

# Role Of Diet, Physical Activity & Lifestyle In Promoting Health In Sri Lanka

Colombo Declaration



International Life Sciences Institute -South Asia  
ILSI-India Regional Office

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# **Role Of Diet, Physical Activity & Lifestyle For Preventing NCDs & Promoting Health In Sri Lanka: Colombo Declaration**

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## **Introduction**

ILSI South Asia Regional Office, ILSI-India organized the “International Conference on Role of Diet, Physical Activity and Lifestyle for Promoting Health” jointly with Ministry of Health, Nutrition and Indigenous Medicine, Government of Sri Lanka. It was held on November 20-21, 2015, in Hotel Taj Samudra, Colombo.

Mr. D H Pai Panandiker, Chairman, ILSI-India delivered the Welcome Address. The Keynote Address was presented by Dr P G Mahipala, DG, Ministry of Health, Nutrition and Indigenous Medicine, Government of Sri Lanka. About 130 participants attended the Conference, 50 participants were nominated by Ministry of Health, Government of Sri Lanka and other participants were from industry, academic institution, nutritionists working in Sri Lanka Hospital and international organizations. Presentations were made by 18 speakers from Europe, India, US and Sri Lanka. The theme of the Conference was discussed in technical sessions on : impact of socio economic trends on nutrition transition; risk factors and determinants of NCDs; role of balanced nutrition and physical activity; food for health; food consumption pattern data and physical activity; initiatives by industry for food choices; and consumer education. The Conference concluded with a discussion on strategies for public health intervention in Sri Lanka. The Conference Agenda is given in Appendix-1.

## **Main Findings Of The Conference**

- It is imperative that for reducing disease burden due to NCDs and promoting health of the population in Sri Lanka, priority attention be given to disease prevention strategies.
- The leading causes of mortality worldwide are chronic non-communicable diseases (NCDs); cardiovascular disease (17 million), followed by cancer (7.6 million), respiratory disease (4.2 million) and diabetes (1.3 million). The newly published Global Burden of Disease Study (2010) has systematically highlighted the epidemiological shift in morbidity and mortality resulting from infectious diseases and malnutrition, to NCDs. While approximately 10 years of life expectancy has been gained since 1970, more years are spent living with injury and illness.
- Of the 63% of all deaths from NCDs, most persons were in the prime of their productive years. There is now overwhelming evidence that lifestyle factors such as poor dietary patterns, physical inactivity, tobacco use, excessive alcohol consumption and psychosocial factors, e.g. chronic stress and lack of social support and community, are key proximal factors in the pathogenesis and incidence of NCDs (Table-1).
- Socio economic changes that have taken place over the past several decades leave Sri Lanka with the nutrition transition many low and middle income countries are grappling with. Under nutrition including micronutrient deficiencies, on one hand and overweight and obesity on the other, make up the well-known double burden of nutrition.

Table 1

	Stress	Lack of physical activity	Obesity	Poor nutrition	Tobacco use	Presenteeism	Substance Abuse
United States	1	3	2	4	5	6	7
Canada	1	2	3	4	6	5	7
Mexico	1	2	3	4	6	5	7
Brazil	1	2	3	5	7	6	4
Europe	1	3	4	7	2	5	6
Asia Pacific	1	2	3	6	4	5	7
China	2	1	4	7	3	6	5
India	1	2	3	6	4	5	7
Southeast Asia*	1	2	3	6	5	4	7
Singapore	1	2	4	5	6	3	7

\* South East Asia includes Malaysia, Philippines and Singapore.  
Note: Rankings based on composite representing 1, 2 or 7 on a typical Likert scale.

Source: From Presentation of Dr. John Foreyt, Professor, Department of Medicine and the Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine, Houston, USA at International Conference On Role Of Diet, Physical Activity & Lifestyle In Promoting Health

- In Sri Lanka, the years of life lost due to NCDs have substantially increased. The 2010 Survey of the WHO revealed that the years lost due to heart disease increased from 11.8 to 16.3 per cent, from stroke 5.5 to 6.6 per cent and from diabetes from 1.4 to 4.8 per cent. The highest risk factor was unbalanced diet.
- The impact of poor lifestyle is not limited to physical diseases but also increases the risk for mental disorders such as depression and anxiety, which are increasing worldwide. The term NCDs do not communicate properly the association between diet, lifestyle and physical activities and diseases. New terminologies like “lifestyle related diseases” should be adopted.



- Lifestyle factors may also be more distal stressors, including economic, political or a high density population. The economic burden of poor lifestyle choices is no longer sustainable and is impossible to ignore. The United Nations have established that lifestyle-related diseases are a clear threat not only to human health but also to development and economic growth.
- Diet quality and quantity are most important. Low nutrient dense diets may supply sufficient energy and may even lead to overweight, yet result in under-nutrition in terms of micronutrients, a situation often referred to as hidden hunger. During the first 1000 days of life this may lead to impaired growth and development with significant impact on brain and cognitive functions as well as stature. Such situations may occur in low- income families in conditions where certain foods that are low in protein, essential fatty acids and micronutrients, such as for example rice and sugars, contribute to a major part of daily energy intake. Another situation is that within affluent families there is overconsumption of many types of foods and beverages, causing overweight, diabetes and CVD.
- In all conditions the diet may include protective factors (e.g. fibres, antioxidants, unsaturated fatty acids, micronutrients) as well as disease promoting factors (e.g. high sugar, high fat, high salt, high meat, alcohol). One characteristic of modern lifestyle and “industrialized” nutrition appears to be an ever increasing shift from a “health supporting diet” to a “disease promoting diet”, the latter being highly processed with added sugars and fats and low in dietary fibres and micronutrients. Along with these factors, the daily amount of physical work and exercise appear to be important.
- A healthy diet should consist of proteins, carbohydrates and fats , apart from other nutrients like vitamins and minerals. Healthy foods should be low in saturated fats, trans fats, cholesterol, sodium and added sugar. Mono-unsaturated fats

like canola oil, olive oil and peanut oil as also polyunsaturated fats like sunflower or sesame oils are preferable. The widely accepted norm for added sugar is that it should not exceed 10 per cent of the total calorie intake. That can be achieved by using sugar substitutes whose safety has been well established by Joint FAO / WHO Expert Committee on Food Additives (JECFA).

- It is not only the composition of foods but also the quantity of food intake that is important. There is a temptation to eat more than necessary with the result that the excess energy accumulates as fat and ultimately results in obesity. Once BMI exceeds 30 the domino effect comes into play. The risk of developing Type 2 diabetes increases, so also of high blood pressure, certain types of cancers, stroke, sleep apnea, and diseases of liver, gallbladder etc. that consequently reduce years of useful life.
- Sources of excess energy consumption are multifarious and cause inflammation and insulin resistance resulting in diabetes. Glycaemic Index (GI) of sugar is 65-67, GI of rice and potato is much higher. Checking the incidence of diabetes has to be by checking added sugar in all types of foods and beverages. In total sugar consumption, two third consumption is through solid food and one third from beverages. It is important to look at total energy consumption and not only sugar for evolving effective strategies.
- Diet is one side of the energy balance; the other is physical activity. To maintain BMI it is essential to balance energy in and energy out. While the amount of food intake has generally increased, physical activity has definitely declined. With modern energy saving devices like lifts in buildings, cars for transportation, agricultural machinery for tilling and harvesting, and so on, physical activity and consequently energy expenditure have significantly dropped, creating energy imbalance. To burn calories from a single small sugar cube a brisk walk is required for two minutes. Generally, half an hour brisk walk every day

is essential to bring about the energy balance that will maintain BMI. If BMI is already beyond 30, a more vigorous exercise is called for.

- Appropriate nutrient intake in the immediate pre-conception period and the subsequent first 1000 days of life is of great importance for the prevention of disease states that are linked to under- and over-nutrition.
- A study carried out in urban, rural and estate communities in Sri Lanka with over 3000 women and pre-school children pairs shows high carbohydrate (60-70% of energy), low to moderate levels of fat (20-25%) and low intake of protein (8-15%). Considerably higher saturated fat (>10% energy) and lower unsaturated fatty acid intake, associated with coconut fat consumption, is a feature in fat intake. Micronutrient intakes reported in dietary studies have shown inadequate levels for iron, calcium, folates and vitamin C. Consumption of meat, fish, poultry, and milk products in rural areas is low.
- Physical inactivity in Sri Lanka has showed an association with obesity, diabetes, hypertension and metabolic syndrome.

The Conference took note that over the years, the Ministry of Health has taken various steps including life style transition approach through behaviour change communication as the co-implement strategy in minimizing common risk factors for non-communicable diseases. In this endeavour, engagement with the Ministries of Sports, Education, Youth Affairs and Mass Media were very much useful in achieving the objectives. Ministry of Health has also formulated a “Strategic Plan in Health for 2009-2018” aligned with the development agenda of the Government of Sri Lanka in which “Health Promotion” has been identified as a key strategic area.

The experts and the participants attending the Conference took note of the recent developments in Sri Lanka and the scientific presentations made by the experts and recommended the following actions.

## **Action Plan**

### **Approach Towards Checking / Managing NCDs**

- All efforts should be made to improve health indicators and innovative approach should be adopted towards this.
- There is a multi-stakeholders responsibility to help promote a healthy living environment, which includes appropriate measures at the level of governments, cities, schools, colleges, offices, factories, families and food supply chain.
- Multi-sectoral approach is required for fighting and preventing NCDs. A coordinated approach involving all stakeholders will yield faster results. Government, Academia, Private Sector and International Organizations may be involved in this endeavour.
- Policies should be science based as diet is very important for health and is an effective way of checking rising levels of NCDs..

### **Capacity Building**

- Skill based short term training courses should be organized on Nutrition, Health and Lifestyle for Regulators, Academia, Industry and Government.

### **Total Diet Surveys**

- A comprehensive national food consumption, nutrition and physical activity survey should be conducted in Sri Lanka. This will generate valuable data on the adequacy of food, energy and nutrient intakes, consumption patterns and physical activity patterns of individuals and households. This information will enable policy makers to understand, quantify and specify the causes of the health and nutrition problems in Sri Lanka and guide the design and implementation of specific food, nutrition and lifestyle related intervention programmes.

- National Nutrition Monitoring Bureau should be set up by the Ministry of Health. This should be an autonomous body and should collect primary data on diet, physical activity and anthropometry every 5 years. It should also collect data on nutrient contents of Sri Lankan crops and diet. Such data will be helpful in monitoring health and evolving effective policies.

## **Dietary Changes**

- Focus should be on wholesome, safe and nutritious foods which should be based on population based international guidelines as set by WHO and Codex, aligned with the local regulations,
- All dietary recommendations should be based on the principles of variety, moderation and balance. This would bolster the healthy concept of a diversified balanced diet.
- Reducing sugar intake from all food and beverage sources may be one part of the intervention but it should not be the only intervention. Other options should also be looked at.
- If rice is a major proportion of total energy intake then appropriate strategies may have to be devised to reduce the intake of rice or introduce rice with lower caloric content / glycaemic index (GI). Telling people to stop eating rice may not work. Hence, different varieties of rice which have low GI may be grown / imported and popularised.
- People should be encouraged to consume more fruits and green leafy vegetables, and pulses with meals. Awareness about appropriate portion size should also be created.
- Different foods and beverages as sources of sugar should be identified, or sugar replaced by sugar substitutes.
- To reduce sugar consumption from different sources information about per capita intake of various foods/beverages contributing to sugar intake will be necessary.

- Non-nutritive or low calorie sweeteners can be used in food and beverages as they give consumers a choice to satisfy their innate desire for sweet taste without adding calories. Studies have shown that replacement of sugar with low calorie or non-nutritive sweeteners may help to reduce calorie intake in weight management. Because they are not deprived of “sweet foods”, individuals consuming low-calorie sweeteners may feel more satisfied with their eating plans, thereby helping them to lose weight. Individuals with Type 2 Diabetes will have greater flexibility with meeting dietary goals with low calorie sweeteners.
- Fat consumption should be reduced from 35 gms to 25 gms. Further, people should be advised to consume variety of oils instead of one variety only. The intake of fat should be in line with its calorie contribution, 10% from saturated fat and not more than 1% from trans-fats.
- Reduce total intake of food and beverages by 20%.
- People can drink 75ml-80ml of fruit juices as they have free sugar but lot of antioxidants.
- A good diet should contain a variety of foods in reasonable quantities.
- Understand diet, traditional food and beverages, culture and customs when making recommendation on diet, physical activity and lifestyle changes.

## **Functional Foods**

- People should be advised to consume fish for its functional properties. Fish (especially fatty fishes) has omega3 fatty acids which are good for cognition and overall health.

- Tea is a wonder beverage. Both green tea and black tea have health benefits. These include gastrointestinal tract, metabolic disorders, obesity, Type 2 diabetes mellitus, CVD and cancers. Information about evidence based health benefits should be disseminated to the consumers.
- The human body is home to about 100 trillion microbes and quadrillion viruses. They are a complex mix of various species. Collectively they are called microbiota and the genetic profiles together are called the “Microbiome”. While the colonization of these microbes in number and types depends on the diets consumed, they in turn modify Gut health and several metabolic functions in the body. Any disturbance in the balance of good and bad bacteria causes disease. Colonization of the gut with the good bacteria is protective. Foods and beverages containing probiotics as also prebiotics will improve the gut microbiome and will help in preventing and managing NCDs.

## **Processed Foods**

- Food Industry are equal partners in creating healthier food choices and developing responsible communication in supporting the global health initiatives of lowering NCD rates and raising consumer awareness towards a healthier world. Responsible food companies can leverage their R&D and product development expertise to produce healthier foods which are in line with the dynamic health and nutritional guidelines as provided by the authorities.

## **Physical Activity**

- Physical activity plays the key role in preventing and managing NCDs. Physical activities promote health regardless of weight loss, builds fitness capacity, contributes to abdominal fat mobilization and enhance psychological well-being.

- Physical activities should be recommended for all age groups including children and elderly.
- People should be motivated to adopt lifestyle approach towards physical activities. Walking daily is a good place to start. Aerobic, yoga and other exercises are helpful for calorie balance and reduced health risk
- Many tools are available (pedometers, apps, etc.) to help motivate individuals to achieve calorie balance.

## **R&D**

- All research organizations should be supported by government/regulatory authorities to strengthen the knowledge base related to nutritional intakes, dietary patterns etc at a holistic level.

## **Consumer Awareness**

- Barriers to changing lifestyle and behaviour should be identified. These could be cultural practices and habits.
- Focus should be on prevention of NCDs. This requires creating consumer awareness on diet, lifestyle and physical activity. Ministries of Health, Agriculture and Finance should prepare positive messages about safe and nutritious foods and physical activity.
- Media can be used for creating awareness. Media campaign should be run for 3 months at least.
- Media should be careful about reporting and should not publicize studies without first verifying with experts. At times even when studies are not conducted properly the reports are publicized and may create fear psychosis or biased opinions not based on scientific facts.
- Focus on children in schools and their future will be secured. Nutrition should be included in school curriculum from fifth standard.



- Brochures in vernacular language on diet and physical activities should be prepared and distributed to: schools, colleges, offices and hospitals and uploaded on website for this purpose called “Health For You”. Mobile app can also be prepared.
- Mobile phones can be used for creating consumer awareness. For example mobile companies can be asked to install consumer awareness programs on diet and physical activity prepared by Ministry of Health. Whenever the user switches on mobile the message should be played.
- Nutrition labelling is considered to be an important tool for providing information. It has the potential to enable healthier food choices by the consumer. However, studies have shown that even in developed countries including Europe only a small percentage (16.8%) of population looks for nutrition information on labels. This seems to be mainly due to the fact that consumers pay low attention to nutrition labelling and lack the motivation to use it in their food choices. Communication campaigns and educational programmes can improve the situation, by achieving greater awareness and nutrition knowledge and highlight the importance of nutrition labelling.

## AGENDA

### NOVEMBER 20

09.30-10.30 Hrs.

#### INAUGURAL SESSION

- **Welcome Address**  
*Mr D H Pai Panandiker, Chairman, ILSI South Asia Regional Office, ILSI-India*
- **Keynote Address**  
*Dr P G Mahipala, DG, DGHS, Ministry of Health, Nutrition & Indigenous, Govt. of Sri Lanka*
- **Vote of Thanks**  
*Mrs. Nirmali Samaratunga, President, ILSI South Asia Sri Lanka Committee*

10.30-11.00 Hrs. • **TEA BREAK**

11.00-12.15 Hrs.

#### SESSION ONE

#### Impact Of Socio Economic Trends On Nutrition Transition

(Presentations for 25 minutes each and 5 minutes for Q&A)

**Chair: Dr B Sesikeran**

Former Director, National Institute of Nutrition, India

#### Role of Diet, Physical Activity & Lifestyle:

- **Global Perspective**  
*Dr Michael Sagner, M.D. President, European Society of Lifestyle Medicine (ESLM), Paris*
- **Sri Lankan Perspective**  
*Dr. A. M. S. B. Mahamithawa, Director, Estate and Urban Health, Former Director, Nutrition Division, Ministry of Health, Nutrition and Indigenous Medicine, Government of Sri Lanka*

12.15-13.30 Hrs.

**SESSION TWO**

**Risk Factors & Determinants Of NCDs**

(Presentations for 25 minutes each and 5 minutes for Q&A)

**Chair: Dr Michael Sagner, M.D.**

President, European Society of Lifestyle Medicine (ESLM), Paris

- **Global Perspective**  
*Prof. Fred Brouns, Chair "Health Food Innovation"*  
Dept of Human Biology, Faculty of Health, Medicine and Life Sciences, Maastricht University, Netherlands
- **Sri Lankan Perspective**  
*Dr. V. T. S. K. Siriwardena, Director, Non Communicable Diseases Unit, Ministry of Health, Nutrition and Indigenous Medicine, Government of Sri Lanka*

13.30-14.30 Hrs.

- **LUNCH BREAK**

14.30-15.30 Hrs.

**SESSION THREE**

**Role Of Balanced Nutrition & Physical Activity**

(Presentations for 25 minutes each and 5 minutes for Q&A)

**Chair: Dr V. Prakash**

Distinguished Scientist of CSIR-India, Vice President, IUNS  
Director of Research, Innovation and Development at JSSMVP

- **Role of Adequate & Balanced Nutrition: Carbohydrates, Fats, Proteins, Dietary Fibres, Micronutrients**  
*Dr B Sesikeran, Former Director, National Institute of Nutrition, India*
- **Importance of Physical Activity in Maintaining Calorie Balance & Health**  
*Dr. John Foreyt, Professor, Department of Medicine and the Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine, Houston, USA*

15.30-17.00 Hrs.

**SESSION FOUR**  
**Food For Health**

(Presentations for 25 minutes each and 5 minutes for Q&A)

**Chair: Prof. Fred Brouns**

Chair "Health Food Innovation" Dept of Human Biology, Faculty of Health, Medicine and Life Sciences, Maastricht University, Netherlands

- **Functional Foods & Beverages**  
*Dr V. Prakash, Distinguished Scientist of CSIR-India, Vice President, International Union of Nutritional Sciences (IUNS), Director of Research, Innovation and Development at JSSMVP*
- **Overview Of Global Research On Tea & Health**  
*Dr. Gargi Saha, Research Officer, National Tea Research Foundation, India*
- **Food for Healthy Gut**  
*Dr B Sesikeran, Former Director, National Institute of Nutrition, India*

17.00 Hrs.

- **TEA BREAK**

**NOVEMBER 21**

09.30-10.30 Hrs.

**SESSION FIVE**  
**Food Consumption Pattern Data & Physical Activity**

(Presentations for 20 minutes each and 5 minutes for Q&A)

**Chair: Dr. John Foreyt**

Professor, Department of Medicine and the Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine, Houston, USA

- **Regional**  
*Dr G.N.V Brahmam, Former HOD, Division of Community Studies, National Institute of Nutrition, India*
- **Sri Lanka**  
*Dr K D Renuka Silva, Senior Lecturer, Human Nutrition, Department of Applied Nutrition, Faculty of Livestock, Fisheries & Nutrition, Wayamba University of Sri Lanka*

10.30-11.00 Hrs. • **TEA BREAK**

11.00-12.30 Hrs.

**SESSION SIX**  
**Initiatives By Industry For Food Choices**

(Presentations for 20 minutes each including Q&A)

**Chair: Dr V. Prakash**

Distinguished Scientist of CSIR-India, Vice President, IUNS  
Director of Research, Innovation and Development at JSSMVP

- **Overview**  
*Prof. Fred Brouns, Chair "Health Food Innovation" Dept of Human Biology, Faculty of Health, Medicine and Life Sciences, Maastricht University, Netherlands*
- **Industry Approach Towards Healthy & Nutritious Foods**  
*Ms Radhini De Costa, AVP Marketing Servies, Nestle Lanka Ltd.*
- **Sugar Reduction and Using Sugar Substitutes (Low Calorie Sweeteners)**  
*Dr Grant Dubois, Sweetness Technologies LLC, USA*
- **Role of Fats in Promoting Health**  
*Ms Dilani Hettiarachchi, Nutrition and Health Manager, Unilever Sri Lanka*

12.30-13.15 Hrs.

**SESSION SEVEN**  
**Consumer Education**

(Presentations for 30 minutes each including Q&A)

**Chair: Dr B Sesikeran**

Former Director, National Institute of Nutrition, India

- **Consumer Information, Education & Communication**  
*Dr Laura Fernandez , Director General, European Food Information Council (EUFIC), Brussels*

13.15-14.15 Hrs. • **LUNCH BREAK**

14.15-16.00 Hrs.

**PANEL DISCUSSION ON**  
**Strategies For Public Health Intervention In Sri Lanka**

**Chair: Mr. D H Pai Panandiker**

Chairman, ILSI South Asia Regional Office, ILSI-India

16.00 Hrs.

- **TEA BREAK**



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