

Pistachio is a Good Source of Antioxidants for Male Fertility Preservation

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Despite various antioxidants in the human body, the antioxidant capacity alone cannot destroy free radicals, so it needs to provide antioxidants from external sources, including foods and supplements [1]. Eating fruits and vegetables daily is an essential diet suggestion for most people to protect the human body's health normally, although this diet plan rarely succeeds. As normal daily eating (low fruits and vegetables) does not make enough antioxidants available, alternative ways can be important to increase the antioxidant intake by other nutrition factors [2]. Natural antioxidants, on the one hand, increase the level of plasma antioxidants and, on the other hand, reduce the risk of damage to Deoxyribonucleic acid (DNA) in all human tissues [3].

From time immemorial, tree nuts have been known as important factors to have health sponsoring effects. Medical researchers have used this fact and focused on the antioxidant properties of nuts. Usually, nuts have been used to improve immune, digestion, cardiovascular, and reproductive systems. Today, nuts are recognized for their potential to reduce inflammation and the risk of cardiovascular disease (CVD). The Food and Drug Administration (FDA) suggested consuming approximately 42.5 g of nuts daily can decrease the risk of CVDs. The main line in this topic was the ability and mechanisms that the nuts to defend against oxidative stress (OS) or reactive oxygen species (ROS) [4].

The pistachio is a main member of nuts. Pistachios contain many antioxidants that protect cells from free radical damage. The protective effects of pistachio have been based on micro-nutrition factors, including phenolic phytochemicals and polyphenols. Pistachio antioxidants are in two main forms (nutrient and non-nutrient). Nutrient antioxidants are well-known as vitamins (A, E, and C) and minerals (Selenium, Zinc, and Iron), and non-nutrient antioxidants are such as polyphenols, flavonoids, lutein, anacardic, and fatty acids. Vitamin E is the most abundantly found vitamin in pistachio [5].

Pistachio is rich in phenolic phytochemicals, and in a recent experimental study published by Falahati-Pour et al. in a urology journal, they reported this parameter is an effective factor for improvement in

sperm parameters and fertility potential in male rats [6]. The results of several studies have also shown a direct correlation between the intake of pistachio and the increase of sperm parameters, elevation in sex hormonal profile, decrease in apoptosis in testis tissue, and decrease in sperm DNA fragmentation [7, 8]. In conclusion, pistachio contains phytochemicals, fat-soluble components, and nutrient and non-nutrient antioxidants. These factors make pistachio a brilliant and optimal supplement for preserving male reproductive health. Nutritional researchers believe pistachio is more complete and suitable than other nuts. The positive effects of pistachio on the male reproductive system are suggested, but still, this topic is suitable for future studies.

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