

DIET BYTE

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Theme : EDIBLE FATS AND OILS

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From the President's Desk

Dear Reader,

The interesting fact about information availability today is that it is all-pervasive- whether you like it or not, you receive a whole lot of information, even in the passive mode. If one were to actively look for information through search engines, one will, of course, receive a mind boggling number of results. Digital platforms, such as WhatsApp, Facebook, Twitter and You Tube, also contribute to the vast body of information that is available to us. It is but natural to get lost in this vast ocean of data and facts. Trying to judge the authenticity of some of this freely shared information is also no easy task. Therefore, as professionals working in the realm of health and wellness, it is our responsibility to provide access to accurate and authentic information to the consumers.

The recent scare about coconut oil, after a Harvard professor deemed it 'pure poison', helped me decide the theme for this newsletter—Edible Fats and Oils and their role in wellness for human beings.

Fats and oils are no longer just about the kind of fatty acids present in them, but also about the balance of the essential fatty acids, the bio-active components present in them, how the oil is being processed, how we use the oil for cooking and the method of storage.

As professionals, we have also had to deal with the problem of conflicting information that reaches the consumer and obviously confuses them. One such instance is that of ghee and how it has turned from good to the ugly and is now very much back in favour. While gaps in our knowledge about fats and oils may always remain, today, we know for sure that hydrogenated fats and partially hydrogenated fats (also called trans fats) are the ugly fats and much worse than saturated fats. These man-made, industrially produced fats contribute to heart disease, abdominal obesity and predisposes one to Type 2 diabetes and even interfere with the brain's ability to process information. These fats should be avoided at all costs, which is why reading food labels to screen for their presence is a good



practice. It is important to make a distinction between these synthetic trans fats and the naturally occurring trans fats found in many animal products such as milk, cheese, lamb and other meats that are not harmful if consumed within the prescribed amounts.

I am glad that this month of September we have had ample opportunity to plan and execute many nutrition awareness programs as a result of the PoshanMaah initiative by the government. This issue of the newsletter is also a means to create awareness and aims to put into perspective some of the bad press that fats and oils have received, a bit unfairly.



Ms. Neelanjana Singh
IDA Delhi Chapter President



Editorial



Happy Nutrition Month to all Readers!

The theme of this issue of Diet Byte is 'Fats and Oils' which have been an integral part of Indian diets due to their functional and nutritional properties. They are used not only as a medium for cooking but also for shortening, whipping, lubricating and emulsifying. Their role in enhancing the sensory attributes of food products in terms of texture, taste and appearance is unparalleled.

For long-term health, some fats are better than others. Good fats include monounsaturated and polyunsaturated fatty acids (MUFA and PUFA), bad ones comprise of industrial-made trans fatty acids (TFA) while saturated fats (SFA) fall somewhere in the middle. World Health Organization (2015) recommends favouring monounsaturated and polyunsaturated fatty acids from vegetable oils to reduce the risk of developing non communicable diseases such as diabetes or cardiovascular diseases. The recent disruptive findings of Prospective Urban Rural Epidemiological (PURE) study published in The Lancet (2017) suggesting that a diet high in fat might reduce mortality and incidence of cardiovascular disease have been highly criticized on methodological grounds.

Fats worst for health are the industrially-produced trans-fats which are present in partially hydrogenated fats used extensively in bakery products and fried foods. The global target is to eliminate these fats from the food supply by 2023 while the Indian target set by Food Safety and Standards Authority of India (FSSAI) is to achieve less than 2% industrially-produced trans-fats content by 2022.

The consumption pattern of fats and oils, both in terms of quantity and quality, has changed over the years. However, there continues to be a lack of awareness among the consumers about their health effects. So, need of the hour is to plan and implement public health awareness programs to promote moderate consumption of fats and oils where intake of n-3 PUFA and MUFA is favoured, that of saturated fatty acids (SFA) is lowered and TFA is negligible.

The Expert Speak column contributed by Dr. S.B. Warriar covers the topic of Coconut Oil while Dr. Shashank Joshi shares health benefits of fats and oils. The issue also includes the different activities carried under the aegis of IDA Delhi chapter in the preceding one year along with the regular feature such as frequency asked questions, interesting read and quiz.

I hope that you would find the issue informative and interesting.

Dr. Anita Malhotra
Editor-in-Chief

Expert Speaks



COCONUT OIL: A UNIQUE SATURATED FATTY ACID

Dr. S. B. Warriar

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Coconut has a tradition dating back several thousands of years and is unique in being revered by many cultures as the “Tree of Life”. Today coconut and coconut oil are consumed by over 1 billion people and it is one of the most indispensable food items in the whole of Asian and Pacific cuisine. While coconut possesses many health benefits due to its fibre and nutritional content, it is its oil that makes it a truly remarkable food and medicine.

Recently, there was a report in the press stating that consumption of coconut oil is unhealthy due to its high saturated fat content and to limit its use for flavouring foods. It is true that coconut oil has higher levels of saturated fatty acids in comparison to other oils, but it is also known that the fatty acids in coconut oil are unique and different from most other fats.

What makes coconut oil different from other oils, especially other saturated fats? The difference is in the fat molecule. Fatty acids are generally classified as saturated and unsaturated based on the saturation of carbon atom. Another system of classification is based on molecular size or length of the carbon chain within each fatty acid. Fatty acids consist of long chains of carbon atoms with hydrogen attached in this system of classification we have Short Chain Fatty Acids (SCFA), Medium Chain Fatty Acids (MCFA) and Long Chain Fatty Acids (LCFA). Coconut oil is composed predominantly of MCFA and also known as Medium Chain Triglycerides (MCT). In contrast to this majority of fats and oils coming from animals or plants are composed predominantly of LCFA.

The size of the fatty acid is extremely important because our body responds to and metabolise each fatty acid differently depending on its size. Therefore,

the physiological effects on MCFA in coconut oil are distinctly different from those of LCFA more commonly found in our foods. Both the saturated and unsaturated fatty acids found in meat, milk, egg and plants (including most of the vegetable oils) are composed predominantly of LCFA.

MCFA being different in structure get rapidly broken down and absorbed to provide multiple health benefits. Due to their rapid metabolism in liver, MCFA can boost fat burning and provide our body and brain quick energy, hence do not contribute to fat accumulation or obesity. On the other hand LCFAs coming from vegetable oils, animal fat and bakery products are stored as fats in our body. It is primarily due to MCFAs in coconut oil that makes it so special and beneficial.

Unlike LCFA, MCFA do not have a negative effect on cholesterol and help to protect against heart disease. MCFA help to lower the risk of both atherosclerosis and heart disease. Southern India where majority of the people are using coconut oil for ages has not shown any higher rate of cardiovascular disease (CVD) than national average. Research article published by Dr P. Dileep Kumar, Department of Medicine, Medical College, Calicut and few others also suggest no specific role for coconut or coconut oil in causation of CVD in a set of patients from Kerala. The health benefits of coconut oil are fantastic, from treating skin problems like eczema and psoriasis to improving the nervous system. Coconut oil is usually consumed orally to fight internal bacterial infection.

It is not correct to extrapolate the findings on human health caused by saturated fatty acids present in vegetable oils and animal fats to that of coconut oil containing large quantities of MCFA. Recently Asian and Pacific Coconut Community (APCC) which represents 18 coconut growing countries has come out with a statement that there is no evidence linking consumption of coconut oil to heart disease, inflammatory diseases and obesity. APCC refutes the negative statement by Professor Karin Michels of Harvard University as sensationalist, contrary to truths and damaging to the welfare of millions of people.

Fats and Oils

EXCERPTS FROM A PRESENTATION BY DR. SHASHANK JOSHI on 28th July, 2018 at New Delhi.

Symposium on Edible Oil Blends was hosted by Saffola, a health care brand of Marico Ltd, has been a pioneer in the space of heart health. Marico's endeavor is to create healthier oils using innovations such as that of blending, patented LOSORB technology along with the right antioxidant bundle to help retain the nutritional benefits of oils and beneficial impact on lipid biomarkers.

FATS AND OILS HAVE HEALTH BENEFITS BEYOND BASIC NUTRITION

There has been too much heat around this topic but not enough light. Fat is an important part of our food as it serves many important physiological functions such as meeting energy requirements, being structural component of cells, starting component of various inflammatory mediators, energy reserve and provides insulation against freezing temperatures in new born. Edible oils (also referred to as cooking oils or vegetable oils) are one of the major contributors of fat in our diet; it enhances palatability of food, shelf-life and makes food tasty.

While it plays an important part in our food and nutrition, its quality (fatty acid composition) and quantity bears a huge impact on overall health. Since fats are the most concentrated sources of energy: 9 kcal/g of fat which is more than twice vs other macronutrients like carbohydrates and proteins (4 kcal/g), maintaining fat balance is crucial to maintain calorie intake and hence overall health. This is desirable considering the rising rates of obesity and its associated health implications like CVD.



The Nurses' Health Study suggested that replacing saturated and trans unsaturated fats with unhydrogenated monounsaturated (MUFA) and polyunsaturated fatty acids (PUFA) is more effective in preventing coronary heart disease in women than reducing the overall fat intake (N Engl J Med 1997;337:1491-9). Findings from the Normative Study reported that a decrease in saturated fat as a percentage of total energy from 14% to 8% significantly decreased fasting and postprandial insulin levels (Am J Clin Nutr 1993; 58: 129-36). A diet rich in MUFA has shown to reduce low density lipoprotein (LDL) cholesterol concentration (bad cholesterol) and total/HDL cholesterol ratio (high density lipoprotein; NIN, 2010) and hence, is cardio-protective. On the other hand, PUFAs (Linoleic acid (LA; n-6) and alpha-linoleic acid (ALA; n-3)) are indispensable as they cannot be synthesized by the human body and hence, must be consumed through the diet. PUFAs also help lower LDL cholesterol concentrations and hence, play an important role in modifying risk factors of cardiovascular diseases.

THE CRITERION FOR SELECTION OF COOKING OIL

Vegetable oils such as groundnut oil, mustard oil, sunflower oil and cotton seed oil have been used for long time predominantly based on 3 drivers: local preference, availability and cost. However, nutritional bodies across the globe have recommended guidelines on the fat intake & types of oils in terms of its fatty acid composition for meeting nutritional requirements. In the Indian context, the Indian Council of Medical Research (ICMR) recommends 15-30% daily calories to be derived from visible and invisible fat. Further <10% calories to be derived from SFA, 6-10% calories from PUFA and remaining calories to be derived from MUFA respectively along with ideal n-6/n-3 ratio of 5-10:1.

In nature, all vegetable oils are composed of three types of fatty acids mainly SFA, MUFA and PUFA but in varying proportions; some are rich in SFA, others in MUFA or PUFA, e.g. high SFA oils— coconut oil, palm kernel oil;

high MUFA oil – olive oil, high PUFA (n-6) oil –sunflower oil, safflower oil.

Vegetable oils are also rich in various non-fat components such as sterols, carotenoids and vitamin E. While single oils have their own set of unique non-glyceride component such as, rice bran oil has oryzanol and olive oils have polyphenols etc., there is no single oil that provides all the fatty acids in the right balance. National Institute of Nutrition (NIN), Hyderabad, suggests that it is important to obtain right amount of different fatty acids in the diet and avoid excess intake of any one group of fatty acids. Thus, it becomes important to use a combination of oils or blend of 2 oils such as to get all kinds of fatty acids in a balance. Physically blending two or more commonly available oils is one of the best methods employed to obtain the desired fatty acid ratios. Blended oils not only provide the goodness of two oils in a single pack, they can provide important essential fatty acids and micronutrients on a daily basis rather than sacrificing one micronutrient for a shorter time to get the other. It is also much more convenient to have a blended oil for all cooking purposes than having different oils for different cooking purposes. Currently under the Indian Regulatory framework (FDA/FSSAI) blend can contain maximum two vegetable oils and one of the oils should be minimum 20% by weight in a blend.

THE BEST COOKING OIL SUITED FOR INDIAN COOKING CONDITIONS

Indian culinary practices involve deep frying which involves heating oil at 180°C and drying of the moisture at high temperature. At this temperature oil and its components comes in contact with the oxygen and water at very high temperature. These severe conditions lead to generation of free radicals which lead to breakdown of unsaturated fatty acids leading to harmful secondary oxidation products. Also, there is practice in India to recycle used oils (remaining fried oil in pan) for 2-3 times in shallow/deep frying until it exhausts completely, which increase the content of secondary oxidation products in recycled oil. Thus, the Indian deep frying practices are harmful to large extent to nutritional quality of oils which is generally experienced by user as an off flavour, dark colour and increased viscosity due to polymerization. The by-products generated in due course of frying are many and a few of these malondialdehyde, ketones, 4-hydroxynonenal (HNE), hydroperoxides are known to be carcinogenic and detrimental to health. PUFA has always been known to have cardio protective effect. However,

the oxidative damage of PUFAs is the highest, followed by MUFA and SFA. Hence, it becomes essential to protect the fatty acids from degradation to maximize their benefits in the body. Hence, there is a need to protect PUFA and the oil from deterioration and the same can be achieved by providing a right mix of synthetic and natural antioxidant system in the oil.

Myth 1: PUFA can be bad. Hence, avoid eating foods rich in PUFA

Fact: PUFA is termed as essential fatty acids and is biologically very important. These fatty acids cannot be synthesized by the body and hence need to be consumed through the diet in adequate amounts (not in excess). The only challenge is that PUFA is susceptible to oxidation in the Indian cooking conditions and hence needs to be protected through a good antioxidant system.

Myth 2: Rotation of oils is the only way to acquire balance of fatty acids in the diet

Fact: Every oil has a unique composition and minor components that promote health (e.g. oryzanol, tocopherols, tocotrienols etc.). The purpose of rotation is to give benefits of different oils.

The purpose of Blending is to deliver not just the benefits of two oils but also to give synergistic health benefits of blend composition which has been researched over the years & proven through various clinical studies. Research has shown hypocholesterolemic effects of blends at particular ratios (Indian J Endocr Metab 2015;19:511-9). The synergistic health benefit of two oils, which is researched in specific proportion, is otherwise not possible to achieve by mere rotation of oils at consumer end, as it requires scientific understanding of oils.

Myth 3: Only MUFA is good.

Fact: Indian diets are poor in n- 3 and hence PUFA is also needed.

Key take-home messages:

- 1) It is not only quantity but also quality of oil that matters.
- 2) A balance of fatty acids (SFA/MUFA/PUFA) is essential
- 3) PUFA needs to be protected in Indian cooking and needs scientifically designed antioxidant system.
- 4) A blended oil enables the right nutritional composition of fatty acids.

FAQ's on Fats and Oils

1. Is there any one oil that can be recommended as the most appropriate one for cooking, in order to remain healthy?

Complete dependence on one single oil may not be able to fulfil the proper balance of fatty acids that are required to remain healthy. It is crucial to get enough of both the MUFA & PUFA and some SFA. Additionally, it is important to get the correct ratio of LA/ALA from the oil one is using. It is thus recommended to use different vegetable oils in rotation or one can use blended vegetable oils which are readily available in market in order to get the right nutrition.

2. Is it necessary to be on a low fat diet in order to lose weight?

It is true that fat calories are double of the calories one gets from carbohydrates and proteins. Therefore, limiting fat intake will mean fewer calories ingested and weight loss is likely to take place. However, the low fat strategy has shown mixed results. Some showing that low fat diets are superior to simple calorie restricted diets, while others showed no advantage. However, a low fat diet is quite effective for long-term weight loss maintenance, coupled with exercise.

3. If a food is labelled 'trans fat free' does this mean it is a healthy product?

The 'trans fat free' label is not a guarantee for a healthy product. The product might contain high fat content from other fatty acids like SFA, MUFA and PUFA. The consumption of products with high saturated fat content might elevate the lipid and cholesterol levels. A proper understanding of the nutritive content and other ingredients like refined carbohydrates, preservatives and additives like sugar and sodium are equally important when considering a product's value for health and wellness.

4. Are all plant oils cholesterol free?

Yes, plant foods do not contain cholesterol. Therefore, none of the plant oils (mustard, soyabean, groundnut, coconut) contain cholesterol. The nuts- almonds, walnuts, cashewnuts- also are free from cholesterol. The plant based oils contains phytosterols. The structural homology of the phytosterol leads to competitive inhibition in absorption of dietary cholesterol leading to its hypo-cholesterolemic effects.

The dietary cholesterol is derived only from animal products, including dairy.

5. How many times can one reuse the oil for frying?

The oils on frying undergoes oxidative and hydrolytic breakdown producing primary oxidation products like hydro-peroxides and secondary volatile and non-volatile products. Repeated heating of oil leads to acceleration of these degenerative processes, producing reactive oxygen species and depletion in the natural antioxidant content. On reusing these oils, lipid oxidation proves a risk factor for coronary heart disease and related pathologies like hyperlipidemia, diabetes and vascular inflammation. Once the oil has been used for deep frying, the left-over oil should be sieved and stored in an airtight container to prevent further degradation. This oil can be utilised for low temperature cooking (but not for re frying) within a span of a few days. However, if you notice extreme physicochemical changes like darkening of the oil or foul smell, refrain from further use and discard it.

6. What is vanaspati?

Vanaspati is made by hydrogenating the vegetable oil during which the structure of fat changes and trans fats are produced. Research has shown trans fat to be worse than saturated

fat in context of increasing the risk of heart diseases.

7. Should we avoid having egg yolks due to its high cholesterol content?

Whole eggs (with yolks) are rich in cholesterol and other important nutrients. Avoiding egg yolks because they will increase the cholesterol content in body, was the thought up until a few years ago. However, recent research has shown that consuming eggs or other cholesterol rich foods in moderation is not harmful. Cholesterol is required for many of the body functions such

as synthesis of vitamin D, steroid hormones, bile acids, etc. When the body gets enough cholesterol from food, the liver does not produce cholesterol. In this way the blood cholesterol is likely remain same or at most will increase only marginally. Hence, even if one were to have one egg yolk daily, most Indians on a vegetarian diet, will not exceed the 300mg of permissible cholesterol intake in a day.

With inputs from
Ms. Sakshi Chopra

Interesting Read

1. Fat, Sugar, Whole Grains and Heart Disease: 50 Years of Confusion

Temple NJ. *Nutrients*. 2018 Jan 4;10(1):39.

Summary: This latest review highlights the exaggeration of saturated fatty acids (SFA) in the causation of coronary heart disease (CHD). A switch from SFA to refined carbohydrates does not lower the ratio of total cholesterol to HDL-cholesterol in the blood and therefore does not prevent CHD. A reduced intake of SFA combined with an increased intake of polyunsaturated fatty acids lowers the ratio of total cholesterol to HDL-cholesterol; this may reduce the risk of CHD. Surprisingly, refined carbohydrates, especially sugar-sweetened beverages, increase the risk of CHD. Conversely, whole grains and cereal fiber are protective.

2. Chrono-nutrition and n-3 polyunsaturated fatty acid

Shibata S, Furutani A. *Nihon yakurigakuzasshi. Folia pharmacologica Japonica*. 2018;151(1):34-40.

Summary: Protein, carbohydrate, and lipids are important regulators of circadian clocks in peripheral tissues. Thus, controlling the timing of food consumption and food composition, a concept known as chrono-nutrition, is one area of active research to aid recovery from many physiological dysfunctions. This review focuses on molecular mechanisms and relationships between circadian clock systems and n-3 polyunsaturated fatty acid.

3. Improvement of Main Cognitive Functions in Patients with Alzheimer's Disease after Treatment with Coconut Oil Enriched Mediterranean Diet: A Pilot Study

de la RubiaOrtí JE, García-Pardo MI, Drehmer E et al. *Journal of Alzheimer's Disease*. 2018 (Preprint):1-1.

Summary: Alzheimer's disease is the most prevalent neurodegenerative disorder (mainly in women), and new therapies are needed. In this way, ketone bodies are a direct source of cellular energy and can be obtained from coconut oil, postulating that coconut oil could be a new non-pharmacological alternative in these patients. After intervention with coconut oil, improvements in episodic, temporal orientation, and semantic memory were observed, and it seems that the positive effect is more evident in women with mild-moderate state, although other improvements in males and severe state were also shown. The isocaloric coconut oil enriched Mediterranean diet seems to improve cognitive functions in patients with AD, with differences according to patient sex and degree of severity of the disease, although more studies in this line are needed.

4. Randomised trial of coconut oil, olive oil or butter on blood lipids and other cardiovascular risk factors in healthy men and women

Khaw KT, Sharp SJ, Finikarides L et al. *BMJ open*. 2018 Mar 1;8(3):e020167.

Summary: This trial aimed to compare changes in blood lipid profile, weight, fat distribution and metabolic markers after four weeks consumption of 50g daily of one of three different dietary fats, extra virgin coconut oil, butter or extra virgin olive oil, in healthy men and women in the general population. Butter and coconut oil which are predominantly saturated fats, appear to have different effects on blood lipids compared with olive oil, a predominantly monounsaturated fat with coconut oil more comparable to olive oil with respect to LDL-C. The effects of different dietary fats on lipid profiles, metabolic markers and health outcomes may vary not just according to the general classification of their main component fatty acids as saturated or unsaturated but possibly according to different profiles in individual fatty acids, processing methods as well as the foods in which they are consumed or dietary patterns. These findings do

not alter current dietary recommendations to reduce saturated fat intake in general but highlight the need for further elucidation of the more nuanced relationships between different dietary fats and health.

5. Effects of olive Oil on TNF- α and IL-6 in humans: implication in obesity and frailty

Yarla NS, Polito A, Peluso I. Endocrine, Metabolic & Immune Disorders-Drug Targets. 2018 Jan 1;18(1):63-74.

Summary: Tumor necrosis factor-alpha (TNF)- α and interleukin (IL)-6 are important mediators of chronic low-grade systemic inflammation. IL-6 plays a central role in several obesity-related pathologies, such as diabetes, metabolic syndrome and cardiovascular diseases. Besides, these cytokines have been also implicated in geriatric and cancer-induced anorexia, cachexia, sarcopenia and frailty. Potential interventions for both obesity and frailty include dietary advice and nutraceuticals. In this context, the consumption of olive oil has been associated with the health effects of the Mediterranean diet. This review article suggests that the improvement of postprandial TNF- α and IL-6 observed with Olive oil consumption is affected by body mass index. The effects on TNF- α and IL-6 after medium and long-term consumptions involved many factors and the cross-talk between adipose tissue, liver, skeletal muscle and brain. Major anti-inflammatory effects were observed when Olive oil was consumed with Med-diet, which is associated with healthy behaviors. Further studies are needed to clarify the effect of olive oil and possible synergistic effects with other dietary and lifestyle factors of Mediterranean area.

6. Fatty fish intake and cognitive function: FINS-KIDS, a randomized controlled trial in preschool children

Øyen J, Kvestad I, Midtbø LK et al. BMC medicine. 2018 Mar;16(1):41.

Summary: This is the first randomized controlled trial (RCT) investigating the impact of fatty fish on cognition in preschool children. Preschool children were recruited from 13 kindergartens in Bergen, Norway. They were randomly assigned to lunch meals with fatty fish (herring/mackerel) or meat (chicken/lamb/beef) three times a week for 16 weeks. The primary outcome was cognitive function and fine-motor coordination at pre- and post-intervention. The study concludes that there was no beneficial effect of fatty fish compared to meat on cognitive functioning in the preschool children.

7. Comparison of the effect of omega-3 supplements and fresh fish on lipid profile: a randomized, open-labeled trial

Zibaenezhad MJ, Ghavipisheh M, Attar A, Aslani A. Nutrition & diabetes. 2017 Dec 19;7(12):1.

Summary: This trial aimed to compare the anti-hyperlipidemic effect of omega-3 fatty acid supplements with fresh fish. A total of 106 patients with hyperlipidemia were randomized. One group received 2g/day of omega-3 capsules for a period of 8 weeks and the other group received a mean of 250g trout fish twice a week (for dinner and lunch) for the same time period. The effects of these diets on the lipid profile after the intervention were compared between the two groups. The trial concludes that consumption of fresh fish seems to be superior in positively modifying the lipid profiles which may have important translations in the occurrence of cardiovascular events.

Compiled by
Charu Arora and Wajiha Mehtab

Desi Ghee: Videsi in the Urban Home!

In the traditional Ayurvedic texts, Desi ghee has been prized for its health promoting and healing properties. However, the fears of cholesterol and saturated fat had virtually driven out this most revered cooking ingredient in the Indian Kitchen. While concerns about oils and fats are justified both with respect to their amounts and types, simplistic conclusions drawn on research hypothesis can be hasty and even dangerous.

Condemning desi ghee as a culprit for blocking arteries and replacing it with refined hydrogenated vegetable oils was a fatal mistake. The negative impression of desi ghee is because of several factors including an exaggerated fear of cholesterol (cholesterophobia). The other reason was the saturated fat and cholesterol hypothesis of Professor Ancel Keys around the 1960s leading to demonising saturated fats irrespective of what type they were. Both these suited vegetable oil manufacturers who were quick to take advantage of these findings. A closer look reveals that such a negative view about this highly nourishing food does not stand the test of scientific logic.

Ghee is produced by heating butter. Heating evaporates water present in the latter. As the temperature continues to rise, the initial white sediment of milk protein and salt turns brown. This imparts an irresistible nutty flavour to ghee. Those who have once tasted this flavor swear by it. Since ghee is derived from milk, it is essentially an animal product. Therefore, it contains a certain amount of saturated fat and cholesterol. Excessive consumption of hydrogenated saturated fat elevates blood cholesterol level while the contribution of dietary cholesterol per se is not so significant.

Although saturated fats are known to have a cholesterol raising effect, not all have the same effect. In desi ghee only a few fatty acids have the cholesterol raising effect. Desi ghee as it is only 65% saturated. As much as 32% fat in desi ghee is MUFA (Mono-unsaturated fatty acids). MUFA is a highly

desirable form of dietary fat- the kind that olive oil is rich in. It is perhaps even more desirable than PUFA (poly-unsaturated fatty acids). In this respect, desi ghee scores over many PUFA rich oils like sunflower, safflower, corn, and cottonseed oils, whose MUFA content is dismally poor. Another good point about desi ghee is that it has an ideal Linoleic / Alpha Linoleic acid ratio (LA/ALA) ratio. This ratio is unusually high in most PUFA oils, which is undesirable. It is now recognised that the consumption of oils with ideal LA/ALNA ratio is crucial for prevention of coronary heart disease and perhaps diabetes also. It will also not be out of context to mention here that an excess PUFA rich oils may depress HDL cholesterol (the kind which protect the heart) level, thereby, increasing the risk of Coronary heart disease. Further, Desi ghee is not prepared by heating to very high temperatures, like refined oils which preserves its original nutritional properties,

Ghee is also rich in vitamins A, D and riboflavin as well as minerals such as calcium, magnesium, phosphorus, and potassium. Oils as well as ghee are in the range of 90-95% fat. All those who thought it is higher in calories or fat compared to oils should be relieved to know that there is no significant difference in calorie values between the two. An excess of Desi ghee like any other fat is clearly undesirable due to its calorie density.

Also, no one cooking medium is ideal: a combination is the best. So desi ghee as the sole cooking medium is not recommended rather a blend with cold pressed / sesame, mustard and olive oil is desirable.

Drawing conclusions on a few research findings in the West and applying them in larger contexts in India is not valid. Indians have unique risk factors for developing coronary artery disease, quite distinct from the Western World. It is important to analyse these to conduct our own research to formulate special guidelines for Indians, rather than simply applying Western guidelines.

Ms. Ishi Khosla

Clinical Nutritionist, Author & Columnist
Founder, Wholefoods, Celiac Society of India and
TheWeightMonitor.com

Activity Through The Year

The National Nutrition Week 2017 was celebrated by sending out messages from the eminent nutritionists from Delhi on social media platforms.

The theme was **Optimal Infant and Young Child Feeding Practices: Better Child Health.**

VOICE OF LEAD



For Better child health, it is important to start early breast feeding practices, as Breast milk is a crucial food for child's health and development. It is almost a complete food, is hygienic and is at right temperature with antibodies, required for children to grow in the first six months, however breast feeding can be continued upto the age of two. Complementary foods can be introduced at 6 months along with breast milk, to keep up with the growing demands of growth. During the complementary feeding period, it is recommended that children eat a variety of nutrient rich and diverse foods at frequent intervals for optimal nutrition and to establish taste preferences and good eating habits later in life.

Wish you all a Happy Nutrition Week !!!

Warm Regards
Rekha Sharma, MSc, PGDM, RD
 Former Chief Dietician, All India Institute of Medical Sciences, New Delhi.
 President and Director, Nutrition and Dietetics, Diabetes Foundation (India)
 President Indian Dietetic Association (2011 -2014)
 Country Representative and Director, International Confederation of Dietetic Associations (2012 - 2016)




VOICE OF LEAD



Over the last decade, infant and young child feeding (IYCF) indicators in India have shown improvement. However, poor IYCF practices are still apparent, associated with pervasive high rates of child under-nutrition. As trained dietitians/nutritionists, it should be our endeavor to not only consolidate the gains but strengthen and facilitate interventions to improve IYCF.

Let us all move Let us all move out of our institutional settings and pledge to educate at least five mothers in the community, regarding appropriate breast feeding and complementary feeding practices for young children, in the coming year. This would be a small yet crucial contribution of IDA members towards building a healthy India.

Wish you all a Happy Nutrition Week !!!

Warm Regards
Seema Puri
 Associate Professor IHE , Delhi University
 National Vice President - IDA




VOICE OF LEAD



Optimal Infant and Young Child Feeding Practices: Better Child Health

Children are our future and yet, they are the main victims of malnutrition. A large number of our children die due to under nutrition before they reach the age of five, are absolutely preventable. We do not need advanced Nutrition packages to access health care. In fact, it is the birth right of each and every child to have access to nutrition and healthcare.

We can achieve this by disseminating simple nutrition and health messages - Exclusive breast feeding till 6 months of age, timely initiation of complementary feeding leading to gradual transition to home based diet and further on, practicing healthy nutrition throughout life cycle is the key to ensure healthy ecosystem to our future generations.

"We all have an obligation as citizens of this earth to leave the world a healthier, cleaner, and better place for our children and future generations." ~ Blythe Danner, Environmentalist.

Warm Regards
Anuja Agarwala
 Sr. Dietician, AIIMS
 EC - Indian Dietetics Association




VOICE OF LEAD



Focus on IYCF as the 2017 Nutrition Week Theme is what we really need. Healthy children are our country's future assets, progress & happiness. This is a great opportunity for our fraternity to pledge to make positive concerted efforts to meet the challenges of this theme, bring about much needed change & awareness and also make our presence felt in the community.

Wish you all a Happy Nutrition Week !!!

Warm Regards
Dr. Veenu Seth
 IDA RD Board Member
 Former Associate Professor Nutrition, Lady Irwin College, Delhi University
 Regional Clinical Advisor for Asia Pacific (Health Promotion), Special Olympics International




VOICE OF LEAD



If there is a way of promoting a healthy today and tomorrow, it is by creating sufficient awareness about eating right amongst parents and children.

Let us continue to work towards empowering parents and children even after the nutrition week celebrations are over. The nutrition week (1st to 7th September) is just the initiation of the work that should continue through the year.

Remember, there is great power in simple techniques and methods. Let us put on our thinking caps and come up with some simple yet powerful ways to build the health of our children. IDA Delhi welcomes innovative thoughts and ideas from each one of you so that we can work together and make a difference.

Warm Regards
Neelanjana Singh
President,
IDA Delhi



IDA – Delhi Chapter EC

Ms Neelanjana Singh
President

Ms Shilpa Thakur
Gen. Secretary

Ms Bina Bhatia
Joint Secretary

Ms Anita Jajana
Treasurer

Executive Committee
Ms. Anita Malhotra
Dr. Bhavna Ghosh
Ms. Charu Dua
Ms. Ritika Sammadar

Ms Anuja Aggarwal
Past President
IDA Delhi Chapter



My Dear Fellow Colleagues & Eminent Nutritionists!

On behalf of IDA Delhi Chapter it gives me immense pleasure to address all of you for this imperative event- our National Nutrition Week (1 to 7 Sep.) which is an annual observation and addresses the problem of malnutrition or undernutrition. The theme for this year's National Nutrition Week is "Optimal Infant & Young Child Feeding Practices: Better Child Health".

The primary goal of all of us is to spread the word regarding the importance of Nutrition for every child and how this not only affects the health & development of the child but how it contributes to productivity, economic growth & ultimately national development. Infant & young child nutrition is extremely important as it not only lays the foundation for good health, but also reduces the risk of chronic diseases and fosters better development overall. We being nutrition experts and key players in leading this, let's collaborate & spread the message and information through symposiums, literature, workshops, posters, banners, marathons, exhibitions, and plays to commemorate the day. It is important for all of us to use this period as an opportunity to ensure good health for our nation's children - The future of our country.

"A small body of determined spirits fired by an unquenchable faith in their mission can alter the course of history". So let's join hands to make it possible.

"Wishing you all a very Happy Nutrition Week 2017"
Let's promote & support appropriate infant & young child feeding practices.

Warm Regards
On Behalf of IDA – Delhi Chapter
Shilpa Thakur
Gen. Secy IDA – Delhi Chapter
Head, Asian Institute of Medical Sciences



National Nutrition Week 1st – 7th September 2017
Theme: "Optimal Infant & Young Child Feeding Practices: Better Child Health"



National Nutrition Week 1st – 7th September 2017
Theme: "Optimal Infant & Young Child Feeding Practices: Better Child Health"



Launch of 2017 IDA Delhi Newsletter at Apollo Hospital, New Delhi



The Founder Editor of the newsletter, Dr Sushma Sharma along with the office bearers at the release. This was part of the Nutrition week activity for 2017.

Probiotics in Practice

Symposium held at Habitat Centre on 11th November 2017



Delhi 'Dietetics Day' 10 January 2018



True health begins with selecting the food that one eats, which is why the business of eating right is so crucial. In order to highlight the importance of nutrition and diet, Dietetics Day is celebrated across India on the 10th of January. To mark this day, theme-based nutrition programs are organized and for the year 2018, 'Ensuring Safe and Nutritious Food' was chosen as the theme for the public awareness campaign.



Delhi Chapter of the Indian Dietetic Association organized this event at Dilli Haat, which is a popular food and exhibition destination in central Delhi. Renowned experts in the field of dietetics from Delhi and NCR got together to celebrate the awareness event by participating in a panel discussion. The experts included Dr Uma Khanduri, FSSAI representative, Mr Kajal Debnath from Mother Dairy, Dr Sakshi Bhushan from Marico, and many others. Scientific knowledge in the field of nutrition was explained in simple, practical ways that the audience found easy to adopt and follow.



The day turned out both informative and interesting with myth-busting sessions, quizzes and games, interspersed with interactions with the experts. The Chief Guest, Ms Rashmi Krishnan, Secretary, Health and Family Welfare, Government of Delhi, congratulated and encouraged the members and office bearers of Delhi Chapter, Ms Neelanjana Singh and Ms Shilpa Thakur, for this endeavour.



The audience displayed keen interest in the street play staged by students of IHM Pusa on this theme. Students of Laxmibai College demonstrated quick tests for food adulteration, while students of Lady Irwin College and Manav Rachana International Institute engaged the audience in educational games with messages on the theme.

The sunny winter afternoon was all about fun and learning, and it concluded with a healthy meal appropriate for the season.

Type I Diabetes and its Management

held on 8th April 2018 at Rainbow Hospital, Malviya Nagar, New Delhi



Bariatric Nutrition Workshop

Workshop held at Jeewan Mala Hospital on May 19th, 2018.



CME on Nutritional Management of Renal Disease

This event was held on 31st May 2018 at The Ashoka, New Delhi



IDA Delhi participated in the Partners' Orientation program 'Strengthening Nutrition Services in Antenatal Care at Facility and Community Level'

Held at Vivanta by Taj-Ambassador, New Delhi on 30th and 31st July 2018



Second National Conference Indian Academy of Pediatrics

2nd National Conference IAP, Subspecialty Chapter on Nutrition held PEDNUTRICON 2018 in collaboration with IDA Delhi and IAP Delhi, UNICEF. Held on 8th and 9th of September 2018, during Poshan Maah, was an academic feast for nutritionists interested in this speciality.



The Organising Team of PEDNUTRICON 2018



Awareness Program on Nutrition and Gut Health at PSRI Hospital on 19th September 2018



Delhi Members meet at Kiara Soul Kitchen on 22nd September 2018



Sampled vegetarian, organically and locally produced options on their menu

Quiz

- Which is the primary vegetarian source of Eicosapentanoic Acid (EPA) and Decosahexanoic Acid (DHA)?
 - Fatty fish
 - Fish liver oil
 - Marine algae
 - Shellfish
- The cholesterol content of an egg is approximately
 - 50-150mg
 - 150-250 mg
 - 300-400mg
 - 450-550mg
- Which of the following is highest in saturated fatty acids?
 - Palm oil
 - Vanaspati
 - Ghee
 - Coconut
- Amongst the following oils, which is best suited for frying?
 - Soyabean oil
 - Olive oil
 - Sunflower oil
 - Vanaspati
- The macromolecules which physically and chemically resemble triglycerols and can be replaced on gram to gram basis are called...
 - Fat substitutes
 - Fat replacers
 - Tailored fat
 - Structured lipids
- Which of the products listed is shortened with the help of liquid oil while baking?
 - Biscuits
 - Shortened cake
 - Cookie
 - Chiffon cake
- Vegetable ghee is manufactured by the process of
 - Hydrogenation
 - Saturation
 - Oxidation polymerase
 - Reduction polymerase
- The process of development of 'beany', 'metallic' and 'grassy' flavor with change in the chemical structure and nutritional value of oils is associated with:
 - Flavor reversion
 - Rancidity
 - Oxidation
 - Refining
- Which is the point at which the blue haze comes on top of the oil while heating it?
 - Flash point
 - Fire Point
 - Smoke point
 - Burn Point
- Which is the transcript or associated with both carbohydrate and fat metabolism in the body and is associated with insulin resistance and hyperlipidemia?
 - Sterol Regulatory Element Binding Protein (SREBP-1c)
 - Peroxisomes Proliferator Activated Receptor α (PPAR α)
 - Peroxisomes Proliferator Activated Receptor γ (PPAR γ)
 - None of the above
- Which of the following fatty acid is important for fetal growth and neuro development?
 - Omega-6
 - Omega-3
 - MUFA
 - Sterols
- What is the current permitted limit of Trans fat in processed food products in India?
 - 2%
 - 4%
 - 10%
 - 5%
- Which of these oils is not recommended for deep frying?
 - Palm oil
 - soyabean oil
 - Extra virgin olive oil
 - sesame oil
- Which enzyme is required for the conversion of (Alpha linolenic acid) ALA to Eicosapentanoic Acid (EPA) and Decosahexanoic Acid (DHA)?
 - Delta-6-desaturase
 - Lipase
 - Acyl-CoA synthetase, β -ketoacyl reductase
- Which additive is used as water scavenger to prevent lipolytic rancidity?
 - Citric Acid
 - BHA
 - Tocopherol
 - Lecithine
- Which enzyme is involved in the digestion of fat?
 - Bile salts
 - Lipases
 - Proteases
 - Hydrochloric acid
- In naturally occurring unsaturated fatty acids, the double bonds are in _____ formation
 - Cis conformation
 - Trans conformation
 - A mix of cis and trans conformation
 - Cis and trans conformation alternately
- Which of the following is NOT an omega 6 fatty acid?
 - Alpha-linolenic acid
 - linoleic acid
 - Eicosadienoic acid
 - Arachidonic acid

13).c	14).a	15).d	16).b	17).a	18).c
7).a	8).b	9).c	10).a	11).b	12).d
1).c	2).b	3).d	4).c	5).b	6).d
ANSWERS					



Street Food Festival 2018



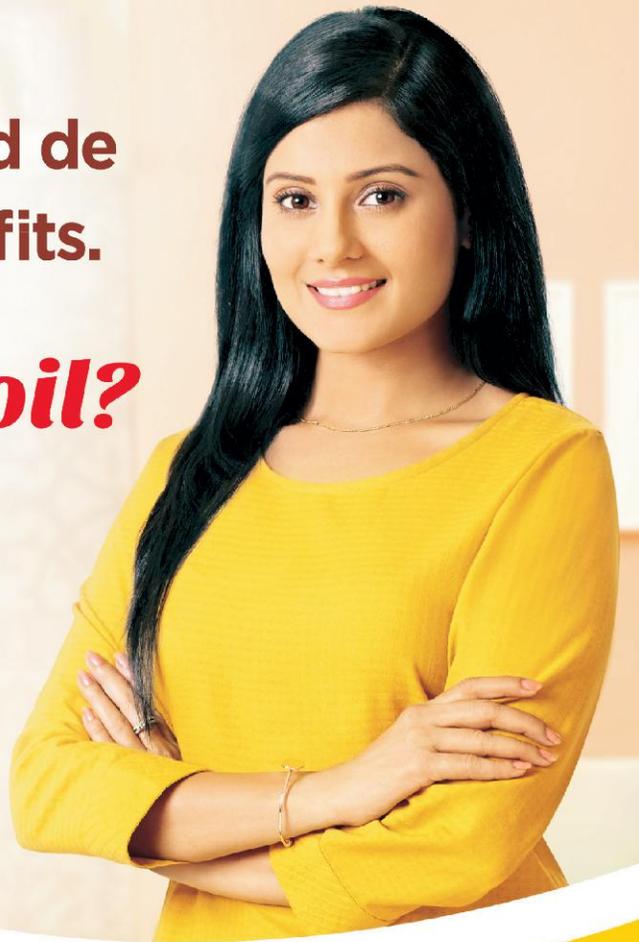
National President & RD Chairperson's visit to Delhi Chapter



Dietetics Day 2018

Mera Saffola Gold de
2 OILS ke benefits.

Aur aapka oil?



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For complete nutrition, one oil is not enough¹.
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of 2 oils in one



Better
MUFA & PUFA balance⁴

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and other grocery stores



¹Under frying conditions. ²National Institute of Nutrition, 2010. ³Based on published independent randomized, controlled, double blind clinical study, 2010. ⁴Based on nutritional composition. *1 L free with every 5 L pack. Packs without this offer also available. Offer valid in select outlets and select cities only. Offer valid till stocks last. Saffola encourages you and your family to take care of your heart by using less oil and a low saturated fat diet. Saffola strongly recommends regular exercise and a balanced lifestyle.