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A scientific review of fruit as a nutritional source for physical fitness and health enhancement

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Abstract

The present observe geared toward analyzing dietary information of culmination and its effect on betterment of health. meals packets include labels on it stating its nutritional facts. If culmination had labels on them their dietary records would leave us amazed. Over last few decade human beings have emerge as aware of their fitness and weight-reduction plan. In such time, significance of fruits in nutrition and their health advantages can't be left unrecognized. End result are wealthy in nutrients, minerals and are rich supply of energy. Mango and papaya are wealthy supply of diet A. Aonla, guava and citrus culmination are wealthy in diet C, even as richest source for diet C become Barbados cherry. Walnut is the richest supply of fats (64.5 in step with cent) and produces maximum energy in line with unit of edible element. Cashew nut is the richest source of protein 21.2% and thiamine 630mg/100g. Litchi is richest source of calcium and cashew nut is determined rich in nutrition-B1 (Thiamine). Dry karonda is the richest supply of iron (39.1 in line with cent) followed by using date palm (10.6 consistent with cent).

Keywords: Blood pressure, fruits, health benefits, nutrition, vitamin

Introduction

The nutrition price of end result places them at the crest of our edibles. Fruits incorporate nutrients and minerals in huge portions. End result are the oldest meals of mankind. Taking fruits normal strengthens our vitality. Nutrients scientists recommend us to take as a minimum 120 grams of fruit every day for balanced eating regimen (ICMR). End result like papaya, mango, guava, jackfruit, pineapple, lemon, and so on. Abound with vitamins A, B and C. furthermore, they've calcium, magnesium, iron, and potassium. Phosphorus and amino acid abound in ok amount in wooden apple, litchi, almond etc. Rice and wheat are staple meals in India. In many nations, human beings consume culmination as their staple meals. for instance: human beings within the South American international locations devour banana as the main course in their meal. Banana, Jackfruit, Guava, Pineapple, and so forth. can reduce our food deficit to a superb volume.

End result are nature's stunning present to humankind; indeed, they're life-enhancing drug treatments packed with nutrients, minerals, antioxidants, and many phytonutrients (Plant-derived micronutrients). They may be an absolute feast to our sight, now not simply due to their color and flavor but in their precise nutrient profile that allows the human frame be suit, rejuvenate, and free of sicknesses. An consumption of fruit each day continues us hale and hearty (Rahman, 1998) ^[12]. Citrus fruits are rich in nutrition C, at the same time as the richest supply for vitamin C was Barbados cherry. Walnut is the richest supply of fat (64.5 consistent with cent) and produces highest calories consistent with unit of suitable for eating portion. Cashew nut is the richest source of protein 21.2 in line with cent and thiamine 630mg/100g. Dry Apricot is the richest source of calcium, phosphorus and niacin. Dry karonda is the richest supply of iron (39.1 in step with cent) observed by way of date palm (10.6 consistent with cent). Litchi was found rich in calcium content material. Bael is the richest supply of riboflavin. (Salaria, 2008) ^[14]. right vitamins promotes the top-rated increase and improvement of youngsters. healthy ingesting helps save you high cholesterol and excessive blood strain and facilitates reduce the risk of growing continual illnesses such as cardiovascular ailment, cancer, and diabetes.

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Healthy consuming facilitates reduce one's threat for developing weight problems, osteoporosis, iron deficiency, and dental caries (cavities).

A negative weight loss program can result in electricity imbalance (e.g., eating greater energy than one expends via bodily interest) and can increase one's risk for obese and weight problems. (nutritional tips, 2010) ^[5]. Citrus end result are rich in nutrition C, while the richest supply for diet C become Barbados cherry. Walnut is the richest supply of fat (sixty four.five in step with cent) and produces highest energy per unit of fit to be eaten element. Cashew nut is the richest supply of protein 21.2 in line with cent and thiamine 630mg/100g. Dry Apricot is the richest supply of calcium, phosphorus and niacin. Dry karonda is the richest source of iron (39.1 per cent) accompanied with the aid of date palm (10.6 in keeping with cent). Litchi become found rich in calcium content material. Bael is the richest supply of riboflavin.

(Salaria, 2008) ^[14]. proper nutrients promotes the superior boom and development of youngsters. healthy eating facilitates save you high cholesterol and excessive blood pressure and enables reduce the danger of developing continual sicknesses together with cardiovascular disorder, most cancers, and diabetes. healthful ingesting enables reduce one's chance for developing weight problems, osteoporosis, iron deficiency, and dental caries (cavities).

A poor weight-reduction plan can lead to strength imbalance (e.g., ingesting greater calories than one expends via bodily pastime) and may boom one's threat for overweight and weight problems. (dietary tips, 2010) ^[5]. Citrus fruits are rich in vitamin C, while the richest source for diet C turned into Barbados cherry. Walnut is the richest source of fats (64.5 in step with cent) and produces highest energy in keeping with unit of suitable for eating portion. Cashew nut is the richest source of protein 21.2 according to cent and thiamine 630mg/100g. Dry Apricot is the richest source of calcium, phosphorus and niacin. Dry karonda is the richest source of iron (39.1 consistent with cent) observed by using date palm (10.6 per cent). Litchi turned into determined

wealthy in calcium content. Bael is the richest source of riboflavin. (Salaria, 2008) ^[14]. proper nutrition promotes the finest boom and development of children. healthy consuming allows save you high cholesterol and excessive blood strain and enables lessen the risk of growing persistent diseases which includes cardiovascular ailment, cancer, and diabetes. wholesome ingesting enables lessen one's chance for developing obesity, osteoporosis, iron deficiency, and dental caries (cavities). A terrible food regimen can result in electricity imbalance (e.g., eating more energy than one expends via bodily pastime) and may growth one's threat for obese and obesity. (dietary pointers, 2010) ^[5].

A terrible diet can boom the threat for lung, esophageal, stomach, colorectal, and prostate cancers (Kushi, 2006) ^[10]. A extensive style of nutritious food is available inside the america. however, many people do now not eat the array of foods with a purpose to offer all needed vitamins at the same time as staying inside calorie desires. in the america, intakes of vegetables, culmination, whole grains, milk and milk merchandise, and oils are lower than endorsed. As a end result, nutritional intakes of several vitamins—potassium, nutritional fiber, calcium, and nutrition-D are low sufficient to be of public fitness situation for both adults and children. (Byres, 2012) ^[3]. fruits compose of many antioxidants consisting of polyphenolic flavonoids, nutrition-C, and anthocyanins. those compounds, first off assist the human body included from oxidant pressure, diseases, and cancers, and secondly; assist the frame in growing the capability to combat in opposition to those ailments by means of boosting our immunity stage. Many culmination, when in comparison to greens and cereals, have very high anti-oxidant values, which measured regarding their "Oxygen Radical Absorbent potential" or (ORAC).

Nutritional Facts of Different fruits

Nutritional facts for various fruits are summarized in the table below.

Table 1: Nutritional status per 100 g edible fruits

Food	Energy	Water	Fibre	Fat	Protein	Sugar	Vit.A	Vit.C	Vit.B1	Vit.B2	Vit.B6	Vit.E
Substance = 100 g.	kJ/Kcal	%	g	g	G	g	mg	mg	mg	Mg	mg	mg
Apple	207/49	84	2.3	0	0.4	11.8	2	15	0.02	0.01	0.05	0.5
Apricot	153/36	87	2.1	0	1.0	8.0	420	5	0.06	0.05	0.06	0.5
Avocado	523/126	81	0.2	10	2.0	7.0	20	17	0.06	0.12	0.36	3.2
Blueberry	204/48	80	8.4	0	1.0	11.0	0	10	0.02	0.03	0.05	1.9
Blackberry	170/40	85	8.7	0	2.0	8.0	30	150	0.08	0.04	0.07	1.0
Banana	375/88	76	2.7	0	1.2	20.4	3	10	0.04	0.03	0.36	0.3
Cranberry	68 /16	89	4.2	0	0.0	4.0	0	15	0.00	0.01	0.07	0
Cherry	221/52	86	1.2	0	0.0	13.0	40	10	0.02	0.02	0.04	0.1
Date	1275/300	20	7.5	0	2.0	73.0	0	0	0.05	0.10	0.10	0.7
Fig	340/80	s80	2.0	0	1.0	19.0	10	3	0.06	0.05	0.11	-
Grapefruit, Red	128/30	90	1.4	0	0.9	6.6	0	40	0.07	0.02	0.03	0.5
Grapes	274/64	83	2.2	0	0.6	15.5	0	3	0.03	0.01	0.08	0.6
Guava	306/72	81	5.3	0	1.0	17.0	30	218	0.04	0.04	0.14	-
Gooseberry	170/40	88	3.2	0	1.0	9.0	0	30	0.02	0.01	0.08	0.4
Kiwi Fruit	168/40	84	2.1	0	1.1	8.8	5	70	0.01	0.02	0.12	1.9
Lemon	51/12	96	1.8	0	0.0	3.0	0	40	0.06	0.02	0.04	0.8
Lime	156/37	91	0.3	0	0.0	7.0	0	40	0.03	0.02	0.08	-
Lychee	323/76	82	1.5	0	1.0	18.0	0	39	0.05	0.05	-	-
Mandarin / Tangerine	177/42	88	1.9	0	0.9	9.5	12	30	0.08	0.03	0.084	0.4
Mango	255/60	84	1.0	0	0.0	15.0	210	53	0.05	0.06	0.13	1.0
Olive	586/142	75	4.4	14	1.0	3.0	50	0	0.03	0.08	0.00	2.0
Orange	198/47	87	1.8	0	1.0	10.6	2	49	0.07	0.03	0.06	0.1

Papaya	136/32	91	0.6	0	0.0	8.0	40	46	0.03	0.04	0.04	-
Passion Fruit	158/37	88	3.3	0.4	2.6	5.8	125	23	0.03	0.12	-	0.5
Peach	151/36	89	1.4	0	1.0	7.9	15	7	0.01	0.02	0.02	0.0
Pear	201/47	86	2.1	0	0.3	11.5	0.0	4	0.01	0.01	0.02	0.1
Persimmon	325/76	81	0.5	0	0.5	18.6	260	16	0.02	0.03	-	-
Pineapple	211/50	84	1.2	0	0.4	12.0	20	25	0.07	0.02	0.09	0.1
Pomegranate	343/81	82	3.4	0	1.0	17.0	10	7	0.05	0.02	0.31	-
Plum	177/42	84	2.2	0	0.8	9.6	18	5	0.02	0.03	0.10	0.7
Strawberry	99/23	91	2.2	0	0.7	5.1	10	60	0.02	0.03	0.06	0.4

Source: Nevo table 1996, Nevo Foundation Netherlands Nutrition Centre

Work Carried on nutritional values and health benefits Health Benefits of Fruits

Fruits are universally promoted as healthy. The dietary suggestions for people 2010^[5] recommend you make one-half of your plate culmination and veggies. Myplate.gov additionally supports that one-half of the plate must be culmination and veggies. culmination include a various organization of plant meals that modify substantially in content material of electricity and nutrients. moreover, end result and deliver nutritional fibre, and fibre consumption is linked to lower prevalence of cardiovascular ailment and weight problems. end result also deliver vitamins and minerals to the weight loss plan and are assets of phytochemicals that feature as antioxidants, phytoestrogens, retailers and through different protective mechanisms (Slavin, 2012)^[17].

Fruit consumption and disease cure

It was recognized that a excessive intake of culmination and vegetables can help to save you numerous non-communicable sicknesses such as cardiovascular illnesses, the diabetes type 2 and some most cancers (Ganry, 2006)^[7].

Pomegranate

Suggested that special combo of pomegranate juice, seed, and peel that, consistent with published consequences, potently and reproducibly kills prostate and breast cancer cells in way of life. in addition to Biblical references, the Romans point out the tree's specific recovery powers, and several middle eastern, Asian, and South American peoples hold to bite small bits of its bark, petals, and peel to deal with illnesses starting from dysentery to illnesses of the mouth and gums. by means of supplementing diets with pomegranate juice, that's excessive in antioxidants, seemed to improve some key indicators of cardiovascular health. in addition to the high stages of antioxidant-rich tannins and flavonoids within the juice and peel, researchers weigh down and dry the seeds to provide precise oil, about eighty% of that's a completely uncommon 18-carbon fatty acid, or punicic acid. additionally present in the oil is the iso flavonegenistein, the phytoestrogen coumestrol, and the intercourse steroid estrone. In fact, the pomegranate is one of the handiest plants in nature recognised to include estrone (Robert, 2003)^[13].

Date Palm end result

Egyptian Date Palm (*Phoenix dactylifera* L.) end result incorporate a selection of B-complicated nutrients B1, B2, Nicotinic acid and nutrition A. The date palm extracts includes thirteen. Eighty % moisture and 86.50% general stable. Ash and Crud fibres contents were 2.13 and 5.20, respectively. Protein, carbohydrates and lipids contents were 3.00%, 73.00% and a couple of. 90% respectively. The low stage of lipids content material 29% as compared with its

content material of sugars method that, the date palm is store to heart and blood sufferers because its containing a completely low stage of fatty acids and cholesterol. HPLC analysis of sugars content showed that, the carbohydrate content material includes a huge amount of glucose, fructose and sucrose, The protein sample on SDS-page confirmed that, most of proteins inside the date palm are a excessive molecular weight proteins between eighty and one hundred thirty five KD and contained a minimal stages of the LMW proteins less than 55 KD (El-Sohaimy, 2010)^[6].

Superstar fruit (carambola)

Famous person fruit is one of the very low calorie exclusive fruits. one hundred g fruit just gives 31 energy, that is much lower than for some other popular tropical end result. despite the fact that, it has an impressive list of vital nutrients, antioxidants, and vitamins required for nicely-being. big name fruit incorporates desirable quantities of vitamin-C. vitamin C is a effective herbal antioxidant. one hundred g of fresh fruit offers 34.7 mg or 57% of day by day- required levels of vitamin C. In popular, intake of culmination wealthy in vitamin C enables the human frame increase resistance against infectious agents and scavenge harmful, seasoned-and anti inflammatory unfastened radicals from the body. megastar fruit and its juice is regularly encouraged in lots of folk remedy in Brazil as a diuretic (to growth urine output), expectorant, and to suppress cough. (www.Nutritionsandyou.com, 2014)^[2].

Aonla or Indian Gooseberry

The main nutrient in Aonla is vitamin C (720 mg/100 g fruit). whilst storing dry or in different kinds vitamin c might also get destroyed if exposed to heat but its tannins which guard them from being destroyed. It additionally has sufficient of chemical ingredients which renfder it with a totally excessive antioxidant price. Amalaki (*Embllicaofficinalis*) i.e. Aonla and its arrangements can be used in any kind of sick health. it's miles usually utilized in piles, fracture, constipation, vomiting, nausea, diseases related to vision and eye, hick up, fever, jaundice, liver ailment, skin disease, diabetes (Kavita, 2013)^[8].

Banana

It's far a dessert fruit of millions aside from staple food owing to its rich and easily digestible carbohydrates with a calorific cost of 67-137mg/100 g fruit. Being a wealthy source of nutrition C and minerals, it makes wholesome and salt loose weight loss plan (Chaddha, 2007)^[4].

Avocado

Avocado or butter fruit (*Persea Americana*) is reputed as a nourishing food of excessive dietic cost. Its dietary values are similar to ripe olives with a mean of 2.1 per cent protein, 1.32% minerals and 24-26% fats. because the fruit includes

no longer extra than 1% sugar, it's far advocated as high energy meals for diabetics (Chaddha, 2007) ^[4].

Almond

In step with the U.S. department of Agriculture, americans' call for almonds has elevated over four hundred percentage in view that 1980. In 2016, americans ate a mean of one.eight lbs. (816 grams) of almonds each. there's exact reason for the love affair. "Almonds had been studied notably for his or her benefits on coronary heart fitness, diabetes, and weight management," stated Jenny Heap, a registered dietitian with the Almond Board of California. "The precise nutrient mixture of almonds - plant-primarily based protein, fiber and monounsaturated fat, plus key vitamins like nutrition E and magnesium assist lead them to a coronary heart-healthy snack."

A 2017 take a look at posted in vitamins journal discovered that americans, particularly youngsters, who replaced snack ingredients with almonds or other tree nuts noticed a main increase in intake of vitamins. within the examine of extra than 17,000 kids and adults, participants swapped all their snacks with almonds and. Researchers determined that participants ate up fewer empty calories, strong fat, sodium, saturated fat, carbohydrates and added sugars. precise oils and fats improved significantly, as did magnesium, fiber and protein via a small margin.

Apricot

Dried or fresh, a handful of apricot C, potassium, calcium, phosphorus and fibre. It helps the ones who've stupid and life less pores and skin and the iron regulates hemoglobin. Apricots also have beta carotene that improves immunity and facilitates combat pores and skin hypersensitive reactions, rashes and different pores and skin troubles. Smearing sparkling apricot juice on pores and skin will soothe sun burns (Anand, 2009) ^[1].

Apple

Apple is a attain supply of fibre which keeps bowels smooth, ensuring skin this is freed from pimples and boils. it's also loaded with phytochemicals which have homes similar to antioxidants. research have also proven that ingesting apples regularly lessen wrinkles and great lines. blend grated apple with honey and observe on pores and skin for five mins for a hydrated and pressure free skin (Anand, 2009) ^[1]. Apples are alkaline and may efficiently cleanse the liver (Tahseen, 2015) ^[18].

Watermelon

Such as 90 in step with cent water, watermelon hydrates and rejuvenates our pores and skin. It consists of lycopene that facilitates flush out pollution and combats unfastened radicals with its antioxidant properties- an inexpensive and a quick detox therapy (Anand, it is loaded with vitamins A 2009) ^[1].

Papaya

Papaya is a good source of nutrition A and papain. diet A acts as an anti-oxidant, at the same time as the papain breaks down inactive proteins and removes lifeless cells. The fine characteristic of the fruit is its low-sodium great. for the reason that salt content material is much less, the water retention is likewise little. The end result- an overall hydrated skin. Rubbing mashed papaya on cracked heels

gets rid of useless cells and makes ft softer (Anand, 2009) ^[1].

International intake of fruits and vegetables

In keeping with global fitness corporation STEP-smart technique to surveillance surveys on continual ailment risk elements carried out in several African international locations along with Mauritius and in line with present food and Agriculture enterprise statistics, fruit and vegetable consumption (FVI) ranges had been found to be beneath the recommended each day consumption of 400g/individual (Profav, 2011) ^[11]. A huge hole nevertheless exists between the advocated and real intake and many international aren't receiving the amount or kind of F&V that they must have (Serdula *et al.*, 2004; Krebs, 2011) ^[16, 9].

Table 2: Mean Fruits and Vegetables Intake (FVI) in selected countries

Country (Developed)	Year of updated data	Mean Fruit intake (g/d)	Mean Vegetable intake (g/d)
Hong Kong	2010	146.81	176.96
Denmark*	2013	151.70	162.08
Germany*	2013	171.36	118.02
UK*	2013	130.02	97.86
France*	2013	136.56	145.15
US**	2015	189.30	255.00
Netherlands*	2013	102.36	127.79
Italy*	2013	90.83	150.81
(Developing countries) Malaysia	2012	179.00	133.00
India**	2015	158.20	105.70
PR China**	2015	222.10	262.80
Ghana**	2015	149.80	36.10
Ethiopia**	2015	114.70	51.20
Uganda**	2015	464.10	24.40

Fruits and vegetable consumption in adults in selected countries

Hazelnut

Hazelnut is a rich source of nutrients that have cardio protective benefits. These nutrients include arginine, an amino acid which relaxes blood vessels, folate and heart healthy B Vitamins (Setalvad, 2009) ^[15]

Pineapple

Pineapple juice has bromelain enzyme which prevents coughs and colds (Tahseen, 2015) ^[18] and is well recognised as a digestive enzyme. It is a good source of Vitamin A and B; it is fairly rich in Vitamin C, calcium, magnesium, potassium and iron (Chaddha, 2007) ^[4].

Conclusion

In conclusion, it can be stated that fruits are rich sources of vitamins, minerals, calories and other needful nutrients. Including fruits in daily diet will have multiple health benefits and will also help in disease cure. Poor diet can be said an invitation to multiple diseases. Citrus fruits and Aonla are rich in Vitamin C, while the richest source for Vitamin C was Barbados cherry. Walnut is the richest source of fat (64.5%) and produces highest calories per unit of edible portion. Cashew nut is the richest source of protein 21.2 per cent and thiamine 630mg/100g. Dry Apricot is the richest source of calcium, phosphorus and niacin. Dry karonda is the richest source of iron (39.1%) followed by date palm (10.6%). Litchi was found rich in calcium content. Bael is the richest source of riboflavin.

References

1. Anand R. Fruits for your skin. Pune Mirror. 2009;24.
2. Anonymous. www.nutritionandsyou.com. 2014.
3. Byres B. Fruits and vegetables for health, Grades 4-6. California Foundation for Agriculture in the Classroom; 2012. p. 9.
4. Chadha KL. Handbook of Horticulture. ICAR, Pusa New Delhi; 2007.
5. Dietary Guidelines Advisory Committee. Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, to the Secretary of Agriculture and the Secretary of Health and Human Services. Washington, DC: U.S. Department of Agriculture; 2010.
6. El-Sohaimy *et al.* Biochemical and nutritional characterization of date palm fruits (*Phoenix dactylifera* L.). J Appl Sci Res. 2010;6(8):1060-1067.
7. Ganry J. The nutritional value of fruits and vegetables. Fruits. 2006;61:223-224.
8. Kavita MB. Amalaki (Indian Gooseberry): An ancient food supplement. Int J Res Ayur Pharm. 2013;4(1):11-14.
9. Krebs-Smith SM, Guenther PM, Subar AF, *et al.* Americans do not meet federal dietary recommendations. J Nutr. 2010;140:1832–1838.
10. Kushi LH, *et al.* American Cancer Society guidelines on nutrition and physical activity for cancer prevention: reducing the risk of cancer with healthy food choices and physical activity. Cancer J Clin. 2006;56:254-281.
11. Profav. Promotion of Fruit and Vegetables for Health. African Regional Workshop. Arusha, Tanzania; 2011 Sep 26-30. Available from: http://www.fao.org/fileadmin/templates/agphome/documents/horticulture/WHO/arusha/PROFAV_2011_programme.pdf
12. Rahman *et al.* Agricultural education (Textbook for class VII). Dhaka: National Curriculum and Textbook Board; 1998. p. 1-4.
13. Robert L. The pomegranate: nature's power fruit. J Natl Cancer Inst. 2003;95(5):346-348.
14. Salariya AS. Horticulture at a glance. New Delhi: Jain Brothers; 2008. I:186.
15. Setalvad N. Hail Hazel. Pune Mirror. 2009;24.
16. Serdula MK, Gillespie C, Kettel-Khan L, *et al.* Trends in fruit and vegetable consumption among adults in the United States: behavioral risk factor surveillance system, 1994–2000. Am J Public Health. 2004;94(6):1014–8.
17. Slavin JL. Health benefits of fruits and vegetables. Adv Nutr (Bethesda). 2012;3:506-516.
18. Tahseen I. Juice parties are becoming popular. Pune Time, Times of India. 2015;4.