

## EXECUTIVE SUMMARY

The cause-and-effect relationship between dietary fats and non-communicable diseases (NCDs) is perhaps the most interesting facet of nutrition research today. Dietary guidelines pertaining to oils and fats need critical evaluation in the wake of the new research findings. There is a felt-need to disseminate the research-based information among all stakeholders involved in production, supply and consumption for promoting the consumption of right type of dietary fats. In order to deliberate upon these issues, a two-day Workshop was held on 7<sup>th</sup> and 8<sup>th</sup> July, 2005 at the National Institute of Nutrition (NIN), Hyderabad, India. Subject experts drawn from different disciplines like the industry, research and the government sectors deliberated on the aspects relating to quality, quantity and combinations of oils needed to meet the nutritional requirements and to prevent chronic non-communicable diseases. Subject experts presented their papers in the three technical sessions of the workshop.

The session on 'Emerging chronic diseases and the need for integrated prevention and control of NCDs, brought out a variety of issues like the burden of NCDs in India, causative and risk factors and their functional consequences. The session on 'Obesity and Metabolic Syndrome in Children: The Relationship with Diet and Lifestyle' dealt with a variety of issues ranging from the prevalence of obesity, insulin resistance (IR), adiposity, lipids, hypertension, imbalance of diets and correlation between C-Reactive Protein (CRP) and obesity.

Giving the industry perspective on fats and oils, the presentation on 'Production, availability and technological advances in oil industry', dealt broadly with issues and concerns in the WTO regime, the pervasive sickness that processing industry and the solvent extractors suffer from because of insufficient and high-cost of raw material and affects of uncompetitive processing on export prospects.

Later, the session on 'Chemical composition and nutritional significance of dietary fats', described the chemical nature of triglycerides different classes of fatty acids, the bioconversion of fatty acids, changes in nutritional quality due to processing at industrial and household level and highlighted the characteristics of ideal fat for deep fat frying.

The presentation on 'Dietary fats: requirements to meet nutritional needs and prevent insulin resistance and atherothrombogenesis' looked into the current concepts on metabolic risk factors of syndrome 'X' and athero-thrombogenesis, while giving an overview of the

central role of dietary fats in modulating several interrelated metabolic events that lead to IR and athero-thrombogenesis and the work carried out at NIN. The presentation culminated in recommendation for safe range of intake of various fatty acids, cholesterol and the need for maintaining good antioxidant status for ensuring optimal health and for prevention of diet related chronic diseases.

The next paper was on 'Health effects of the Trans Fatty Acids – implications for the oils and fats industry', brought forth the fact that increase in the intake of trans fatty acids (TFAs) was a global phenomenon, while Western countries have made attempts to reduce its intake, hardly any such efforts have been made in developing countries.

The talk on 'Dietary fats and cancer' brought forward that there are 3 million cancer patients at any given time in India and at least one million new cases are added annually, while 2.5–3 lakh people die annually due to cancer. The presentation also highlighted the data on consumption of n-3 oils and their modulatory effects on prostaglandin levels.

The final talk on the 'Regulatory requirements in relation to fats and oils' briefly outlined the regulatory aspects related to fats and oils with specific reference to the Prevention of Food Adulteration (PFA) Act of India.

After the technical sessions the participants were divided into two working groups each having members from the scientific, industrial and communication backgrounds. The groups separately deliberated on two different themes viz., Recommendations / Guidelines for ideal fat consumption and Strategies to promote healthy consumption of fats. Later the suggestions of both the groups were discussed in plenary and final recommendations were formulated.

A review of the fat intake in India clearly indicates that it is income dependent and highly skewed, with the rural and urban poor consuming much less than what is needed, while the middle and high-income groups consuming more than what is required. It is well recognized that the incidence of chronic diseases is escalating in India and fat consumption trends play a prominent role. Considering this background, the recommendations addressed issues like quantity of fat intake in low-income groups including rural & urban poor, the middle and high-income groups; and quality of fat intake i.e. Intake of Saturated Fatty Acids (SFA) : TFA: polyunsaturated fatty acids (PUFA), monounsaturated fatty acids (MUFA) and recommendations for ideal fat intake for Indians. The group felt that the visible fat intake of Indians should be 20-50g/p/d and oils containing ALNA(n-3) should be used along with any

other vegetable oil(s). It was also recommended that the visible fats containing high SFA may be limited while consumption of hydrogenated fats (containing TFA) should be avoided. Intake of 'n-3 rich foods (ALNA and LCn-3PUFA)' should be increased.

The deliberations also focused on identifying strategies for promoting healthy consumption of fats. The group indicated that various segments covering the producers and the processors on supply side and both the organized and unorganized sectors on the demand side along with the consumers (Rural and Urban), regulatory agencies, policy makers and researchers need to be reached for promotion of optimal fat consumption.

Use of a logo for Healthy Oil/Oils (similar to smiling sun seen for iodized salt) was recommended, while the combination of various traditional and modern media tools with appropriate strategies was recommended to counter false claims by the industry and to disseminate messages on right quantity and right types of oils and fats to be used, appropriate combination(s) of oils etc. The need for introduction of pertinent labeling procedures was also recommended. In addition, the group also suggested that various change agents like schoolchildren, students from home science colleges and policy makers need to be approached for ensuring holistic approach for communicating ideal fat intake and healthy diets.