

REPORT ON PAUSHTICON 2023

ENSURING SUSTAINABILITY IN FOOD AND NUTRITION

Day 1

Inauguration and keynote speaker

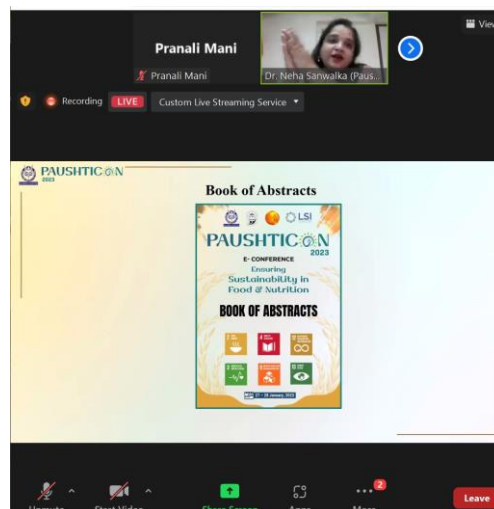
On January 27, 2023, the Nutrition Society of India's Mumbai Chapter organised the first national level online conference Paushticon 2023 with the support of the Nirmala Niketan College of Home Science, the MGM School of Biomedical Sciences, the MGMIHS, and the Lifeness Science Institute. The conference's theme was **"Ensuring Sustainability in Food and Nutrition."**



The Mumbai Chapter Chairwoman of the Nutrition Society of India, Mrs. Anuradha Shekhar, inaugurated the E-Conference at 3:00 pm and provided an overview of the agenda. She spoke about the benefits of the Nutritional Society of India and its outreach programmes. Due to unexpected circumstances, keynote speaker Dr. R. Hemlatha was unable to attend the session.

Dr. Subhadra Mandalika, co-chairperson of NSI, discussed Paushticon, Nutritional stability, and the need for transformation from food cultivation to consumption practices.

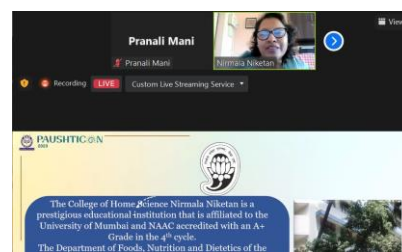
Dr. Neha Sanwalka launched the cover of the Book of Abstracts and displayed posters that were created by the students and professionals which were focused on the themes of "Zero Hunger," "Responsive Food Consumption and Production," "Climate Action," and "Food and Nutrition Security."



Mrs. Vibha Hasija of the Nirmala Niketan College of Home Science delivered an introduction describing the Nirmala Niketan College as well as the subject of Zero Hunger and its objectives.

Theme: Efforts of Indian government towards Zero Hunger.

The speaker Dr. Rupal Dalal was introduced by Ms Jacqueline Colaco, where she mentioned her qualifications, her field of interests, as well as her current designations. She began her presentation by asking a question, Is Quenching hunger enough? which was followed by different Indian nutritional status graphs which stated different challenges for India. Each graph was stated under different topics denoting different age groups. Further various policy and programs of government were shown by her, wherein detailed



explanation was given on 3 programs which were ICDS (Integrated child development scheme), MDM (Mid day meal scheme), Saksham Anganvadi and POSHAN 2.0. The speaker then introduced us with the Odisha Millet mission which was initiated by the government of Odisha in 2018. Furthermore, she also showed us an interesting application which was named 'Cuetree', which is designed to monitor weight gains, with a renewed learning action protocol. Also there were many competitions organised via ICDS, Health and SHG on the topic of Promoting the Ganit of Protein. Wherein towards the end of the session she stated the influence of prenatal as well as postnatal growth on intellectual functioning. Ms Jacqueline Colaco thanked the speaker and ended the session.

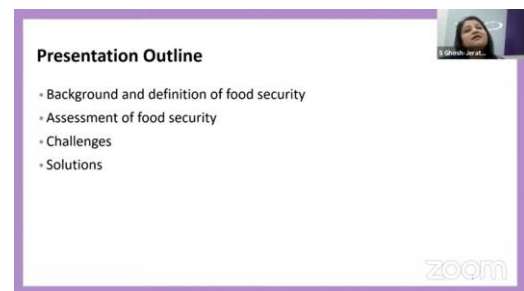
4:45-5:30

Subtheme- Zero Hunger

Food Security: Challenges and Solutions

Dr. Suparna Ghosh-Jerath

Program Head, Nutrition, The George Institute of Global Health India, Delhi



Dr. Suparna Ghosh-Jerath was introduced by Dr Minenly Rodrigues by giving a brief information about the background and the current designation. Dr Suparna Ghosh-Jerath started the presentation by thanking the Nutrition Society of India-Mumbai Chapter. She stated that food security is an overarching issue specially for the vulnerable populations who are facing food insecurity in the same household and it is mostly faced by women and children. She started by giving us the definition of Food Security by FAO 2001. She went on to explain in depth about the 4 important dimensions of food security given by FAO 2001 namely availability, access, utilization and stability. Agency and Sustainability are the vital dimensions of food security as they are essential for transforming food systems in the direction needed to meet the Sustainable Developmental Goods. She then went on to explain about Food Sovereignty and how to identify the 6 dimensions of food security. She then briefly discussed the six broad guidelines for conducting a food security assessment along with Food Insecurity Experience Scales and the FIES Survey Module and its analysis as well as the uses of it.

Further on, in depth discussion on lack of objective data on food security in India along with statistical data analysis done using in urban, rural and tribal areas was done. The speaker introduced the food security challenges in India. The brief introduction about the food security challenges included the following; focus on calorie sufficiency than diet quality, the weak link between income growth and nutritional outcomes, mismatch between water demand and supply, poor functioning of food security programs in many states, food access is a serious issue due to heavy inflation of food commodities and globalisation trends which lead to inequities between various sections of population. (Narayan 2015; Chadha 2016). Later the speaker talked about the negative and positive impacts of Covid- 19 on food security in India. Disruptions in food supply, inflation, reduced agricultural inputs, double burden on farmers, job losses and reduced dietary diversity were the negative impacts that were mentioned. Diverse cropping patterns, small scale shops and retailers and better functioning of TPDS were some of the positive impacts.

Followed by that the speaker talked about the effects of climate changes on food security which she mentioned to be multi-directional. The country was said to be at a high risk due to high population density and dependance on weather for food sufficiency. A relationship between climate, health and food was mentioned. The climate is said to increase the risk of new disease emergence. Food is needed for nutrition and good health and food production is affected by global warming. Inequities in

food and increase in poverty, physical and mental health, less nutrition, land pressure and economic and societal problems were the impacts of climate change on food security in India that were mentioned. (Jameel 2022).

Dr. Suparna later introduced some solutions to the food security challenges in India. She gave a sustainable food systems approach for addressing food insecurity. The sustainable food system should support the six interconnected dimensions (Availability, sustainability, agency, stability, utilization and access) (HLPE 15, 2020).

Following the six interconnected dimensions, she gave a food framework for improving food security. It included biophysical and environmental drivers, technology innovation and infrastructure, economic and market drivers, political and institutional drivers, socio-cultural drivers, demographic drivers. The framework also comprised food supply chains, consumer behaviours and diets. Some of the activities to ensure food security were given by Dr. Suparna which included income generating opportunities, shorter food supply chains, sustainable and diverse agricultural production, nutrition and food system education for behaviour change.

Later she gave multiple government programs for tackling food and nutrition security issues.

Public food procurement programs

- Targeted public distribution system (TPDS)
- Antodaya Anna Yojana (AAY)
- Mid day meal scheme (MDMS)

Other nutrition sensitive programs

- National rural health mission
- National rural employment guarantee scheme (NREGS)
- Rashtriya Krishi Vikas Yojana



Lastly Dr. Suparna ended her presentation followed by a question answer session.

5.30 pm to 6.15 pm

Subtheme: Climate Change

Biofortification and Climate Change

Dr. Sesikeran Boindala

Former Director, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad



This speaker was introduced by Dr. Beryl Nithya, listing his qualifications and area of interest. He started by defining what climate change is, defined by the UNCC. The Greenhouse gases noted were CO₂, CH₄, N₂O, Fluorinated Gases; these are generated in the production of food. Dr. Sesikeran showed us the adjoining picture, which summarises the overall changes that occur. Further he discussed the impact of climate change on nutrition security-qualitative, such as higher pesticide usage. The nutritional impact is first seen on the crop and thus



affecting the body, eg. Iron and zinc deficiency in crops is up to 20%. Shifting C3 crops to C4 pathways. Sir then spoke about biofortification; and how it makes food crops more nutritious. Millet varieties that are biofortified as per Harvest Plus CGIAR are; Pearl Millet - which has 80% of RDA or protein fortified maize with high amino acid content. He started with the topic Bioavailability studies from The Journal of Nutrition (2013). Biofortification of Pearl Millet with Iron and Zinc in a Randomised Controlled Trial Increases Absorption of These Minerals above Physiologic Requirements in Young Children 1-3. A Randomised Trial of Iron-Biofortified Pearl Millet in School Children in India. This study demonstrated that feeding Fe-PM is an efficacious approach to improve iron status in school-age children: The Journal of Nutrition, 2014. Biofortified Crops: Climate-smart Traits and Productivity Advantage. Crops like wheat, millets, rice, pearl millets and beans and talked about their zinc content and iron content, vitamins present in it. Then he talked about Biofortification Through Genetic Engineering. Development of Biofortified Crops Through CRISPR- Cas Genome Editing Approach. Gene editing technologies in biofortification CRISPR Cas is aiding et al. 2021 and improving crop's parameters such as appearance, palatability Pulitional. He ended his presentation with the quote; “ We do not inherit the earth from our ancestors, we borrow it from our children.” by *Native American Proverbs*.

Dr.Beryl proceeded to hold the *Questions & Answers* for the session. Post which, Dr. Neha Sanwalka ended the session for the day by thanking the three speakers, delegates and stated the themes that will be spoken on, tomorrow and closed the webinar for the day.

Day 2

9-9:45

Sub theme: Good Health & Well-being

Nutritional Anaemia

Dr. Prema Ramachandran

Director Of Nutrition Foundation Of India, Delhi

Dr. Priyanka Parikh, assistant professor from MGM institute of biomedical science, Navi Mumbai welcomed the participants to the second day of Paushticon. **Dr Mansi Thakur** was welcomed by Dr Priyanka to address the participants and introduce the MGM institute.

Dr Prema Ramchnadra was introduced by Dr Priyanka Parikh, listing her qualifications, awards and area of interest. The speaker started her presentation by introducing the Nutrition foundation of India, an institution established in 1979. She initiated by asking why do we have to worry about Anaemia still in the year 2023? She highlighted the relationship between Anaemia and iron, folate, B12 deficiencies. She talked about the programs for the prevention and management of Anaemia. Paushan



Nutrient intakes of adults (Men & women) (NNMB 2012)

		Protein (g)	Total fat (g)	Energy (kcal)	Calcium (mg)	Iron (mg)	Vit-A (µg)	Thiamin (mg)	Riboflavin (mg)	Vit-C (mg)	Folate (µg)
MEN (Sedentary)	MED	49.4	27	1846	370	13	132	1.2	0.8	33	121.6
	EAR	42.9	25	2110	800	11	460	1.18	1.64	65	250
	Deficit	-6.5	-2	264	430	-2	328	-0	0.84	32	128
MEN (Moderate)	MED	53.4	25.1	2020	335	14.2	123	1.4	0.8	28	134.1
	EAR	42.9	30	2710	800	11	460	1.18	1.64	65	250
	Deficit	-11	4.9	690	465	-3.2	337	-0.2	0.84	37	116
WOMEN (NPNL Sedentary)	MED	43.8	23.4	1664	328	11.5	119	1.1	0.7	30	106
	EAR	36.3	20	1660	800	15	390	1.14	1.56	55	180
	Deficit	-7.5	-3.4	-4	472	3.5	271	0.04	0.86	25	74
WOMEN (NPNL Moderate)	MED	47	22.9	1786	292	11.8	112	1.2	0.7	24	116.7
	EAR	36.3	25	2130	800	15	390	1.14	1.56	55	180
	Deficit	-11	2.1	344	508	3.2	278	-0.1	0.86	31	63.3

The gap between EAR, dietary intake was relatively low for iron as compared to the gap between EAR and dietary intake for folate and vit C
However prevalence of iron deficiency is higher than folate deficiency in many states

Abhiyan, launched in 2018 with the goal of reducing Anaemia by 3%. She talked about how drying the vegetables could improve the dietary intake along with reducing the wastage. The speaker also mentioned noteworthy machineries to diagnose Anaemia. She talked about the importance of using iron fortified salt. Lastly Dr. Prema ended her presentation followed by a question answer session.

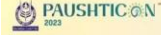
9:45-10:30


Theme- Sustainability in Nutrition

Sub-Theme- Nutritional status of Vitamin-B12 and Vitamin-D: The Indian Scenario

Dr. Anuradha Khadilkar

Consultant Paediatrician and Deputy Director at HCJMRI, Jehangir Hospital Pune, India.



	Dr. Anuradha Khadilkar
	Qualifications: • MD Pediatrics, DCH (London)
	Affiliations: • Deputy Director, Hirabai Cowasji Jehangir Medical Research Institute, Jehangir Hospital, Pune • Consultant Paediatrician, Jehangir Hospital and Jehangir Clinical Development Center, Pune • PhD Guide, Department of Health Sciences, Savitribai Phule Pune University • Guide for Pediatric Endocrine Fellowship, HCJMRI
Fields of interest: Nutrition, Growth, Endocrine disease, Vitamin D and Bone Health, Type 1 DM	<ul style="list-style-type: none"> • Guide/ co-guide for 22 PhD students • Reviewer for several National and International Journals • Advisor on Biomedical Engineering Research at the Vishwakarma Institute of Information and Technology • Member, Nutrition & Guideline Committee for Children and Adolescents with Cancer • Member, Task Force for Calcium, Nutrition Science Program at the New York Academy of Sciences (NYAS) and the Children's Investment Fund Foundation (CIFF) • Convener for Vitamin D Guidelines for the Indian Academy of Pediatrics • Member of the Growth Monitoring Guideline Committee, Indian Academy of Pediatrics • Has received 45 awards • Forty awards for paper presentations • Over 500 presentations in State, National & International conferences
Number of paper publications: 250+	
Number of books/chapters: 10	

Dr. Anuradha Khadilkar was introduced by Ms.


Chetna, listing her qualifications, affiliations, awards and area of interest. The speaker started her presentation by introducing the Nutritional status of VitaminB12 and Vitamin-D:- The Indian Scenario. Dr. Anuradha mainly focused on explaining the structure, sources, functions of Vitamin-B12.

She also explained about the reference ranges of Vitamin-B12. Later she explained the function of B12 such as development, function of CNS, myelination etc. She then stated that Megaloblastic Anaemia is the major cause of Vitamin-B12. She also gave us an overview of studies conducted in India which talked about Vitamin-B12 deficiency in adults, children, public health and also about the supplemented studies. She stated that Vitamin B12 deficiency is also associated with lower absorption rate. Methods for dealing with Vitamin-B12 deficiency like hidden deficiency such as MMA, total plasma homocysteine routine supplementation is important. Next she started with Vitamin-D where she stated the structure and function of Vitamin-D Food sources like rajma, wheat flour, non-veg sources etc. **“INDIANS GET MOST OF THE VITAMIN-D FROM SUNLIGHT”**.

She talked about determinants of vitamin d deficiency like age, weight, use of sunscreens. Later she gave an overview about % that 60%-90% deficiency of Vitamin-D is seen in Indians. Then she talked about the relation between Calcium and Vitamin-D deficiency. Then she gave the prevalence of vitamin d deficiency in risk states. Lastly she summarised her presentation of Vitamin-B12 and Vitamin-D. The session was continued with questions and answers by the participants.


10:45-11:30

Dr.Thingnganing Longvah



Nutritional Status of Vitamin B12 and Vitamin D: The Indian Scenario

Dr. Anuradha Khadilkar
Consultant Paediatrician and Deputy Director
HCJMRI, Jehangir Hospital
Pune, India

Hirabai Cowasji Jehangir Medical Research Institute 

PAUSHTIC 2023

WHAT IS 'FOODOMICS'

Traditional studies
Primarily aimed to detect targeted constituents

System biology
Primarily aimed at the universal detection in a specific biological sample

↓

"OMICS" defined as probing and analysing large amount of data representing the given system biology at a particular level

↓

"FOODOMICS" The study of food and nutrition domains through the application and integration of advanced omics technologies

hypothesis driven →

Fundamental constituents

hypothesis-generating →

All data are acquired and analysed to define a hypothesis that can be further tested

Sample enters here → Heater vaporizes sample → Ions accelerated → Magnet → Magnetic field deflects lightest ions most → Detector

Mass spectrometry: Ions are created which are then separated according to their mass-to-charge ratio (m/z) and detected to create a mass spectrum, which is characteristic of the molecular mass and/or structure

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PAUSHTIC 2023

GLOBAL MALNUTRITION CHALLENGES

Hungry & Undernourished people

FAO estimates (2016)

815 million people or 10% of the world's population are food insecure

Overweight and obese population

FAO estimates (2016)

Adults
1.9 billion overweight of which 650 million obese

Children < 5 years
41 million overweight or obese

Global micronutrient deficiencies

Hidden hunger: Over 2.0 billion people around the world suffer lack essential vitamins and minerals needed to grow and lead healthy lives

Anaemia affects 1.62 billion people or 25% of the world population

An estimated 17.3% of the world's population is at risk of inadequate zinc intake

WHO estimated that 19 million pregnant women & 250 million children are affected worldwide by vitamin A deficiency

Legend:
■ Insufficient iodine intake (mIUI <100 µg/L)
■ Adequate iodine intake (mIUI 100-299 µg/L)
■ Excessive iodine intake (mIUI >300 µg/L)
 Sub-national data
 Survey not in SAC
 No data

The session started with the introduction of the speaker by Prof.(Mrs.) Subhadra Mandalika. Dr. Thingnganing Longvah started with the topic called Global Malnutrition Challenges in that he explained about the global micronutrients deficiencies, obese and overweight population and hungry and undernourished people. After that he was focused on the food systems and food system scale & sustainability. Then he moved to the topic known as Food composition and database. Then he explained about the Food Biodiversity and Food Composition. Further he introduced a new topic named as Foodomics which is a study of food and nutrition domains through application and integration of advanced omics technology. After that he started with the Periodic Table of Food Initiative (PTFI) which is a tool and with the help of that data will globally accessible and can be applied to address a wide range of research questions and to the end of his presentation he explained about the it's objectives and missions and it's technology development & distribution.

11:30-12:15


Dr Rekha
Avani, Sejal

Subtheme - Responsible Consumption and Production.

Topic -Potential of food wastes for value addition.

Speaker - Dr. Rekha Singhal

Professor of food technology,
Institute of Chemical Technology
Matunga, Mumbai 19



Dr. Rekha Singhal

Qualifications:

- Ph.D. Food Technology, University of Mumbai

Current Designation:

- Professor and Head, Department of Food Engineering and Technology, Institute of Chemical Technology, Mumbai

Fields of interest: Carbohydrate chemistry and technology, fermentative production, chemistry and technology of traditional Indian foods, supercritical carbon dioxide extraction of sensitive compound.

Number of paper publications: 317+

Number of books/chapters: 5

- Dr. Singhal has successfully supervised 81 M.Tech and 26 doctoral candidate
- Investigator and co-investigator of projects sponsored by AICTE, DBT and UGC as well as several industrial houses
- Editor, Journal of Food Science and Technology, 2009-2012
- She has delivered invited lectures at various places
- Collaborated with scientists from BARC, Mumbai; Forest Research Institute, Dehradun; and National Botanical Research Institute, Lucknow; Aalto University, Finland, Illinois Institute of Technology, Chicago on projects of common interest
- Member of Editorial board in various governing bodies

Mrs. Madhavi introduced Dr. Rekha Singhal. After that, Dr. Rekha started her talk, which was titled "Potential of food wastes for value addition." She began by discussing the significance of valorization and the need for it. China produces the most food waste annually, followed by India and the US, according to a graph of global food waste that was displayed. She then presented some data on food waste, stating that 13 of all food produced worldwide is lost or squandered. She also discussed the harm that food waste causes to the environment, the economy, and society. She went on to say that organic garbage in landfills releases methane and CO₂, which harms the ecosystem and contributes to climate change. Food loss and waste emits about 8.2% of greenhouse gases which is approaching the levels from road transport which is 10%.



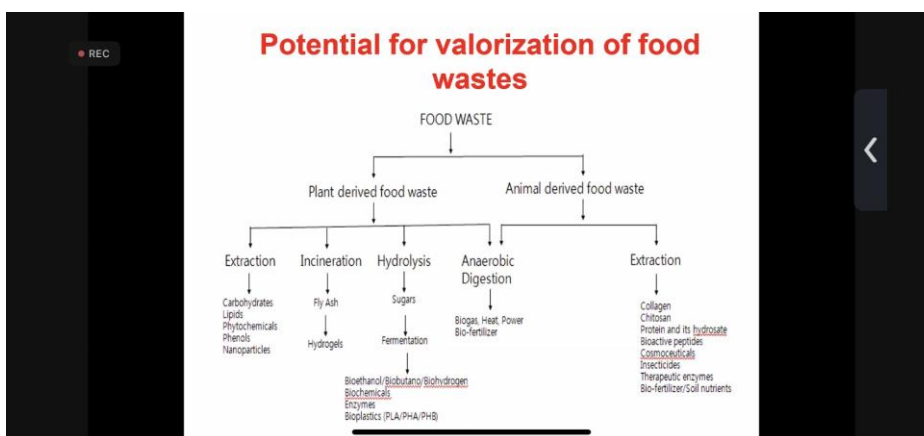
The amount of each food category that is wasted during food preparation was then described by the speaker. According to the graph, which indicated the contribution of the food industry to industrial and commercial trash, 31% of waste is commercial and 61% is industrial.

Dr. Rekha went on to discuss how food waste might be addressed through the application of valorization. She then went on to describe the different types of waste products produced by the food processing companies.

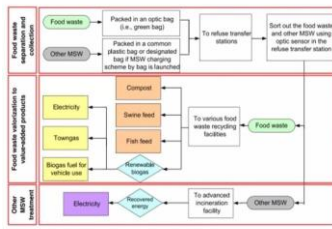
Wastes generated from food processing industries

Food processing industry	Waste materials
Animal products	Skins, hides, blood, fats, horns, hairs, bones, liver, intestines
Poultry processing	Skin, blood, fats, hairs, feathers, bones, liver, intestines, wings, trimmed organs
Marine products processing	Shells, roes, trimmed parts, pincers
Cereals and pulse processing	husk, hull, shaff, stalks
Fruit and vegetabes processing	skins, stones, peels, fibre, pith
Nuts	Shells, coir, pith
Spices and condiments	Hulls, stalks

In her subsequent slides, she went on to show how the waste may be valued. It was explained how to valorize food waste using four different techniques: thermal, chemical, enzymatic, and biotechnological. Also explained were the pretreatment and production processes for items made from food waste.



Waste valorization by green processing technologies yields high value chemicals like bioplastics, essential oils and fuels like biodiesel and biogas which leads to environmental protection. Methods of extracting total dietary fibre and its conversion to soluble and insoluble from fruits and vegetable waste were explained. Effective utilisation of food waste in power generation was explained in detail. She also threw light on how to segregate kitchen waste and how to reduce its generation and how it can be managed. Utilisation of fruit & vegetable waste, coffee by-products, tea waste, cocoa fruit processing and waste were explained in further few slides. She then explained about Collagen in meat and its Enzymatic processing and use of collagen in food industries. Different microbial sources of collagenases were discussed. Also how the Chitooligosaccharides (COS)- Crustacean shell waste can be used as nutraceuticals was discussed. She also explained how enzymatic processing of mussel shells can be used to produce biorenewable calcium carbonate which are used in cements and mortars to catalyse. Bioprocessing in the sea food sector includes synthesis of PUFA enriched fish oil using microbial lipases. Production of Fish silage as poultry feed. In the subsequent slides she explained the framework of food waste collection and recycling of food waste valorization in Hong Kong.



Proposed framework of food waste collection and recycling for food waste valorization in Hong Kong

Lastly she discussed the challenges faced on Valorization of food waste i.e use of cost effective technologies etc and then ended with answering a few questions.

12:15-1

Subtheme - Responsible Consumption and Production.

Topic -Food Recovery to Feed the Hungry

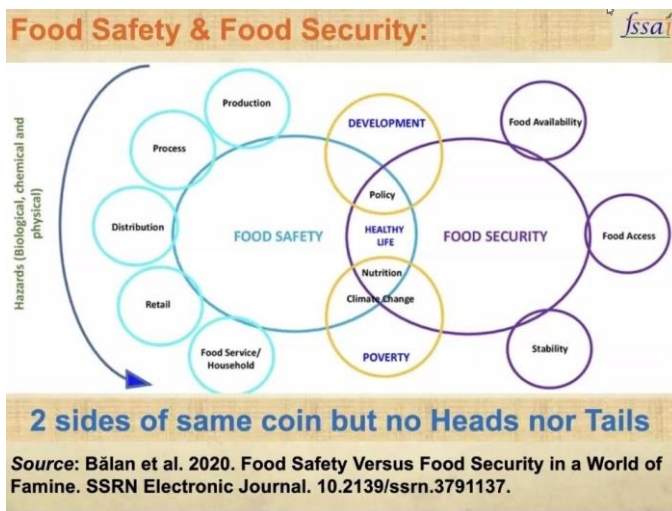
Speaker - Dr. Sanu Jacob

Regional Director Southern Regional Office,

Food Safety and Standards Authority of India (FSSAI), Chennai.



The session started with the introduction of the speaker by Ms. Shama Chavan. After the introduction, **Dr. Sanu Jacob** begins his section on Restoring Food to Feed the Hungry. At first, he glanced at the term "FOOD". It comes from the Old English word *Foda* which means "FUEL". It literally means material containing nutritive and non-nutritional components which, once ingested, provide energy for work. Sir then explained the definition of food under the FSSA (Food Safety and Standards Act). He explains how food safety and food security go hand in hand.



Various aspects affect food safety today such as allergens, GMOs, adulteration, hygiene, etc. also explained in detail. Food security depends on food availability, access to food, food utilisation and food stability. He then talks about food loss, food waste, and the difference between the two terms.

Food loss is reduced in quantity and quality of food in agricultural operations that are normally inaccessible to consumers while food waste is based on choice and it is an act of gross negligence. He further explains that about a 1/3rd of food products are wasted or lost.

Then, he proceeded to explain why the prevention of food waste is necessary, who is to blame for it. He also shed some light on the food production scenario of the grains such as rice, wheat etc. Food wastage can be prevented by good agricultural practices, good manufacturing practices, by following the HACCP and so on.

He then talked about the features of the Food safety and standards act 2006 and who are covered under it. He also highlighted the standards and regulations framework, which included food authority, central advisory committee, scientific committee and scientific panels.

Eat Safe

Safe Food 'not safe' is not food

- Personal/surrounding hygiene
- Hygiene/sanitation in food value chain
- Combating adulteration
- Eliminate toxic residues in food
- Prevent hazards of used cooking oil

Swachhata Hi Seva
14th September to 1st October 2018

Eat Healthy

Diets not only for the palate, but for body and mind

- Balanced diet: less and timely
- Diet diversification - eat variety
- Eliminate industrial trans-fats
- Reduce salt, sugar and saturated fats
- Eat fortified staples

POSHAN Abhiyaan
PM's Overarching Scheme for Healthy Nutrition
सही भोजन - बेहतर जीवन

Eat Sustainable

Sustainable Diets good for both people and planet

- Eat local and seasonal
- No food waste
- Reduce, recycle plastics
- Conserve water in food processing
- Reduce chemicals in food chain

JAL SHAKTI ABHIYAN
संश्लेषण, संरक्षण, सुरक्षा

'सही भोजन, बेहतर जीवन' | 'Right Food, Better Life'

He also mentioned that FSS (Recovery and Distribution of Surplus food) Regulation, 2019 is the key point here. He also enlightened us on how the FSSAI is involved in improving the health of India through the EAT RIGHT INDIA initiative whose main motto is to leave no one behind. The three pillars of ERI are eat safe, eat healthy, eat sustainable. It also involves fortification of various foods and food products. By following the UN-SDGs they hope to achieve their sustainable development goals of ‘Agenda 2030’

Lastly due to time constraints there were no questions asked.

2:00-2:45



Dr S Kowsalya

Subtheme : Quality Education - Panel Discussion

Topic : Integrating Mindful Eating in Curriculum - Begin Early

Speaker : Dr. S. Kowsalya

Professor & Registrar, Department of Food Science and Nutrition, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore

	
	
Dr. S. Kowsalya	
Qualifications: <ul style="list-style-type: none"> Ph.D in Food Science and Nutrition 	
Current Designation: <ul style="list-style-type: none"> Professor & Registrar, Department of Food Science and Nutrition, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore Joint Secretary at National level in Nutrition Society of India 	
Fields of interest: <ul style="list-style-type: none"> Nutraceuticals, Nutritional biochemistry, Micronutrient availability, Community Nutrition, Nutrigenomics and Nanotechnology 	
<ul style="list-style-type: none"> Technical Advisory Committee(TAC) member in NEHS-6 Technical Expert Group Member in National Programme on Climate Change & Human Health (NPKCHH), Govt. Core Committee Expert of UGC Learning Outcome Based Curriculum Framework (LOCF) for Home Science in 2020 Has 3 patents published on "Micronutrient Rich Biscuit Sports Nutribar and probiotic complementary food" She has received around 15 Awards for Teaching and Research Best Teacher Award by CIL Tamil Nadu Scientist Award (IANSa) in Social Sciences received from Hon'ble CM of Tamil Nadu on Dec. 2018 10th Dr. Rajammal P.Devadas Memorial Award at 51st Annual National Conference of NSI P.K.D as Memorial Award (Life Sciences) in Education from Neluru Group of Institutions 	
Number of paper publications: 86	
Number of books/chapters: 13	

Dr. S. Kowsalya was introduced by Ms. Komal Mehta.

Dr. S. Kowsalya talked about the need for integration of Mindful eating - Current scenario. She began with a briefing on the 17 Nutrition and the Sustainable development goals. Followed by she talked about Global Nutrition Report on year 2022 wherein it was found it that Africa and Asia bear the greatest share of all forms of malnutrition

She emphasised on the idea that mindfulness can be a form of meditation and a design to help us recognize and cope with our emotions. She discussed the factors like various eating disorders and their impact on mindful eating. Disorders like Anorexia Nervosa, Bulimia Nervosa and PICA were discussed briefly

Dr. S. Kowsalya also mentioned the approach to include in the Curriculum such as mindfulness approaches that can be an effective tool in the treatment of unfavourable behaviours such as emotional eating and binge eating that can lead to weight gain and obesity.



The Curriculum That Needs to be Encouraged			
Age Groups	Learning Outcomes	Content Outline	Methods for Education
Pre-Primary (3-5years)	<ol style="list-style-type: none"> 1. Identifies everyday food to keep oneself healthy and strong 2. Demonstrates personal hygiene habits to stay clean 	<ol style="list-style-type: none"> 1. Differentiate between healthy and unhealthy foods 2. Every day and regular good habits for personal hygiene. 	Picture Book, Rhymes and/or Songs
Primary Stage (Classes 1-5)	<ol style="list-style-type: none"> 1. Identifies different food types to keep healthy and strong 2. Demonstrates personal hygiene habits to stay clean 3. Explains the role of bacteria in spread of food infections 	<ol style="list-style-type: none"> 1. Why do we need food? 2. Sources of food 3. Healthy and Unhealthy food <p>Health and Hygiene Keeping oneself healthy (exercise, yoga, sleep, healthy food)</p>	Games, Picture Book, Quizzes



Age Groups	Learning Outcomes	Content Outline	Methods for Education
Upper Primary Stage (Classes 6-8)	<ol style="list-style-type: none"> 1. Explains nutritional needs of children 2. Demonstrates healthy nutritional and hygienic practices 3. Accesses youth friendly services (YFS) 4. Follows the schedule of ongoing Government programmes 	<ol style="list-style-type: none"> 1. Nutritional needs, including micronutrients 2. Access to healthy and locally available foods 3. Healthy preparation and eating practices (Balanced diet) 4. Malnutrition (including under nutrition, over nutrition, anorexia, bulimia) 5. Anaemia and related Government programs: WIFS and de-worming (NDD), Swatch Bharat 6. Sanitation and hygiene 7. Food facts and fallacies 8. Nutritional discrimination 9. Access to youth friendly services 	Recipe demonstrations or contests, Developing/adopting Comics or cartoons, Exposure visits to Adolescent Friendly Health Centre (AFHCs) and Nutritional Rehabilitation Centre (NRC)



2:45-3.15

Sub theme - Quality Education - Panel Discussion

Topic : Consumer Friendly Label Sensitivity

Speaker- Dr. Sheetal Gupta

Joint Director Western Regional Office,

Food Safety and Standards Authority of India (FSSAI), Mumbai

The session started with the introduction of the speaker by Ms. Vijaya Nayak. After the introduction, Dr. Sheetal Gupta begins her section while giving an overview of Food Safety Standards and Display Regulations, its salient features, labelling requirements. Then she gave the objective of the Food Safety Standards Act being established which is to ensure availability of safe and Wholesome food. She then explained why it is necessary to pack food and label them as it is a legal requirement and which helps the consumer to make informed choices. Ma'am then explained in what ways labelling helps it enable FBO to communicate, for Regulators to verify compliances and for consumers to make accurate choices (healthy and informed).

Then Ma'am mentioned about the FSS act under Regulation and relationship Section 23, that no label shall be false or have misleading information on it. She further proceeded by explaining what is a label that is any tag, brand, mark or pictorial representation. She then mentioned about the Act responsible for the same which is the ; Primary labelling regulations under FSS Act - 2006 it was Food Safety and Standards (Packaging and Labelling) Regulations, 2011 which was further divided into two i.e Food Safety and Standards (Packaging) Regulations, 2018 which was notified 24th Dec 2018 and the latest Food Safety and Standards (Labelling and Display) Regulations, 2020 and this was notified on 17th Nov 2020.

She briefly discussed the salient features of food labels and also defined packaged, pre packaged, retail packagings, non retail packagings, assorted packs and multi unit packs. The speaker then explained the prerequisites of labelling and the dimensions of a label.

Furthermore, a variety of logos were spoken about such as vegetarian food logo , updated non vegetarian logo, fssai logo and licence number, fortified foods, radura, organic and also for food materials sold which are not meant for human consumption. The labelling norms according to the FSS regulations 2020 were discussed.

The speaker then explained in depth about the labelling requirements of a retail pack which included

list of ingredients, nutritional information, food additives, lot/code/batch identification, net quantity, retail price and consumer care details, brand information, manufacturing date (also time in case of packed meals served in airways/railways/mobile catering), instructions for use and mention of food allergens. She then discussed the mandatory regulations for packaged food and concluded with an overview summary of food label requirements.

3:15-4:00



Discussion

Topic : Nutrition Communication through Social Media

Speaker : Luke Coutinho

Holistic Lifestyle Coach, Chief Mentor, Lifeness Science Institute, Mumbai.

The session started with the introduction of the speaker by Luke Coutinho. After an introduction Dr. Neha Sanwalka started the session by asking a few questions for the Lifestyle coach Luke Coutinho. He further discussed how social media should be used and how it will help in educating people who are in need.

Questions like how social media reflects false information which states that ‘Urad dal rich in Vitamin B12?’, nutrition trends that need to be cautioned and much more were asked by Dr. Neha Sanwalka and were further discussed by Sir Luke Coutinho. He further added that clinical condition advice should not be given through social media, adding with an example where in diabetes, a diabetic person should not be given beetroot juice which will lead to spike in his/her blood glucose levels. He added that there are many Nutrition trends which go on like Keto Diet which is doctor prescribed diet and Low Carb Diet. Audiences can be educated on constipation, protein deficiency, Malnutrition and also about allergy of foods. He suggested Instagram, Facebook, Twitter are the social media apps which will help in sharing proper information to people at the same time. He concluded with the session that one should be good for revenue, feel good and comfortable, or appreciation from audiences.

The sessions from both the days were insightful. We are grateful to our college, Nirmala Niketan for organising such informative webinars. Also thanks to NSI, Mumbai for arranging and collaborating.