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Nutritive Values and Health Benefits of Dry Fruits

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ABSTRACT

Dried fruits, which serve as important healthful snacks worldwide, provide a concentrated form of fresh fruits. They are nutritionally equivalent to fresh fruits in smaller serving sizes, ranging from 30 to 43 g depending on the fruit, in current dietary recommendation in different countries. Daily consumption of dried fruits is recommended in order to gain full benefit of essential nutrients, health-promoting phytochemicals, and antioxidants that they contain, together with their desirable taste and aroma. Recently, much interest in the health benefits of dried fruits has led to many *in vitro* and *in vivo* (animal and human intervention) studies as well as the identification and quantification of various groups of phytochemicals. This review discusses phytochemical compositions, antioxidant efficacies, and potential health benefits of eight traditional dried fruits such as apples, apricots, dates, figs, peaches, pears, prunes, and raisins, together with dried cranberries.

Key Words: *Phytochemicals, Antioxidant Efficiencies, Health Benefits, Dry Fruits.*

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INTRODUCTION

Dry fruit is a form of dehydrated fruit. Most of its moisture content is removed naturally or through some dehydrating method. Some of the techniques used to remove the moisture content from the fruit use sun rays or dehydrators. Nuts and dry fruits have most of the nutritional value of fresh fruit. As a result, they are highly beneficial. Naturally occurring nuts are almonds, pistachios, dates, cashew, walnuts, and hazelnuts. At the same time, raisins and Anjeer or figs are the dried form of fruits [1].

Health Benefits of Dry Fruits

Raisins have calcium and boron which is considered to be important for bone formation. They are also very good for eye care as they contain oxidant properties and Vitamin A, which protects eye from weakening of vision, macular degeneration and cataract. They also play a vital role in protecting our teeth against cavities, tooth decay and other dental problems. Raisins are thus beneficial for bones, eyes and for promoting dental health. Cashew nuts also support healthy muscles and gums as they are rich in magnesium and calcium. Pistachios are also very advantageous for eye health because of the presence of carotenoids in them [2]. Walnuts contain omega 3 fatty acids and that is why is called the “Brain Food” and hence is very important for the development of the brain. Nuts are one of the best plant sources of protein and minerals. They are rich in fibre, phytonutrients and antioxidants such as Vitamin E and selenium. Nuts are also high in plant sterols and fat but mostly monounsaturated and polyunsaturated fats (omega 3 fatty acids- the good fats) which have all been shown to lower LDL cholesterol [3]. Many people were scared away from nuts during the low-fat craze of the last few decades, but now nuts are making a comeback. Other large-scale studies, also found that eating nuts lowered heart disease risk. Other studies have shown that nuts help lower bad "LDL" cholesterol. They are highly concentrated in both their calories and their

nutrients, so we only need a small handful at a time. Eating a variety of nuts appears to be the best way to get all the different benefits each nut has to offer [4].

1. Immunity Boosters

Dry fruits are rich in potassium, magnesium, calcium, zinc, phosphorus and various vitamins like vitamin A, D, B6, K1 and E. These nutrients are essential for a healthy immune system. Dry fruits with high levels of polyphenols help improve immunity by showing anti-inflammatory effects. It is due to the antioxidant properties of several dry fruits. It also helps eliminate free radicals and relieve oxidative stress [5].

2. Weight Loss Properties

Dry fruits are rich in carbohydrates and dietary fibre. As a result, they are one of the best snacking options. The dietary fibre keeps you satiated for long and controls the urge to eat between meals. As a result, your calorie consumption reduces. At the same time, dietary fiber is good for a healthy gut and improves bowel movements. Limited calorie intake and a healthy gut are two fundamentals of weight loss. Thus, dry fruits rich in dietary fibre help lose weight [6].

3. Dry Fruits for Gut Health

Gut health improvement is another benefit of the dietary fibres in dry fruits. Dry fruits are rich in dietary fibre, both soluble and insoluble. These dietary fiber help in adding bulk to stool. As a result, dry fruits help maintain a healthy bowel movement [6].

4. Skincare Benefits

Free radicals are unstable molecules that tend to latch onto the oxygen inside the body. Due to this, the healthy cells are oxygen deprived, leading to oxidative stress. As per studies, oxidative stress can lead to several skin diseases and chronic inflammation. Therefore, an antioxidant-rich diet can help you achieve and maintain healthy skin [7].

5. Heart Health

Many dry fruits like walnuts are rich in omega-3 fatty acids. Omega-3 helps reduce the triglyceride levels in the blood, which helps control cholesterol. As a result, it aids in preventing the arteries from clogging and, thus, decreases the chances of heart attacks. Omega-3 also helps prevent plaque build-up in the arteries. A recent study proves that eating specific types of nuts like almonds, walnuts and pistachios may help reduce the chances of cardiovascular disease and coronary heart disease [8].

6. Bone Health

Dry fruits are rich in healthy nutrients like magnesium, boron, vitamin K and calcium. These nutrients influence our bone health. For example, our skeletal structure is full of calcium, and several dry fruits like dried apricots, figs etc., help give adequate amounts of calcium. As a result, they help prevent bone-related issues and strengthen our bones [8].

Having calcium deficiency in the body can lead to diseases like osteoporosis. In this condition, the bones become fragile, which increases the chances of unexpected fractures. Therefore, having healthy servings of dry fruits can help decrease the chances of osteoporosis.

7. Beneficial for Type-2 Diabetes

Nuts and dried fruits can efficiently counteract metabolic diseases such as type 2 diabetes. Their unique macronutrients, micronutrients and other bioactive compounds are responsible for a positive effect on diabetes. Dry fruits contain fibre, fat, minerals and other bioactive molecules. These molecules help modulate several gene mechanisms at the cellular and molecular levels [9].

8. Cancer Prevention

Several studies prove the effect of dry fruits in cancer prevention. For example, dry fruits like almonds are rich in phytonutrients because of vitamin A content. These nutrients show properties to help prevent certain kinds of cancer. As per the study, Increasing the intake of dried fruits like raisins, figs, prunes (dried plums) and dates to 3-5 or more servings per week may help reduce the risk of prostate, pancreatic, colon, stomach and bladder cancers [10].

9. Blood Pressure Management

Low magnesium levels in our bodies may result in high blood pressure. It can lead to many other disorders such as stroke, kidney failure and even heart attacks. One of the most popular dry fruits, almonds are naturally rich in magnesium and carry almost 76.5mg of magnesium per 28g of servings. So, including almonds in your diet can prove to be very beneficial. Magnesium acts as a natural vasodilator and prevents the blood vessels from constricting. As a result, it helps maintain healthy blood pressure [11].

Nutritive Values of Dry Fruits

Raisins (Kishmish) - are the type of fruit that needs oil to help in their packaging. Many cereal giants infuse or soak their raisins in glycerine so they don't clump up in the cereal boxes or, worse yet, break some consumer's teeth. (Of course, the glycerine is inspected before being shipped to the cereal plants). There are some companies that do not use oil and others that (at least domestically) almost always use kosher oil. Therefore, barring Pesach, domestic raisins may be used [12].

Almonds (Badam)- Just a quarter cup of almonds contains nearly 25 percent of your needed daily value of the important nutrient magnesium, plus is rich in potassium, manganese, copper, the antioxidants vitamin E and selenium, and calcium. In fact, a quarter cup of almonds has almost as much calcium as a quarter cup of milk. They're also great for the colon. An animal study on the effects of almonds on colon cancer found that animals (which were exposed to a colon-cancer-causing agent) given whole almonds had fewer signs of colon cancer than animals given almond oil or no almonds. Researchers suspect the benefit may be due to almonds' high fibre content. Plus, almonds are one of the best nuts for lowering cholesterol because 70 percent of the fat they contain is the healthy monounsaturated variety, which has been shown to help clear arteries[13].

Prunes- After prunes are washed, they are dehydrated until they become stone-like. This enables them to be stored in this state for up to two years. When there is an order, they are then moisturized (usually blanched with steam) until hydrated enough for packaging. Oil is not a necessary part of preparation since prunes are a large fruit and do not have a tendency to clump together as do other fruits. However, oil might be used as a polishing agent, but then it would be listed with the other ingredients. They would need a hechsher for Pesach since some have an oil coating and because ***potassium sorbate*** may be used. There can also be a

corn-based glucose in the drying process that is problematic for Pesach. It is important to point out that prune juice definitely needs a reliable hechsher [14].

Apricots (khumani) - Apricots are those beautifully orange coloured fruits full of beta-carotene and fibers. Nutrients in apricots can help protect the heart and eyes, as well as provide the disease-fighting effects of fibre. The high beta-carotene content of apricots makes them important heart health foods. Beta-carotene helps protect LDL cholesterol from oxidation, which may help prevent heart disease. Apricots contain nutrients such as vitamin A that promote good vision. Vitamin A, a powerful antioxidant, quenches free radical damage to cells and tissues. Free radical damage can injure the eyes' lenses [15].

Blueberries- Antioxidants are thought to protect the body against the damaging effects of free radicals[2] and the chronic diseases associated with the aging process. Fresh fruits, including blueberries and vegetables contain many of these naturally occurring antioxidants such as Vitamins C and E. Blueberries contain 14 mg of Vitamin C and 0.8 mg Vitamin E per 1 cup of blueberries. In addition, blueberries contain ***anthocyanins and phenolics*** that can also act as antioxidants[16].

Peaches (aadru)- Although fresh, high-quality peaches are sweet tasting, they are low in calories, with one medium peach furnishing only about 37 calories. Yellow-fleshed varieties are a good source of Vitamin A. But, making peach jam or canning peaches in sugar syrup adds calories [17].

Cashews (kaju)- Cashews are lower in fat than most nuts, and 65 percent of this fat is unsaturated fatty acids. Of this, 90 percent is oleic acid, the heart-healthy fat found in olive oil and cashews are rich in copper, magnesium, zinc, iron and biotin [18].

Walnuts (aakhrot)- Walnut is the great source of the healthy omega-3 essential fatty acids[5], which have been found to protect the heart, promote better cognitive function, and provide anti-inflammatory benefits for asthma, rheumatoid arthritis, eczema and psoriasis. Walnuts also contain the antioxidant compound ***ellaic acid*** [2] which is known to fight cancer and support the immune system. Even researchers have identified 16 polyphenols in walnuts, including three new tannins, with antioxidant activity so powerful they described it as "remarkable." Walnuts are incredibly healthy for the heart. Total cholesterol and LDL (bad) cholesterol were reduced and the elasticity of the arteries increased by 64 percent. Levels of vascular cell adhesion molecules, which play a major role in reducing the development of atherosclerosis means hardening of the arteries [19].

Pecans -These natives to the southern Mississippi River valley are buttery and slightly bittersweet. They’re stand-outs in pies, quick breads, cakes, cookies, candies and ice cream.Pecans are an excellent source of over 19 vitamins and minerals including vitamins E and A, folic acid, calcium, magnesium, copper, phosphorus, potassium, manganese, several B vitamins and zinc. Recent clinical research studies evaluating the impact of pecans on serum cholesterol have found pecans can significantly help to lower blood cholesterol when consumed as a part of heart-healthy diet. In fact, a study from New Mexico State University found that eating 3/4 cup of pecans a day may significantly lower LDL (bad) cholesterol and help to clear the arteries [20].

Pistachios (Pista) -Pistachios have beige shells with nuts that range from dull yellow to deep green. Primarily sold as a snack food, they are easily adaptable to recipes where pecans or other nuts are used Pistachios are a good source of copper, phosphorus, potassium, magnesium, and B6. The nuts deliver 30 vitamins, minerals, and phytonutrients, so they pack a considerable wallop from a nutritional standpoint. Pistachios contain higher amounts of fibre than many high-fibre foods. Pistachios are an excellent source of dietary fibre. If there is a need to replace animal protein with vegetable protein, pistachios eaten in conjunction with protein-rich grains, vegetables and fruits, can help us to add protein to our diet. Pistachio nuts are an excellent source of vegetable protein. Oxidative stress can cause damage to the human body, resulting in diseases such as cancer and heart disease. Dietary antioxidants help to reduce the damage. Pistachios contain phenolic compounds[2], which are believed to account for the antioxidant capability of certain foods. The pistachio nut is placed in the highest group for antioxidants [21].

Plums (Aalu-bukhara)-Dried Plums are ready-to-eat right from the package as a healthful snack or can be used as a versatile cooking or baking ingredient. They provide potassium, soluble and insoluble fibre, phytochemicals that function as antioxidants as well as some iron and Vitamin A. Dried Plums/Prunes can play an important role in promoting good digestive health [22].

Brazil Nuts: Brazil nuts only come from magnificent, large trees that grow wild in the Amazon rain forest. Similar to coconut in texture, the sweet, rich meat of Brazil nuts is eaten raw or roasted. These nuts are extremely nutrient-rich and contain protein, copper, niacin, magnesium, fibre, vitamin E and selenium. ***Selenium*** is a powerful antioxidant that works to neutralize dangerous free radicals. A study at the University of Illinois even found that the high amounts of selenium in Brazil nuts may help prevent breast cancer [23].

CONCLUSION

Dried fruits are nutritionally equivalent to fresh fruits in smaller serving sizes. They have unique combination of taste/aroma, essential nutrients, fibre, and phytochemicals. Dried fruits are important for human health in providing great nourishment and health benefits. Dry fruits and nuts are rich in protein, energy and many macronutrients and micronutrients. They are also an excellent energy source with natural sugars. Different nuts and fruits have different nutrition values, and a good mix of these can be a source of nutrition-packed snacks. Dry fruits and nuts are healthy, and their fantastic taste makes it very easy to include them in your diet. So, replace your cookies and chips with healthy dry fruits. Use them as snacks or make them into smoothies and milkshakes to obtain their nutritional value.

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