



Groundnut As A Supplementary Food Product; To Enhance Nutritional Status

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Abstract: Groundnut (*Arachis hypogaea*) is otherwise known as a peanut. It is very common oilseed crop done throughout the world. India & China produces world's 50% of groundnut. In India, groundnut is used as a staple ingredient because it is a low cost and easily available legume. People belongs to low socio economic status use groundnut as a additional food products in the form of oil, roasted nut, chutney, powder, cake, chikki, milk, yogurt (curd), cheese & peanut butter. It contains high macronutrients (calorie, protein, unsaturated fatty acids) and micronutrients (vitamin, mineral and phytonutrients). Hence, groundnut food products are given to the children as a supplementary diet to overcome the nutritional health problems especially Protein Energy malnutrition. Regular intake of groundnut food products reduces the risk of cardio vascular diseases, prevents carcinoma, controls diabetes mellitus and maintains glowing skin etc. It is found that, consuming groundnut food products helps to enhance overall nutritional status of the individual, family and community. So, groundnut food products are recommended to all people as a supplementary or therapeutic diet especially to the under-childrens living in rural, suburban and slum areas of low socio- economic countries and developing countries.

KEY TERMS: GROUNDNUT, SUPPLEMENTARY FOOD PRODUCTS, MACRONUTRIENTS, MICRONUTRIENTS, NUTRITIVE VALUES, HEALTH BENEFITS, NUTRITIONAL STATUS INTRODUCTION

Introduction:

Groundnut is a major source of food product of the developing countries. Groundnut is commonly named by the people as peanut. Botanical name of the Groundnut is *Arachis hypogaea* [1,2]. It belongs to the family of legumes and staple ingredient of indian kitchen. It is a very common oilseed crop done globally. In worldwide 44,041,913 tons of groundnut is produced every year. Both India and China produces 50 % of world production of groundnut. In India, Gujarat, Rajasthan & Tamilnadu are the top 3 production states [3]. It is most worldwide used legumes by the people under low/ poor socio-economic status due to easily available and affordable nut when compare to other nut [4].

Composition of Groundnut:

Groundnut consist of macronutrients and micronutrients. Macronutrient includes protein, lipids and carbohydrate & micronutrient includes vitamins, minerals and phytonutrients. Composition of groundnut helps to enhance overall nutritional status and health status of the individual, family and community [1].

Nutritive Value of 100 Grams of Groundnut:

Nutritive Value of 100 Grams of Groundnut are given in Table 1 based on the USDA Food Composition Database Release (April 2018). Macronutrients are expressed with the units like calorie and percentage, micronutrients are expressed with the milligram unit [5].

Types of groundnut food products:

Different types of Food products of groundnut used in india and other countries. They are groundnut oil, roasted groundnut, groundnut chutney, groundnut powder, groundnut milk, groundnut yogurt, groundnut cheese, peanut butter and groundnut cake/groundnut chikki [6,7].

Table 1. USDA Food Composition Database Release (April 2018) [5]

Macronutrient	Quantity/Unit	Micronutrient	Quantity/Unit
Energy	587 (kcal)	Sodium	18 mg
Carbohydrate	21.26 %	Potassium	705 mg
Protein	24.35 %	Iron	6.7 mg
Total lipid (fat)	49.66 %	calcium	134 mg
Saturated Fat	9.6 %	Magnesium	245 mg
Poly Unsaturated Fat	13.36 %	Phosphorus	549 mg
Mono Unsaturated Fat	26.7 %	Thiamine B1	0.6 mg
Total Sugars	4.90 %	Riboflavin B2	0.1 mg
Total Dietary Fiber	8.40 %	Niacin	12.1 mg
Moisture	1.81 %	Pyridoxine B6	0.35 mg
		folate	0.24 mg

Health benefits of groundnut and it food products:

Groundnut products are taken by the poor people to overcome the nutritional deficiency problems. Protein Energy Malnutrition is one of the common nutritional deficiency problem present in under-five children throughout the world especially in developing and low socio-economic countries [8]. PEM is one of the important cause of mortality & morbidity in under-five children specially living in developing countries including India [9]. Protein Energy Malnutrition is caused by deficient intake of energy (calorie) & Protein [10]. It can be prevented by exclusive breastfeeding for infants and complementary/supplementary diet (which contains rich amount of protein, energy and fat) for childrens [8].

Groundnut is a additional food product available in low price but with high protein, high energy value and high fiber food product used in developing countries. One of the important product of groundnut is groundnut milk. Peanut milk is a low cost and good nutritious beverages. It is developed to supply as a alternative source of animal milk (cow or Buffalo milk). Hence, it is utilized to give to the children with under nutrition status. It is also used to produce peanut based curd and cheese analogs [2,11].

Groundnut milk and its Yoghurt (Curd) are higher consistency food product which contains high amount of calorie, essential amino acids and unsaturated fatty acids, hence recommended to the people who use vegetarian diet [12]. Bioactive content of peanut having the disease prevention properties and promotes longevity [13].

Children who takes roasted or boiled groundnut regularly, have easy digestion and stimulate metabolic activities which leads to well built muscles and strong bones and enhances childrens growth & development [7]. Integrated Child Development Scheme (ICDS) introduced community based intervention (Krishna laddu) for improving the health status of the children, ICDS reported that, Krishna laddu which includes groundnut and groundnut oil with other ingredients improves the weight of the under nourished children [14].

All the people use less dietary cholesterol of peanut, both men & children. Survey of food intake reported, individual intake of groundnut is 24 percent [15]. Peanut oil contains more unsaturated fatty acids in which Mono Unsaturated Fatty Acid (MUFA) is high and poly unsaturated fatty acid (PUFA) is low. As per the study, peanut have 78% to 80 % MUFA [16]. Consumption of Mono Unsaturated Fatty Acid reduces the risk of atherosclerosis, ischemic heart disease/cardio-vascular diseases by increasing the blood flow in the arteries [17]. Randomized, double-blind, cross over study resulted that, high Mono Unsaturated Fatty Acid diet, groundnut and groundnut butter decreases 21 percent of risk of cardiovascular diseases [18].

A observational study reports that, MUFA & PUFA high intake reduces some type of carcinoma. MUFA high intake reduces basal cell carcinoma & PUFA high intake reduces squamous cell carcinoma [19].

Groundnut intake improves the level of micronutrients (like vitamin A, vitamin E, calcium, magnesium, folate, zinc, iron and dietary fiber) in the body [13]. Regularly having groundnut (rich in vitamin E) provides excellent glow to the skin due to prevention of excessive production of sebum oil. Each 100 gram of Groundnut contains 21 percent of DV manganese, helps to absorb calcium and regulation of blood sugar level [7].

Peanut contains both insoluble and soluble dietary fibers. Insoluble fibers helps to remove toxic and unwanted items from the body. Both insoluble and soluble dietary fiber helps to enhance the bowel movement and supports to maintain the digestive system [20].

Conclusion:

Groundnut food products helps to enhance the childrens growth and development by fulfilling the required nutrients such as calorie, protein, fat, vitamins & minerals. Many health problems and nutritional deficiency problems are managed by consuming groundnut food products. Hence, it can be used as a supplementary or additional diet.

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