as n-3 polyunsaturated fatty acids, plant sterols, antioxidants and vitamins) is one of the major factors for lifestyle changes to reduce the risk of CVD,"* said Xu and colleagues.

They said that previous research studying the role of nutrients and bioactive components such as vitamins, antioxidants and flavonoids for the prevention and management of cardiovascular disease (CVD) are inconsistent.

*"While some studies have shown the beneficial effects of vitamins in CVD others have rejected such claims,"* they said.

They explained that some 'controversial' results may be due to the differences in the form of vitamins used in these studies (e.g. natural source vs. synthetic form).

Xu and colleagues noted that the sea buckthorn (*Hippophae rhamnoides* L.), is reported to be a "natural reservoir of vitamins, minerals, antioxidants and flavonoids" which may offer many beneficial health effects, including benefiting CVD.

The berries from sea buckthorn are a rich source of vitamins and minerals, whilst the juice of sea buckthorn berry has been shown to contain contains proteins, vitamin C, vitamin E, carotenoids, different mineral and organic acids.

*"Of particular interest, the berries, oil and the seeds of sea buckthorn have been shown to possess anti-atherogenic, hypocholesteromic, hypotensive and anti-inflammatory properties and therefore could be successfully exploited to prevent or treat CVD,"* said the authors.

The new review focused on the beneficial effects of sea buckthorn, "with particular emphasis on the preventive and therapeutic aspects of cardiovascular disease."

### Review details

The authors said the various edible parts of sea buckthorn (including the berries, juice, leaves and seed extracts) are rich in bioactive components such as flavonoids, carotenoids, plant sterol, vitamins and fatty acids.

*"A number of preclinical and clinical studies have been conducted to evaluate the beneficial effects of sea buckthorn in the prevention and management of CVD,"* said the reviewers.

The findings of these studies suggest that the anti-atherogenic, hypocholesterolemic and antiplatelet aggregation effects of sea buckthorn are primarily due to the unsaturated fatty acid profile and flavonols content of its oil and juice.

The findings of the studies of sea buckthorn on diabetes and heart health have also provided evidence for its hypoglycemic and hypolipidemic effects.

Reviewing these studies, Xu and co-workers said the cardio-protective and other health benefits of sea buckthorn *"are mainly attributed to the presence of flavonols, antioxidants, vitamins and other bioactive components; however, the findings of these studies have limitation such as small sample size and short duration."*

They explained that large scale, double blind clinical trials need to be conducted to establish the protective mechanism and to confirm the benefits of sea buckthorn.

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*"Health benefits of sea buckthorn for the prevention of cardiovascular diseases"*

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