



Effects of medicinal plants on sports performance: Why and How

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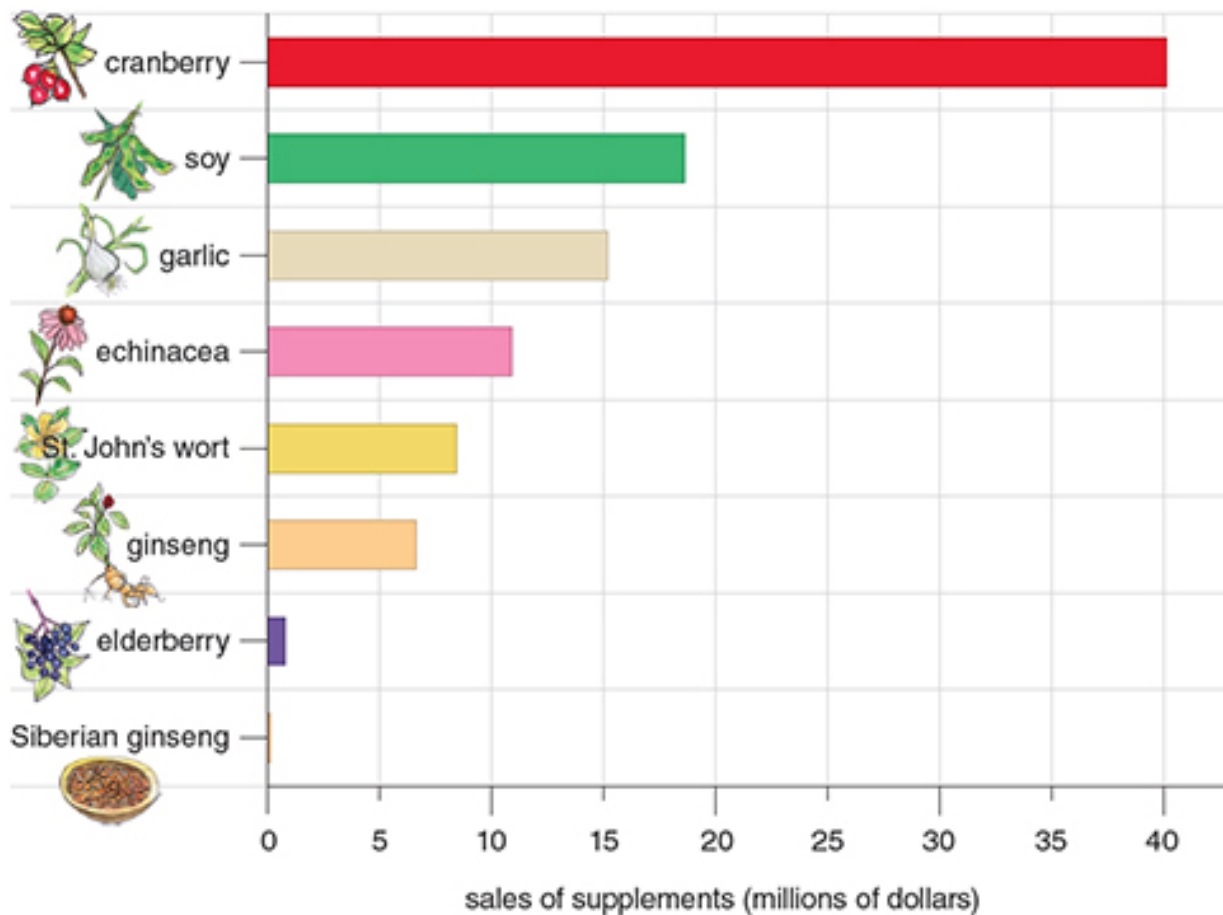
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Background and Aim

The increasing tendency to use natural products among athletes results in more research in this field and the production of a new category of sports supplements with the content of medicinal plants.

Regardless of the effectiveness rate of medicinal plants in sports performance, this study investigated why and how medicinal plants affect sports performance

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Methods

This is a qualitative review study which was conducted by searching key words (Medicinal plants, Exercise, sports, sports supplements, Herbal supplements)

in reliable scientific databases, reviewing the related English and Persian articles, repeatedly studying the extracted materials and finally categorizing and labeling them.



<https://www.themandarin.com.au/207806-white-papers-working-papers-preprints-journal-articles-whats-the-difference/>



Results

Often, the effects of medicinal plants on sports performance have been investigated in 5 areas:





1. Energy gain

One of the most important reasons why athletes use medicinal plants is to gain more strength. Achieving this goal, athletes usually use three herbs, *saffron*, *ginseng*, and *bindii* (*Tibullus terrestris*), as well as *caffeine*, which is an effective ingredient in some herbs.

These plants increase sports performance by different mechanisms:

- Bindii with androgenic properties,
- Ginseng by postponing fatigue caused by sports activities and accelerating recovery after sports activities;
- Saffron by improving blood circulation and better oxygenation to muscles
- Caffeine by maintaining muscle carbohydrate reserves.

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2. Improving the immune system

The most prominent plant in this group is echinacea, which even in the open window period after intense sports activities, when there is a high chance of contracting acute respiratory infections, has been shown appropriate effects in preventing these infections through the modulation of immune system by inhibiting the production of inflammatory factors.

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3. Weight loss

For this purpose, plants such as *green tea* and *coffee* are considered.

- Stimulating thermogenesis,
- Increasing the speed of lipolysis,
- Affecting the central nervous system

are among the most important mechanisms of these plants to weight loss.

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4. Analgesic

Sports pains, especially those that occur after the first 24 hours, will reduce the athlete's performance.

According to the consensus manifest of the International Olympic Committee, *cherry extract*, *beetroot extract*, and *curcumin* (the active ingredient of turmeric) are effective in reducing these pains, possibly by inhibiting inflammatory pathways and stimulating the internal antioxidant system.

Ginger has also been effective in reducing exercise-related pain through its anti-inflammatory mechanism.

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5. Psychological effects

Sometimes the athlete seeks to increase concentration; so, plants such as *guarana* and *coffee*, which contain high caffeine and can affect the central nervous system with their alkaloid effects, are efficient.

Sometimes the athlete is looking for relaxation due to severe stress caused by heavy training and competitions, in this situation, the mentioned plants may be harmful, even though, some sedative plants may lead to sleepiness.

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Conclusion

Medicinal plants affect sports performance in at least 5 areas and with various mechanisms, the most important of which are antioxidant and anti-inflammatory effects.

Medicinal plants can potentially be a sports supplement, however, before the general recommendation to use them as a sports supplement, it is necessary to ensure the safety of using these new supplements and their actual effectiveness, the permitted amounts of consumption and the distance between consumption and sports activity.

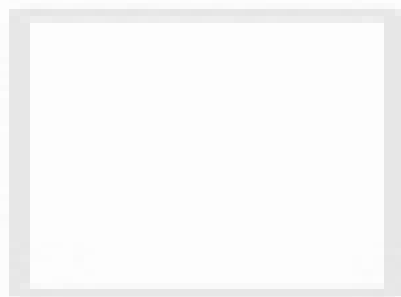
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