

Fats Complete Balanced Diet

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Abstract

Researchers have primarily associated overconsumption of dietary lipids with health hazards; however the popular belief prevalent in society identifies them as adverse at any level of consumption. This is myth and in reality, they play key role in formation and function of cell membranes and provide nutrients and enhance the metabolism to lead a healthy life. A healthy diet must supply 20-30% calories from fats and oils and until there is a medical advice one must not give up on dietary fats and oils just because it is a celebrated belief.

Keywords: *Fats and Oils; Saturated Fats; Health; Nutrition*

Enhanced intake of fats and oils is associated with escalation in obesity, coronary heart diseases, cardiovascular diseases, diabetes, cancers, and other metabolic disorders. In present times, term “enhanced” has been conveniently deleted and it’s the “intake” of fats and oils, which is believed to be catastrophic. This misbelief has been widely circulated through unchecked and unsupervised information in print, audio-video and social media. We can easily find repeated warning and testimonies in newspapers, internet, and health shows about how fats and oils lead to deleterious health. Today, a common man holds a negative notion about dietary lipids and this fear has intensified the market with “light”, “low-cal”, “fat free” “diet foods” eatables and an enormous slimming industry. Every six months brings in a new magical food, tea or powder that claims weight loss; which is however overpowered by a new one in next half a year. Our population consuming these so called “healthy foods” continues to fight weight gain. How many understand that fats are categorized as nutrient; and not a death and disease causing agent!

To understand the scenario better, let us begin with basics. Fats and oils belong to the subgroup of lipids. “Lipid” is broad category including triglycerides, phospholipids, steroids, prostaglandins, and fatty acids. Fats are made of predominantly saturated triglycerides and stay solid at room temperature; while oils are made up of unsaturated triglycerides and are liquid in room temperature. Fats and oils are categorized as an important nutrient along with proteins, carbohydrates, vitamins and minerals. The fats are of two types namely visible and invisible. Sources of visible fats are cooking oils (soybean, olive, sunflower, safflower, palm, gingelly, mustard, sesame, coconut etc.), lard, butter, tallow, cheese, cream etc. While invisible fats are those which are inherently present in the food or added during processing e.g. meat, milk, wide range of processed foods etc.

In our diet carbohydrates, proteins and fats provide energy wherein fat provides highest calories (9 kcal/g), and so the fat reduction is central to caloric reduction. However, we are genetically programmed to consume as much fat as we can [1]. Consumption of fats and

oils is required in the diet for proper functioning and metabolism of the body. In addition, they provide flavors, texture aroma and thus impacts overall acceptability of food. The melting behavior of solid fats is especially significant and critical for good quality of butter, spreads, chocolate, croissants, cakes, and many other products.

The careful restriction on certain fats while enhanced consumption of other few leads to good health. The fats must provide 20 - 30 per cent of total caloric requirement in a day (intake of saturated fats < 10 per cent daily calories; dietary cholesterol < 300 milligram/day and intake of trans fats < 1 per cent of total calorie intake) (FAO, 2010). The essential fatty acids are the critical components of normal diet and rats do not grow/reproduce when fed on fat free diet [2]. Further, the Japan Society for Lipid Nutrition re-recommends that the ratio of omega-6 to omega-3 fatty acids should be less than 4:1 for healthy adults and less than 2:1 for the prevention of the chronic diseases of the elderly [3]. The Membrane lipid composition influences the functional properties of membranes (fluidity, transport properties, receptor activity, uptake and release of substances, signal transduction and conduction, and ion flows). Fatty acids can effect the gene expression directly or by regulating transcription factors that affect the expression of multiple other genes. Further, dietary lipids provide structural components for brain and retinal structures, cell membranes and transport of lipid components in plasma, and they form the only true energy store of the body (adipose tissue). Fats and oils are key dietary factors affecting cardiovascular risk, obesity and diabetes. Linoleic acid (LA; C18: 2n-6) and α -linolenic acid (LNA; C18:3n-3) are essential; they serve as precursors of the long chain polyunsaturated fatty acids (LCPUFA) and docosahexaenoic acid (DHA; C22:6n-3) [4]. Thus, we can clearly understand that fats and oils contribute to health and functioning of normal life.

Few types of fats are certainly deleterious for health such as trans fats [3,5] and their consumption must be cautiously checked and even prohibited. Further, the consumption of excessive processed foods provides unwanted salt, sugar and saturated fats which eventually contribute to obesity. One must discourage liberal intake of low cost fast foods, processed food and packed foods/beverages. Fatty snack foods (such as potato chips, savoury crackers), deep fried and high fat take away foods (such as hot chips, pizza, hamburgers), cakes and high fat muffins, pastries and pies (including quiche, tarts, sausage rolls, pasties, croissants) are examples of some food items which may thrust upon weight gain and associated metabolic disorders if consumed unscrupulously. However, fresh foods with natural oils are harmless for a healthy man. The oleic oils, canola, sunflower, and soybean oils have a greater oxidative stability and contain very low levels of saturated fat. Fats obtained through regulated consumption of milk and its products, cooking oils, grains etc. provides necessary nutrients, acts as medium for metabolism of fat soluble vitamins (A, D, E and K), provides lubrication, and acts a cushion to prevent shock for the body. The Mono unsaturated fatty acid (MUFA) found in several edible oils, clarified butter is documented to cause weight loss and improve lipid profile while n-3 Polyunsaturated Fatty Acid (PUFA) have a number of anti-atherosclerotic effects, including anti-arrhythmic properties and, at relatively high doses, reduce serum triglycerides [6].

Further some basic guidelines that can be adhered are- 1) Restriction on partially hydrogenated fat in diet is recommended 2) Measured consumption of saturated fat and increases in PUFA 3) Replacement of animal fats (lard, tallow) with vegetable oils. Healthy fats in diet contribute to the beneficial effects in long term (prevention of coronary heart disease, diabetes, and sudden death) and also in short-term (cholesterol lowering, LDL resistance to oxidation, and improved endothelial function) health benefits [6].

A diet that provides 50 - 60% calories through cereals and pulses; 10 - 15% calories by protein and 20 - 30 % calories by dietary fat is considered ideal for healthy subjects. Lifestyle management through regular exercise, reducing excessive intake of simple sugars and fats, inclusion of whole cereals, pulses, vegetables, seasonal fruits, dry fruits and dietary fibre in diet and small five/six meal pattern will lead to beneficial restoration of both healthy body weight without compromising energy obtained by any food group [7].

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