

International Conference on

“ANTHROPOLOGY OF FOOD AND HEALTH”

27th to 29th February, 2020

Conference Report- Summary

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Introduction

This report summarizes the experience of the international Conference on “*ANTHROPOLOGY OF FOOD AND HEALTH*”, convened by the Department of Anthropology, University of Delhi, in the university campus during 27th to 29th February, 2020.

The conference brought together over 250 participant and 122 speakers from more than 6 countries of Asia, Australia and North America including India representing government agencies, research institutes, universities and academia, private sector, civil society etc. Apart from this there were 28 poster presentations as well.

Day 1

Inaugural session

The conference begin with auspicious lighting of the lamp by the Chairperson of conference and Head of the Department Prof. P. C. Joshi, Co-chairperson Prof. M. P. Sachdeva, Chief guest Dr. Rakesh Sarwal, Guest of honour Prof. Bhushan Patwardhan, Convener Dr. R. P. Mitra and Co-convenor Dr. Benrithung Murry.

The Inaugural session begin with the address of the **Chairperson Prof. P.C. Joshi**. He introduced the chief guest, Guest of honour and Special invitees- Prof. R.K Mutatkar, Prof. Frederick Coolidge, Paula Griffith, Dr. Tulsi Ram Bhandari, Dr. Raibul Chaudhary, Former faculties of the Department- I.S. Marwah, S.C. Tiwari, S.L. Malik, Prof. Surya Prakash, Prof. V.R. Rao. He talked about the department's achievements and foundation, research grants, fellowships and research projects. He further put forward the importance of this conference by highlighting how non-communicable diseases are replacing communicable diseases as major killers of humans in today's time. Lifestyle changes have led to an increased burden of various CVD and other disorders. In terms of lifestyle changes, changes in food habits of the people have an impact on overall health of people. **He emphasized that strong deliberation ahead will bring important solution and recommendations.**

After that, the **Organizing Secretary** of the Conference, **Dr. K.N Saraswathy** welcomed all the guests and invited speakers and presenters and former faculty. She begin her talk by stating that, Anthropology is the study of humans at both biological and cultural levels. Nutrition is one of the important environmental variable which dictates health of an individual. **For a biological scientist nutrition is just a fuel of the body but for an anthropologist it is more than that, so we tried to use the words ‘food’ instead of nutrition in this conference.**

The next speaker was the co-chairperson- **Prof. M.P Sachdeva** who stated that, the way we cook and consume food is a reflection of our social and biological heritage united from our ancestor. There is an unending debate on vegetarian and non-vegetarian diet. The human gut is very much similar to monkeys and apes. This shows that our diet should be similar to them. He also talked about “What is the psychology behind monk's food”. **He concluded by stating that there are many issues of anthropological interest in this theme which will be discussed in this conference.**

Next speech was by the special invitee **Prof. R.K Mutatkar**. He congratulated the department of Anthropology for organising this conference on food and health. He stated that anthropology has theoretical and methodological capability to discuss all aspects from cultural, social, biological, philosophical, political, economical issue at all periods of history by providing insights for macro level policies and micro level implementation combining the emic and etic perspectives. On this occasion, **he**

released a book “ **Anthropological paradigms for policy and practice**” which provides perspectives and case studies about practicing anthropology mainly in the areas of health and disease control, rural and tribal development and interaction with the vulnerable sectors.

The guest of honour **Dr. Bhushan Patwardhan** stated that food, Anthropology and health are interconnected to each other. He stated his experience of living in a village for 2 weeks with Prof. Mutatkar and he found that there is science behind laboratories in everything. The term evidence based medicine is continuously evolving and what we believe yesterday will get changed. Eating too much of ghee earlier was considered bad for health but it is beneficial. Market plays an important role in design and availability of a food product. When we talk about determinants of health, it is a social problem than a medical problem. Among core determinants 3 are in our hand- nutrition, environment and lifestyle. Fourth one is genetic. Medical care is the support system of the core determinants. Each diet is different for different people. In the last, **he concluded by stating that now a days there is a new science now called as Ayur- genomics.**

The Chief guest of the conference, **Prof. Rakesh Sarwal** talked about the food and thoughts as the connection between panchmaha bodha and our inner soul. According to him food helps us in connecting with the environment. In his talk, he also tried to connect the food with ayurveda. He stated that it is very apt conference, as India is facing very large nutritional challenges this time. The global community has ranked malnutrition as biggest developmental challenges. Health is critical and food is key ingredient to build it. What we eat, how much we eat, with whom we eat, how we chew our food, faith in the food, joy of taking food and what time we eat, genetics of food all are importance. Translation of this knowledge should be done in an order to improve the situation. **Thus, building a centre for communication program for disseminating knowledge on food and health is important.**

The key note speaker of the conference **Dr. Narendra Kumar Arora** talked on Food environment and nutrition: Anthropological perspective. He stated that there is a global burden of disease all our the world. The food choices of individuals are influenced by the complex processes and interactions between biology, socio-cultural practices, and economy and health status. The policies made by various departments and ministries targeted at food have not impacted people as expected. Very less research has been done on food environment and factors operating at different levels. Till now only 9% papers were from low and middle income countries and from India only 3 papers. **He stated that food alone will not improve nutrition; sufficient energy expenditure for growth is required in face of improving food consumption and availability.**



SESSION-I: Food and Disease

The inaugural session, was followed by the first session of the conference themed food and disease. The session was **Chaired by Prof. P. C. Joshi** and **Co-chaired by Dr. Avitoli Zhimo**.

Prof. Frederick L. Coolidge, highlighted increased meat consumption in ancient hominins which began over 3 million years ago resulted in shorter guts. And this change in diet led to steady development of bigger brains. He questioned what could be the reason for shorter guts besides meatier diet among the early hominins? One reason he thinks is the diversity of '*gut flora*' which was present in hominin's large and small intestines, mouth, skin, urinary tracts and genital areas. He used the term '*microbiome*', to refer to all the bacterial microorganisms and their genomes. Environment still plays a major role in an individual's gut flora diversity. He concluded that raw food doesn't activate enough gut flora to digest food compared to cooked food.

Prof. Paula Griffiths, talked about her ongoing project which connects Kenya and Ghana. Prof. Paula and her team used participatory photography, a method also known as *Photo voice*, over three cities (Nairobi, Accra and Ho) in Kenya and Ghana. The participants were asked to take photographs of places they eat or things which influence healthy/unhealthy eating and asked how the photos draw meaning to them using in-depth interview follow-up. Prof. Paula concluded her talk by saying that poor hygiene, sanitation, and food adulteration are the main challenges of low income families alongside unhealthy diets which are associated with NCDs.

Dr. Thingnganing Longvah, began by pointing out the diversity of Northeast Indian culture and its food traditions, habits and food options. He pointed out that the biodiversity in the northeast region is having a positive impact in its commerce as well as healthy well-being of the people. This is reflected in the strikingly much better nutritional status, lower prevalence of NCDs among the Chakhesangs (a tribal group of the Nagas) as compared to the rest of India. He reported the prevalence of anemia among the Chakhesangs is 26% in Boys and 39% in girls, which are comparatively much lower than the national prevalence. Dr. Longvah emphasized on the preservation of the indigenous food system.



SESSION-II: Genes, Nutrition and Disease

In this session, there were three invited speakers Prof Shantanu Sengupta, Prof Manju Puri and Dr Manoj Kumar. The session was **Chaired by Dr. T. S. Rao** and **Co-Chaired by Dr. Gagandeep Kaur Walia**.

First invited speaker was **Prof. Shantanu Sengupta**. He presented his work on “Understanding the Lipid Paradox in India through High Content Lipid Analysis”. He started his talk about Coronary Artery Disease (CAD) as spreading worldwide issue and is the major cause of mortality. India will be the capital of CAD in the world because 60% of CAD patients will suffer from India by 2030. CAD has both genetic and environmental factors. He told about the direct association of vitamin B12 deficiency with CAD. He further talked about the PPR alpha and hyper methylation in PPR alpha which causes low gene expression. There were different classes of lipid species which were found to be altered in CAD patient.

Second invited speaker was **Manju Puri** whose title was “Indiscriminate use of Folate among Women of Reproductive Age Group: Time to Revisit”. She pointed out that in India 12.5 times higher dose of folic acid is given to the pregnant women than what is recommended by WHO (0.4mg/day). She further explained excess of un-metabolized folic acid result in altered transcription and gene regulation. The replete stores of folic acid are unable to reduce homocysteine level and may lead to significant preterm abortion. She explained about the metabolism of folate is affected by the genes of one carbon metabolic pathway (i.e. MTHFR C677T). She also discussed the high- dosage of folic acid in Indian scenario can drastically affect the health of child in future.

Third invited speaker was **Manoj Kumar** and his title was “determinants of Childhood Obesity: An Imperative for preventing Childhood Obesity & Chronic Diseases in India”. He has discussed that there is increase in practice of intaking fast/processed food among children. Also, there is increase in intake of sugars and fat in last two decades. 80-85% normal children have fatty liver of age group 5-10years. He further said that children are overweight/obese due to availability of ready to eat food, less cooked food due to time constrained mother, no physical activity and peer pressure in school. Nowadays, there is acceptance of “unhealthy” food behaviour which is declining the healthy lifestyle of children and increasing the risks of diseases which are associated with high fat, sugar and processed food.

SESSION-III: Food and Culture

The session was **Chaired by Prof. R.K. Mutatkar** and **Co- Chaired by Dr. M Kennedy Singh** and addressed by three speakers; Prof. Thomas Reuter, Prof. Subhadra Mitra Channa and Prof. Sanjay Chaturvedi.

Prof. Thomas Reuter discussed about crisis that smaller domestic rice farmers of Indonesia are facing due to Indonesian governmental interventions to lower the prices of rice. He pointed out that the government of Indonesia is of the view that by increasing the capital investments, new technology and better market access will help in reducing the food crisis. However, this only lead to a growth of corporate land holdings and the decisions are purely profit oriented productions. The alternative approach which is shared among small-farmers organisations, NGOs and ethnographic researchers tend towards solutions grounded in local knowledge, traditional farming, and local systems of distribution and consumption.

Prof. Subhadra Mitra Channa talked about how cultures vary considerably on what is considered as edible and which ones are considered as non-edible. These beliefs about the merits and demerits on different kinds of food is connected to a way certain culture conceive human body, its composition, physiology and the relationship with the environment. By taking the examples of how the tribal communities in the northeast consume very little milk while in many other states milk and ghee is associated with prosperity, super food and how it symbolises high socio-economic status. The speaker was of the view that “what is food and what is not food” is a cultural interpretation.

Prof. Sanjay Chaturvedi emphasized about the persistence of child malnutrition in India. According to him high levels of under-nutrition in India could be due to the multitasking, time constrained mother. The author is of the view that future researches should quantify the contribution of time limitation of mothers who are closely tied to high workload and time constrained mothers who are engaged in income generating activities and paid labour force without robust institutional support for childcare.

Cultural Programs

In the evening of day one, the Department hosted cultural extravaganza in honor of the conference participants. About 70 students of the department of anthropology participated showcasing an amazing display of the cultural dances and music of different Indian states.



Day 2

On the second day, the 28th February, parallel sessions were held at the department of Anthropology. Across the two parallel sessions, there were 15 invited presentations, 33 research paper presentations, 30 flash presentations and 28 poster presentations on the second day.



SESSION-I: Food and Disease

This session was **Chaired by Dr. P.R. Mondal** and **Co-Chaired by Dr. Shivani Chandel**.

The session started by the lecture of **Prof Surya Prakash**. He discussed his thoughts on Auxology- the study of growth and development and maturity. He highlighted the importance of availability of quality food to maintain the body growth and development. He also present the results of his participation and experience using anthropological techniques in growth and nutritional disorders He recommendad to eat GI Diet -Less is more.

Second speaker **Dr. Harashwardhana** talked about Health and nutritional status of Jaunsari Scheduled Tribe of Jaunsar- Bawar area of Uttarakhand. Through his study he showed that there is a statistically significant association of WHR and BMI with Hypertension. This is in accordance with other studies, which document that WHI and BMI have found equally important indicator to predict the risk of

cardiovascular diseases. It is suggested that WHR has shown better prediction power for cardiovascular disease.

Dr. Suparna Sanyal Mukherjee deliberated on Childhood Malnutrition and its Determinants of the Tribal People: Juxtapoints Health Status. She talked about the Lodha and the Santal tribal children of the Jhal Bhanga village, at Jhargram District, West Bengal, who due to unavailability of required food and nutritional status suffer from malnutrition especially protein calorie malnutrition. While social determinants also coincide and juxtapoints the health status of the tribal children below five years of their age, to annihilate malnutrition from India, to achieve sustainable developmental goals which enhance and foster development of health status of the children in wider aspects, within 2030 the target year.

Dr Vipin Gupta presented his work titled “An Introduction to GaRBH. He In order to the examine metabolomic changes in pregnancy, we are developing a longitudinal birth cohort, i.e. “Gestational Route to Healthy Birth” (GaRBH cohort), in Bikaner, Rajasthan and recruiting pregnant mothers in first trimester and following them in 2nd, 3rd trimesters and at the time of delivery for the recruitment of live births. In GaRBH cohort, we are collecting information on wide range of anthropological, lifestyle, biological, social and economic factors along with biological samples in each trimester and at the time of birth.

Dr. Shobhana Nagar presented her work titled “Assessment of Nutritional Status by Using Anthropometric Variable: A Twin Study”. The present study aimed to investigate the relative contributions of genetics and environmental components in assessing the nutritional and health status by using selected anthropometric measurements. The Anthropometric variables (Height, Weight, MUAC) were measured by standard techniques and BMI was calculated.

Dr. Huidrom Suraj Singh talked about Patterns of Alcohol Consumption and Health. The people of Manipur use yu (fermented rice brew) the local liquor. Alcohol use among youth becomes a serious problem in the state. Data from regional surveys show that the rate of heavy drinking among male current drinkers reached up to 89%. Chronic alcohol consumption is one of the leading health risks and according to WHO, it is world’s third largest risk factor for disease and disability.

Dr. Ahanthem Romita Devi deliberated on Korean Perspective of Manipuri Dishes and Manipuri Perspective of Korean Food. Due to ‘Korean-wave’ phenomena prevalent among the youth of Manipur Korean dishes are well-known among them. ‘Ramen’ and seaweed packaged food are generally popular in Manipur. Some restaurants attempt to offer certain Korean dishes like Bibimbap, Kimbap and so on in Imphal, which is well received by many. The Korean family who is currently residing in the university has the appropriate opinion about these Korean dishes served here and also have given their perspective on Manipuri food which they have tried so far.

Dr. Sonali Walia presented her work titled “A Comparative study of childhood (6-9 years) and adolescent (10-13 years) obesity in North Delhi, India.” By using Percentile the results showed the percentage for obese males in the age group 6-9 years is 15 whereas in females it is 12 and for overweight category the percentage is 3. The reason could be adolescents are getting more conscious of their health whereas in the childhood age group mothers tend to over-feed their children.

Dr. Abhilasha Kapoor talked about Effect of Lifestyle and Dietary Patterns on Type 2 Diabetes Mellitus. Her work highlighted that awareness about diabetes complications and consequent improvement in dietary patterns and lifestyle lead to better control of disease. The health care providers should encourage patients to understand the importance of diet and lifestyle, which may help in disease management.

Flash presentations:

First flash presentation was given by **Ksh Beliya Luxmi Devi** on the topic “Association of Rice consumption and Risk of Pre Diabetic and Diabetic among the Meiteis of Manipur”. She recommended that people should eat mixed white rice in order to reduce the risk of type 2 diabetes. Similar studies from different part of the world have also proven that the intake of white rice increase the risk of Type 2 diabetes.

Next speaker **Chetti Srinivas** talked on “Nutritional Status and Physical Growth among Kotia Tribal Adolescence in Visakhapatnam District of Andhra Pradesh”. He showed that the overall prevalence of underweight was 53.21% and normal 45.04%.

Viserano Peseyie discussed A Prospective Study of Body Mass Index and Blood Pressure among Adult Angami Nagas in Nagaland, India. The present study revealed that disregard of the difference of BMI in the individuals, the high prevalence of prehypertension and hypertension of both SBP and DBP among both male and female were seen. This indicates the need for further intervention on the rising risk of developing hypertension for the well-being of the population.

Zenia Thangjam presented the work titled “Assessment of Nutritional Status and Psychosocial Well Being: A Comparative Study between Meitei Orphan and Non-Orphan Girls”. The findings indicated that although the orphan girls were meeting the basic needs of food and shelter but their psychosocial requirements perhaps remained unaddressed.

Astha Ranjan spoke on ‘Genetics of Lung Function in Indian Population: A Validation Study’. It was found that out of 7 selected SNPs, only rs2865531 (CFDP1) was found to be significantly associated with forced expiratory volume in first second among females ($\beta=0.068$; $p=0.026$) and among the total population ($\beta=0.064$; $p=0.027$). The same SNP was also found to be significantly associated with forced vital capacity ($\beta=0.074$; $p=0.047$) among females of the study population.

Varhlunchhungi talked on association of ACE I/D polymorphism with Hypertension among two tribes of Manipur. The present aimed to understand the association between ACEI/D polymorphism with hypertension among the two tribes. The observed differential association of ACE I/D polymorphism with hypertension in both the tribal populations highlight that hypertension is complex disorder and the importance of population based genetic study to understand complex disorder like hypertension.

Imnameren Longkumer discussed the Association of Healthy Lifestyle Index with hypertension. His study showed that middle and high HLI significant reduced risk for hypertension [0.66 (0.47–0.93) and 0.49 (0.36–0.68), respectively (p -trend <0.05)]. The study highlights the significance of greater adherence to healthy lifestyle and reduced risk for hypertension.

SESSION-II: Food and Disease

The session was **Chaired by Prof. Paula Griffiths** and **Co-Chaired by Dr. Rupak Mukhopadhyay**.

The session started with the talk of **Dr. Tulsi Ram Bhandari**. He presented his work on “Household Food Security and Nutritional Status of Under-Five-Year Children in Syangja, of Nepal”. His work highlighted that more half (52.3%) of the households were found food insecurity which was associated with the socioeconomic status of the family. Prevalence of stunting, underweight and wasting in children were 28.7%, 20.0%, and 13.9% respectively. The conclusion was that the food insecurity and under-five year malnutrition were high in the study areas. The improvement of education, occupation and economic condition of the family may be a wayout to of the problem.

Next speaker **Dr. Suparna Ghosh-Jerath** discussed about Indigenous Food Systems to Address Food Insecurity and Undernutrition in Vulnerable Tribal Communities of Jharkhand, India. The indigenous foods study intends to develop feasible strategy for engagement with local indigenous tribal communities

to generate evidence about indigenous food resources. Four tribal groups of Jharkhand, India, namely Santhal, Ho, Munda and Sauria Paharia (a particularly vulnerable tribal group) will be studied as part of this study.

Dr. Seema Puri discussed on the topic Nutrition Transition, Ageing and Longevity. She argued that epidemiological research on diet and health associations reveal that the influence of food and beverages on human health is not all related to their role as a source of nutrients. Consumption of specific foods may also have a beneficial effect on health e.g. whole grains, vegetables and fruits, fish, green tea, red wine, turmeric and so on.

Dr. Himesh Barman presented his work on “Nutritional Status of School-going Children and Adolescents in Shillong”. A total of 4434 Children were Screened from Age group of 6 years to 18 years. 72 % of Children were normal. Overweight and obesity was seen in 6.3 %, thinness in 27% and stunting in 28.9%. There was significant between government and private schools in terms of prevalence of overweight-obesity (4.6% vs 6.9%), Stunting (35.8% vs 26.1%) and thinness (20.4% vs 23.5%).

SESSION-III: Genes, Nutrition and Disease

The session was **Chaired by Prof. M. P. Sachdeva** and **Co-Chaired by Dr. Vipin Gupta**.

The session started with a lecture by **Dr. Madhu Bala Singh**. She delivered her talk on “Malnutrition, dietary intake and co-morbidities among elderly population of desert area of Rajasthan”. She talked about the assessment of Mini Nutritional status, co-morbidities and dietary intake among elderly population of desert area of Rajasthan. Her study highlighted that the elderly population suffered from high risk of malnutrition, deficit of fibres, Vitamin C, Folate, Beta Carotene, Energy, Zinc, Vitamin 6 and Niacin in their diet along with diabetes mellitus.

The second talk was delivered by **Dr. Gagandeep Kaur Walia**. She talked about the causal relationship among cardio metabolic traits using Mendelian Randomization approach. The Mendelian randomization analyses was conducted on 4900 individuals (2450 sib-pairs) from the Indian Migration Study utilizing the available genotypic data for 35 glycemic and 9 lipid loci. Her findings suggested that triglycerides may casually impact various glycemic traits.

The next talk was given by **Dr. Sudipta Ghosh** who had talked about the association of blood pressure with body composition in two geographically and genetically diverse adult populations, i.e. Santhal, an indigenous group from India and Chuvash, an indigenous population from Russia. In addition, her paper also attempts to identify environment factors that contribute to this association.

The next talk was delivered by **Dr. Somorjit Singh Ningombam**. He delivered his talk on “Genetic Epidemiology of Obesity: a cross-sectional study among the tribal population of Manipur”. The focus of the paper presented was to understand the genetic polymorphisms of FTO *rs9939609*, MC4R *rs17782313*, ACE I/D, MTHFR C677T in the causation of obesity among Liangmai and Mizo tribal populations of Manipur. The paper emphasized on the importance of gene-gene interactions in understanding complex phenotype like obesity.

The last lecture of the session was delivered by **Dr. Masan Kambo Newmei**. He delivered his talk on “Role of MTHFR *rs1801131* variants in dyslipidemia among women with bad obstetric history: a study among the Liangmai tribal women of Manipur”. The study aimed to understand the association between bad obstetric history (BOH) and genetic variants MTHFR *rs1801131* with dyslipidemia independently and also in combination.

SESSION-IV: Food and Disease

The session was **Chaired by Prof. S.L. Malik** and **Co-Chaired by Dr. Astha Bansal**.

The first speaker of the session was **Prof. Roumi Deb**. She talked about how Nutrition of the mother highly influences the health of the baby in general and also could be risk factor for development of Neural tube defects (NTD) in fetal. The aim of her study to find out the association of mother nutrition (case and control) such as type of water, milk and vegetables with NTD. Through her study it was found that there was significance difference between the mother of case and control with the respect to maternal age, type of drinking water and consumption of milk.

Next speaker, **Dr. Priya Krishnan** talked about factors influencing nutrition Knowledge and practices during Pregnancy-An Exploratory study from districts in South and North India. She highlighted how mother's knowledge about nutrition and practices during pregnancy is a key determinant of new born health particularly in regards to birth weight.

Dr. Sanjenbam Yaiphaba Meitei deliberated on the topic food habits and fatness among the adolescents of Manipur. He pointed out that unhealthy food are taking over due to commercialization of junk food. Adolescent especially have become a victim of complex disorder due to unhealthy food consumption.

Next speaker **Dr. Kumud kushwaha** presented her study titled an epidemiological study of Malnutrition among Tribal Women Aged 25-40 Years in Malkangiri District, Odisha. According to her Indian Women aged 15-49 are more susceptible and prone to Anemia due to malnutrition, poor socio economic status. This condition has given rise to pregnancy complication, labor pain leading to high infant mortality rate.

Dr. Ratika Samtani deliberated on the topic endocrine disturbing chemicals and cancer. She talked about the alarming increase rate of endocrine- related disorders in humans due to presence of endocrine disrupting chemicals (EDCs) for the past ten years. According to her study EDCs were mainly used as Pesticides by Agricultural Dominant Group.

Flash presentation:

Moajungla Longkumer presented her tak on traditional fermented food and metabolic syndrome: A study among the AoNagas of Nagaland in which she talked about how fermented food is socially and culturally accepted food items in the local cuisines and its impact on health.

Next presenter **Khuno Samson khiamniungan** talked on food consumption and nutrient intake among Khamniungan tribal children and adolescents of Nagaland, India. The results of his study show that although cereals and millets are consumed in an adequate amount, the consumption of other food groups was inadequate.

Bombey Kumari presented her work titled partial Remission of Type 2 Diabetes Mellitus with Hypocaloric Diet in Indian Patient: 2 years follow up. She presented reports highlighting that by cutting down calorie intake to 800 - 1000 kcal, one can achieve good glycemic control.

Manisha Ghritlahre deliberated on the topic Assessment of Nutritional Profile by using Composite Index of Anthropometric Failure among 2-5 years children of Bilaspur, Chhattisgarh. The speaker suggested that policymakers should identify community or area where most of the children are experiencing the single, double and multiple failures by using CIAF and allot resources to those areas.

Thangjam Chitralekha Devi talked about prevalence and risk factors associated with preterm birth in India. She highlighted that inadequate antenatal care, anaemia, low socioeconomic status, prior preterm birth, infections during pregnancy, and advance maternal age are the potential risk factors of PTB among the Indian population.

Last speaker **Sunanda Rajkumari** presented her work titled association Between Hypertension and Obesity: A Study among Two Mendelian Populations of India. She talked about the association between hypertension and obesity and their contribution in terms of potential morbidity and mortality.

Parallel SESSION-I: Food and Culture

The session was **chaired by Prof. Mayanglambam Manibabu** and **Co-Chair: Dr. Manoj Kumar Singh**. In this session there were total ten presenters - one invited speaker, six presenters and three flash presenters.

The invited speaker **Mr. Rabiul Awal Chowdhury** address on the topic Diet and Nutrition for better Health: Fiasco without cultural acceptance. He explained about Cultural groups markedly differ from one another in many of their beliefs and practices related to food. Foodstuffs which are eaten in one society or group are rigorously forbidden in another (*halal/haram-food\value?*). He express his views on Nutrition Intervention cultural acceptance along with Health issue food cultural experience as his concluding remarks as Malnutrition, stunting, wasting, obesity and any NCDs or any other health issues related with food intake must considered food as a cultural experience.

Next presentation was delivered by **Mr. Ahemed Shibly**, his topic was- A study of Consumer's attitude on food ordering mobile applications in Sri Lanka: A case study of Kandy Municipality. He started his talks about brief introduction about popular online food application in Sri Lanka. His objective of the research was to explore popular online food ordering application also to investigate the customer attitude towards usage of online food ordering apps located in Kandy municipality. Then he explained his research problems like since it is a new phenomenon in Sri Lanka, an initial study should be done to identify the consumer attitudes towards food ordering through mobile App which can be useful for consumers, restaurants, business vendors, application developers and entrepreneurs.

Third speaker was **Dr. Samitha Udyanga**, his topic was on the topic – Reclaiming the rights people to healthy and culturally appropriate food. He mainly focused on the concept of 'food sovereignty'. He explained 6 principles of food sovereignty which are Focus on food for people 2. Values food provider's 3. Localize food system 4. Put control locally 5. Builds knowledge 6. Works with nature.

Forth presenter was **Prof. Swapan kumar Kolay**, and addressed on the topic- Utilization of important ethno- medicine plants among Tribes among community in Baster District of Chhattisgarh, India. He has explained about the project which was done by state government to collect data regarding practice of use of ethno medicinal plants and there importance. He also explained the example of Baigas/Guinias and about their traditional knowledge of using plants as a healing material.

Next speaker **Dr. Jyotsnamayee Nanda** discussed on the topic - Food and Culture of Paudi Bhuiyans - A Move from Microcosm to Macrocism. The aim of the talk was to know about the traditional food habits of Paudi Bhuiyans of Angul district and to assess the changing food behaviour and perception of Paudi Bhuiyans towards the transformation in food habits.

Dr. Nandini Ganguly spoke on documentation of dietary pattern among a group of young girls inhabiting the state of West Bengal, India. Dr. Ganguly started with the point that currently people are changing their diets from grains to animal and more sugar added product especially in urban area. It is found that in the span of 24 hours food frequency was of 46 food items. Mainly cereals, breads, vegetable, and fish on daily basis are used. Few of them consumed fruits, milk and green leafy vegetables regularly. Fast food was also common in snacks. Daily consumption was less than recommended level as a result 20% of the participants have eating disorders.

Dr. Indrani Mukharjee deliberated on Happy fridge- how is it? She gave a brief introduction on her topic one third of all food produced gets lost or goes to waste, that's enough to feed all of the world's hunger four times over. NGO's 'Feeding India', is working towards reducing households waste by providing community refrigerators known as 'happy fridge.' It works on the principle that good Samaritans leave food and fruits in the refrigerators and anymore in need can immediately and anonymously access this food. Photographic Documentation used on this research.

Flash Presentation:

First flash presentation was given by **Rupali Sehgal** on the topic Culture and Food System in Folksongs of Punjab. According to her Food is also interwoven with gender, sexuality, and class. She discussed physical properties of food having masculine, feminine connotations.

Ayushi Malhotra talked on declining traditional food Systems – A holistic study of cultural change among the Gaddis of Himachal Pradesh. She highlighted that because of many government development plans Gaddi culture is changing.

Ram Prasad Dhakal discussed on the topic - Factors associated with minimum acceptable diet among children of Age 6-23 Months in province one, Nepal. He started that the Province 1 government should launch intervention programme for children of less educated father, residing in Terai region.

Parallel SESSION-II: Food and Culture

The session was **chaired by Prof. Thomas Reuter** and **Co-Chair: Dr. Twinkle Pal**.

The first speaker **Dr. Shalina Mehta** spoke about the Massai food, culture, dietary habits, issues of their displacement and their homeland. Maasai's are semi-nomadic pastoral tribe; their population is around 1.8 million, mainly concentrated in the northern, central and southern Kenya and some parts of Tanzania, East Africa.. Dr. Shalina says there is no history of heart attack or blood pressure problem among the Massai's who are living there near Amboseli national park. A Maasai museum has been also opened by the non-profit organization *My chosen vessels*.

The second speaker **Dr. Kumkum Srivastava** compared Jalaluddin Rumi, a 14th century Sufi saint and Levi-Strauss's postulates on food, how the raw is transformed through cooking. According to the Levi-Strauss food preparation is a form of language which shows structure of a society, where cooking transforms food from nature to culture. Jalaluddin said "I was raw, now I am cooked and burnt", the essence of these three are; if you are separate, you are raw. If you join together with existence, you are cooked and if you disappear absolutely, without leaving shadow of the ego, then you are burnt. When you are burnt, what left is ashes and it should be with you, whatever is left.

The third speaker **Dr. Raakhi Mehra** talked about the Yogic diet and its importance and consequences of not following yogic diet. She mentioned the quotes from '*Upnishadas*' about the herbs and plants which are important parts of diets. The success in the yogic practices the choice of food is important, if a person starts yogic practices then he should have control on diets otherwise he will suffer from many diseases. The yogic diet is also associated with mental peace; it brings harmony in one's mind. She explained the five elements of the universe and physical, social, mental and spiritual wellness which comes through the disciplined lifestyle.

Parallel SESSION-III: Food and Culture

The session was **chaired by Prof. Venkata Rao Ponnada** and **Co-Chair: Dr. Kalindi Sharma**.

The first presenter of the session was **Prof Mayanglambam ManiBabu**. The title of his presentation was semiotic of Meitei foodways: Issues with symbolism. In his presentation, he discussed how food is not just tied with biological needs but also has cultural meaning to it. Then he proceeded to the perspectives of semiotics on food. In the presentation, he attempts to outline the symbolic manifestation of Meitei food items (side dishes), prepared and consumed during the ritual and festival feasting. He also tried to address the issues of the translation of food-related codes and practices among the Meitei.

The second presentation was by **Prof. A. Chellaperumal**. The topic of his presentation was cultural, ecology and changing patterns of food habits among the Irulas of Coimbatore region of western ghats,

south India. He started his presentation with the introduction of Irulas and their geographical locations in the Western Ghats of south India with the reference to their food habits, food taboos and the changes that have taken place in these realms with special reference to their food taboos. He also elaborated on the structural and functional aspects of food in relation to the Irulas society and culture.

The third presentation was by **Dr. Mitashree Srivastava** and her presentation topic was the relevance of food in Buddhist economy: food for livelihood or food for thought. In her presentation, she discussed how do Buddhist nuns engage in the preparation of food in nunneries? What constitutes an authentic Buddhist diet and how the market culture promotes it. She also discussed how important this is a component in Buddhist economy in monasteries and markets. In conclusion, she explains that the food economy of Buddhists as food is not just a means of livelihood and sustenance but is also necessary as 'food for thoughts'.

The first flash presentation was given by **Ms Priyanaka**, she talked about how food security laws are being implemented in India. The paper's main focus was on the operational and strategic aspect of the public distribution system and its implications on the National food security act.

The second flash presentation by **Ms Rachna Atri** focuses on the BARFA's ban on Indian chillies and other vegetables. She discussed how this ban was interpreted by the people and how they acted upon it. Through the case study method she concluded that BARFA'S strategy of banning the vegetables with pesticide residue resulted in increased awareness and sense of pride about the local food production.

The third flash presentation by **Mr. Gret Gulshan** on changing agricultural practices at Mainpat showed how Tibetans are using their indigenous knowledge of agriculture to survive through climate change.

The fourth flash presentation was given by **Ms. Himanshu Gautam** on the topic Food, Spirit Possession and Ritual Healing. in her presentation she talked about the notion of food, food taboos surrounding the whole spirit possession and healing processes. She explained what is considered bad and good food in different cultures.

The last flash presentation was given by **Ms. Sentijungla** on food sustenance among a deaf community in Meghalaya. Her presentation explored the predominantly practiced agriculture, the associated rules and land use pattern. She concluded that the income produced by selling the cash crops is meager and barely enough to sustain the family let apart affording a nutritional diet.

Parallel SESSION-IV: Food and Health

The session was **chaired by Prof. M.P. Sachdeva** and **Co-Chair: Dr. Mitashree Srivastava**

First speaker **Prof. Papa Rao** discussed his work Nutritional epidemiology: Research methods and relevance. His study was mainly based on secondary data where he explained the aims of epidemiology. He explained the two types of nutrient models pertaining to the nutritional diseases. He also mentioned about the hierarchy of nutritional designs. He then, explained the four types of nutritional assessment (anthropometry, clinical examination, dietary assessment and biochemical) and dietary assessment methods (dietary recall, food records, food frequency questionnaire and validity of dietary data). He concluded that by refining the study techniques and continuing to work on well designed studies across variety of population will help people live longer and healthier lives.

Dr. Juhi Gogoi Konwar present her study titled 'What to eat and what not: Understanding of food prohibition and prescription in pregnancy and post partum healing in Assamese society.' Her study area was in the rural area of Jorhat district, upper Assam. She talked about the culturally influenced food adjustment in pregnant and post partum. She mainly talked on "khar" that a pregnant woman has to avoid. It was believed to bring unwanted pregnancies and abortion. She mentioned other fruits to be avoided as well during the first trimester. She also talks about the food items to be given to the mother after delivery.

She concluded that consumption of herbs and seasonal fruits has positive impact on the new mother according to an old lady.

Dr. Oinam Hemlata Devi talked about Changing perspective of food habits: Politics of food culture in the ecology of North Eastern India. She first explained the meaning and dimension on food and food ways. Food culture and food politics is a way of understanding the relationship between nature and culture. She talks about rituals and taboos, when to use, how to use, why to use, manners, meaning, etc. She also bring notices into North East food joints in Delhi where local becomes metro, national as well as global and global becoming local.

Dr. P. Venkatramana deliberated on Changing scenario of health: from chronic energy deficiency to obesity. His study area was among Sugali and Yanadi of Andhra Pradesh which was studied in two phase (2002 and 2019). In first phase he found the prevalence of CED in both the population. In the second phase the prevalence of obesity was found to be increased in both the population. In this phase, substantial number of individuals with hypertension was found from Sugali tribe. He concluded that with increasing urbanization, mechanization of jobs and transportation, availability of fast foods and dependence on television for leisure, obesity and associated chronic health problems are increasing rapidly.

Dr. K. Anil Kumar talked about Indigenous knowledge and consumption of food from forest by the tribes of Andhra Pradesh. He discusses about the indigenous knowledge forest foods and consumption by the tribes of Andhra Pradesh. The tribes of Andhra Pradesh relied on forest and shifting cultivation. For everyday consumption they use to collect edible plants from the forest. They identify and consume varieties of tubers, mushrooms, roots, etc. His study revealed that the tribes under study have in-depth knowledge of forest foods, availability, location, preservation, taboos, etc.

Flash Presentation

Henry Konjingbam presented a study conducted from five valley districts of Manipur among the female populations of Meitei, Manipur. He observed that *vata-kapha* Prakriti individuals consume more meat and oil rich food, and also larger amount of water as compared to other Prakriti body types. Pitta Prakriti individuals consumed more vegetables; while Kapha Prakriti individuals consumed more cereal products, *vatta-pitta*. Kapha Prakriti consumes more fruits and boiled foods and *pitta-kapha* Prakriti has more tendency of consuming salt-rich foods than the others.

Rita Taid presented a study conducted in the urban district of Kamrup metro Guwahati, Assam. She talked about perceptions regarding menopause, prevalence of menopausal symptoms and association of family environmental factors with menopause. She reported that it was necessary to critically introspects health needs of post-menopausal women and that specific components can be incorporated in the national health programmes.

Brindhya T. Sachdanandam talked about the functional aspects of genealogical trope in narrativizing, documenting and marketing communal nurtured food recipes. She further stressed that a food memoir helps a writer in not only establishing a genealogical link with his/her ancestors at genetic and communal level but also helps in marketing the same to develop as an authenticated source material for further studies on food related research.

Apoorva Sharma gave a presentation on nutritional assessment among the Brahmin community of Thalan village of Uttarkashi district of Uttarakhand. She observed that the energy intake value of the people of the village was slightly lower than the recommended values and most of the energy was contributed by the carbohydrates and proteins.

Khangenbam Taibanganba Meitei presented on. He found that the overall prevalence of depression among Meitei women is comparatively high than other studies conducted in different parts of India. He

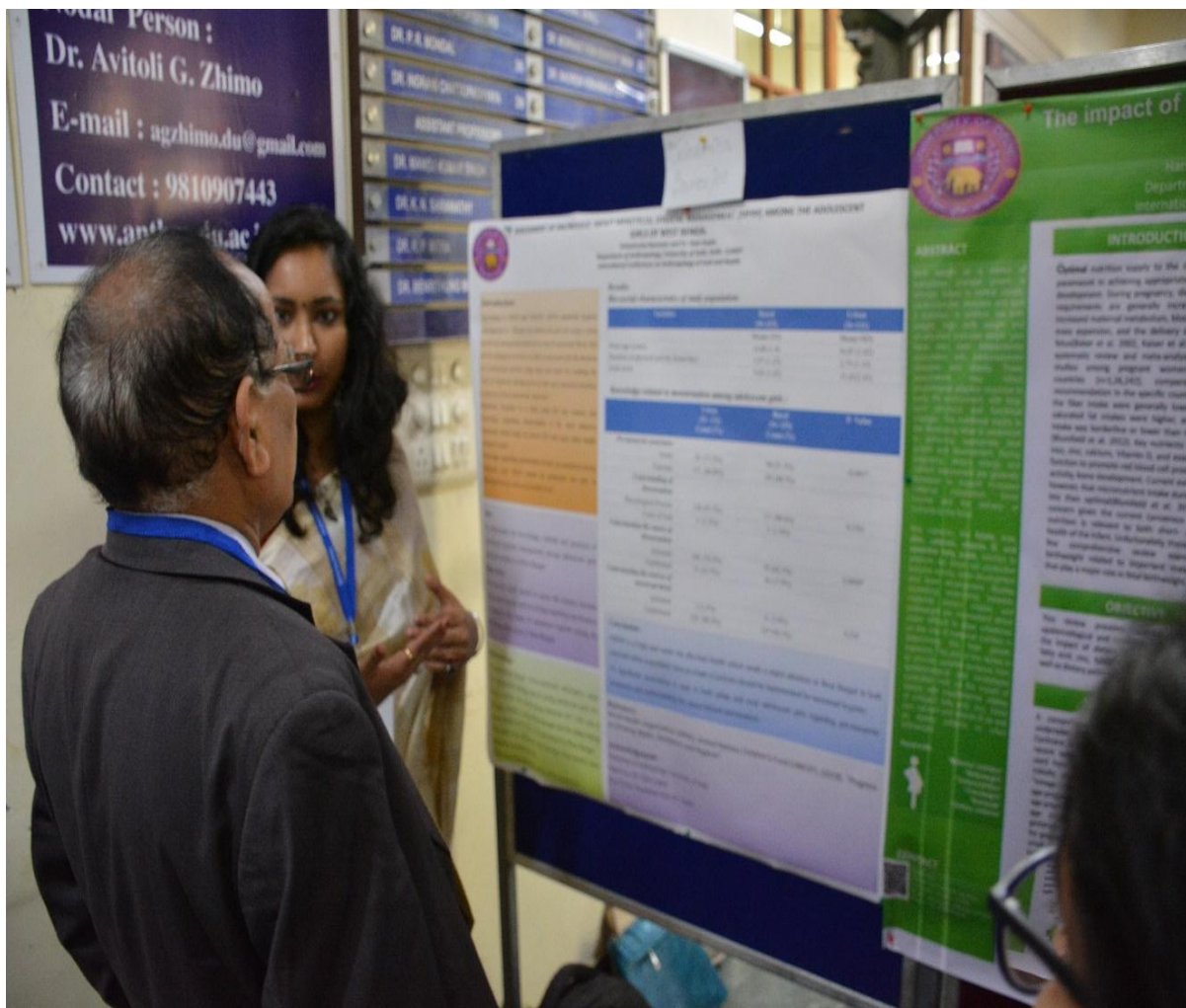
suggested that further research should be conducted in larger sample size so as to give awareness regarding the importance of mental health.

Drabita Dutta presented on. The results of her study reveal that the lack of an institutional support at the artisan's level also confines the prevalence for upgrading in technology, housing and amenities and developing some insurance against trade and health risks.

Shagufta Naaz Ansari study among the Ramgarhia Sikh community demonstrated that spirituality was linked with a better quality of life and better mental health status. Spirituality was found to be a associated reduced risk of depression and anxiety disorder.

Poster Presentation

A total of 28 posters were presented on various topics revolving around the Anthropology of Food and Health



Day 3

The sessions were held in the department of environmental studies with parallel sessions running in the department of anthropology. Five subthemes of the conference namely, Biotechnology in Food Production and processing; Food and Culture; Food and Disease; Food and Health; and Food Industry, Globalization and Market; were covered today in quick sessions. Altogether, we had 13 invited presentations, 8 research paper presentations and 14 flash presentations.



SESSION-I: Biotechnology in Food Production and Processing

The session was **Chaired by Prof. Frederick Coolidge** and **Co-Chaired: Dr. Ratika Samtani** and addressed by Dr. S.R. Rao, Prof. Jaishri Jethwaney, Dr. Ng. Iboyaima Singh and Prof. Jaishri Jethwaney

Dr. S. R. Rao discussed on “biotechnology in food production and processing perspectives of biology, technology, market policy and society”. He explained food production needs to be increased by 71% in 2050. Biotechnology of food involves genetically modified (GM) animals, plants, plays important roles in processing and packaging of food. Examples are BT cotton and golden rice with high vitamin A carotenoids contents. Quality of perception of the food needs to be looked upon. India Safety Assessment cleared several foods but government of India is not accepting GM food due to political reasons. In present situation, the anthropologists are now trying to enter the debate, about food and technology relations-opportunities for scientific research, policy makings and regulations.

Second speaker **Prof. Prabhakaran Dorairaj** talked about chronic diseases in India. He pointed out that top 5 leading NCDs are Cardiovascular disease (CVD), Cancers, Respiratory diseases, Diabetes and Mental health disorders. The Risk factors are tobacco, unhealthy diet, physical inactivity, alcohol and air pollution. The website “3 FOUR 50” reported 3 risk determinants stands for tobacco, unhealthy diet, physical activity resulting in 4 diseases resulting in 50% of death worldwide. Evidence of preventive potential of policy interventions are available from Mauritius (price of edible oils), Poland (Import of F-V and Healthy fats), Finland (Farming, Marketing, Community education). New initiatives include food labelling, reduced salt in processed food, ban on trans fats, advertising restrictions, taxes on SSB. A Trans disciplinary approach framework needs to be looked upon for reducing gaps in prevention and treatment of chronic diseases.

Next speaker **Dr. Ng. Iboyaima** Singh deliberated on safe food processing for health and wellness. He raised issues related to the food are quantity, quality, nutrition and safety. 2,500 additives are allowed in foods which have contaminants, adulterants and so on which led to unsafe food. He pointed out that four main steps of food safety are- Clean (wash hands and surfaces), Separate (Don't cross contaminate), Cook (right temperature) and Chill (Refrigerate promptly). He further explained that free radicals cause aging and many other diseases, nutraceutical and anti-oxidants destroy the free radicals. Organic food, functional food, probiotic, energy boosting food and holistic diets leads to wellness. The mandate of CFTRI is to find innovative solutions to India agricultural and nutritional challenges, develop products to make Indian agriculture productive, efficient and at consumer level replace drugs with foods promoting better health and wellness.

The last speaker of the session **Prof. Jaishri Jethwaney** discussed about “Obesity and malnutrition- Role and impact of media among children and youth”. She highlighted that media plays a big role in persuading people especially children. CEO of one food chain said that they have to create a lot of stimuli for consumers through online or SMS. According to her the reason for increased consumption of junk foods by children are because of fast pace of life, working parents. Also, free delivery made by various restaurants or weekly offers of buy one get one free all adds up to the above reason. The author suggested that educating younger generation, providing health alternatives and putting moral pressure on fast food chains in order to innovate healthy food, sensitizing media.

SESSION-II: Food and Culture

The second session was **Chaired by Prof. I.S. Marwah** and **Co-Chaired: Dr. Urfat Anjam Mir** and addressed by Prof. Nita Mathur, Prof. M.C. Arun Kumar, Dr. K.K. Ganguly and Mrs. N.V. Sathyasree

The first speaker **Prof. Nita Mathur** talked on cultural theory of food. The talk proposed the complexities of relationship between food and culture where she explained how food is grounded firmly in the everyday life of Tamil Brahmin community living in Delhi. The notion of food is related to the notion of the body. The concept of purity of food still defines their social orientation. Milk and curd are supposed to quieten the mind while tendency to eat non-vegetarian food show an inclination to criminal activities. Cultural theory of food is not only about purity and pollution anymore, now the concern is gradually shifting to the concept of health and well-being. People now prefer to eat what is good for their health while still managing a balance between their food related tradition and well-being.

Prof. M.C. Arun Kumar spoke on the “Cultural history of Meitei food: Ngari, Laddu, Gol gappa”. He emphasized that food is considered as identity marker, a cultural object transmitted from generation to generation. While analyzing the food as an item of cultural history among Meitei, three spaces were identified: Domestic Routine, Religious and Social Spaces. Over period of times, there has been exchange of food items across these spaces. In the recent days, because of various social factors, two processes around food take place in Meitei society: first, searching of national/international market for Meitei

traditional food; second, advent of food items of other cultures. In these processes, attempts are made to make Ngari (fermented fish) universalized on one hand, and on the other, Gol Gappa is becoming an item sold like hotcake as part of snacks in Manipur.

Dr. K.K. Ganguly deliberated on adolescent girls perception and awareness about food habits and factors inhibiting healthy food choices living in urban and peri urban area of Delhi. The study shows that the consumption of unhealthy foods is widely prevalent (more than 95%) among adolescent girls. Children know full well that the food is not healthy but they take it as it is tasty. The unhealthy food is also a quick fix solution for those parents who cannot give lunch to the kids in time for school. To combat this unhealthy situation, there is a need of strong social mobilization by state machinery and familial intervention for the right choice of food.

Mrs. N.V. Sathyasree talk mainly encompassed the disappearance and near extinction of some of the native vegetables from the states of Andhra Pradesh and Telangana. It describes how the culinary culture has transformed, taken a new shape due to the bombardment of hybrid and genetically modified varieties. It also dealt with the new types of health related ailments that are cropping up in the present generation due to non-consumption of local varieties which are said to have medicinal/curative properties for many diseases. The talk highlighted the need to preserve heirloom crops as they have many healthy features and ensure future food security.

SESSION-III: Food and Disease

The session was chaired by **Prof. V.R. Rao** and co-chaired by **Dr. Huidrom Suraj Singh**. The session was addressed by invited speakers Prof. V. R. Ponnada, oral presenters: Dr. M. Kennedy Singh, Dr. Nongthombam Achoubi Devi and Dr. Twinkle Pal and six flash presenters participated.

Prof. V. R. Ponnada presented his work entitled ‘Trajectories of food and nutrition in tribal areas: with special reference to Andhra Pradesh and Telangana, India’. He talked about PVTGs, nutrition in Andhra Pradesh and Telangana, how marginalization and agro-forest based economy was being affected by deforestation of timber and other plantations. He also discussed about the ill effects of malnutrition and how it was more prominent during the summer and rainy seasons among tribal population. He talked about the cultural practices among the tribes, which leads to deprivation of food among females (sexual differentiation in nutrition) because of food scarcity. He pointed out that there was hardly any data on diseases, surveys were season dependent and also that budget allocation points out underutilization of resources/ funds, which effects the subsequent years as well.

Dr. M. Kennedy Singh, spoke on the topic “Food, Well-being and Society”. He talked about the anthropological knowledge and perspective of food; consume as an art, consume as a way of social life, some kind of offering or give. He mentioned food as a part of identity, as a part of Medicine. He talked about social life of food like, how food culture transmitted to the next generation, functional value of food and symbolic value of food also. He mentioned about the Play “Kaithen Kabi”, in which a child is introduced to edible food via play and riddles, such as leaf, bark, shoot, etc. He mentioned about importance of combination of food and also about forest god festival, “Maiwi” dance and “Kaksing”. He ended his talk emphasizing on rituals and practices related to food.

The next presenter, **Dr. Nongthombam Achoubi Devi**, talked about the ‘Prevalence of lifestyle diseases among the Meitei women of Imphal, Manipur’. She introduces lifestyle diseases and focused on obesity and type-2-diabetes (T2D). She mentioned how earlier women used to be lean and thin because they did physical activity as compared to present day, where most of the women were obese, largely due to sedentary lifestyle. She discussed her results and suggested that consumption of healthy food and regular physical activity might help in preventing obesity and T2D.

The last presenter of oral presentations, **Dr. Twinkle Pal** talked about ‘Pregnancy and food taboos’. Giving her own example, she talked about how food was the basis of code of conduct and power dynamics in a family structure. She told us that food is also a source of enquiry because of its symbolism. She gave examples from different populations of the world, where gender was defined on the basis of food. She also mentioned that certain types of food which were prohibited during pregnancy were considered to be good for the fetus. During pregnancy, extreme hot or cold or gaseous food items (such as milk) are not allowed as it is believed that the womb is full of blood and heat, so it could lead to abortion of the unborn child. She also mentioned that the age of conception was directly linked to infant mortality.

Flash presentations:

Firstly, **Mr. B. Surajkumar Sharma** presented his work on ‘Sources of drinking water and infectious disease among the lake dwellers of Manipur’. He talked about the importance of safe and readily availability of water in maintaining public health. He showed through his work that the nature of treatment of drinking water i.e. how the water was treated before it could become drinkable, was significant.

The second presenter, **Ms. Lannaime** talked about the ‘Anthropological approach to study of diabetes’. She found that diabetes was more prevalent with increasing age and also that a person’s palm prints could also help in understanding diabetes.

The third presenter, **Ms. Khushbu Kumari** presented her work entitled ‘Nutritional anemia in thalassemia carrier: A twin health problem among Bhanushali community of Gujarat, India’. She told us that β -thalassemia was higher among anemic population compared to Hb D Punjab and females were significantly more anemic when compared to males. She suggested that there is an urgent requirement of awareness about the abnormal haemoglobin and anemia.

The next presenter, **Mr. Basant Kumar Bindhani** presented his paper entitled ‘Quality of life among children and adolescents with sickle cell hemoglobinopathy’. He discussed his work done in Koraput district of Odisha and showed that sickle cell disease < sickle cell trait. He concluded that the children with sickle cell trait are expected to be asymptomatic before they are diagnosed and that has an impact on quality of life.

The second last presenter, **Ms. Rakhee Gupta** talked about ‘An idea of food security with a perspective of food patenting and traditional knowledge’. She told us about food patenting and pre and post TRIPS regime in India. She also said that traditional knowledge is essential for a healthy life.

The last presenter, **Ms. Sukhmani Kaur** presented her work entitled ‘Modifiable risk factors of hypertension among Sikh community of Delhi’. She mentioned about the burden of hypertension around the world and in India. She also told that there was a significant burden of hypertension in the studied population.

Parallel SESSION-II: Food and Health

The session was Chair by **Dr. Ravinder Singh** and co-chaired by **Co-Chair: Dr. Dolly Florence**. The session was addressed by four invited speakers Prof. Nandita Babu, Prof. V.R. Rao, Prof. R.K. Dhamija and Dr. Nita Mawar.

Prof. Nandita Babu discussed on ‘Theory of Mind and Autism’. She has started with a brief introduction about Theory of Mind (ToM). It’s usually developed between 3-5 years. Autism is a neurological disorder which is unable to track through genetic marker and other methods. Children with autism spectrum disorder fails to pursue false believe task, theoretical principle of ToM, everyday interactions. She concluded that ToM intervention aimed at training the children with autism in theory of mind have been successful to some extent also strengthen the arguments that ToM develops through the social interactions.

The next invited speaker was **Prof. V.R. Rao** gave an insight on ‘Hereditary Anaemias and Anthropological Challenges in Public Health.’ He pointed out that occurrence of genetic abnormalities like sickle cell, Beta thalassemia and G6PD deficiency is increasing day by day in Indian population. He further described the occurrence of these disease are not only in ST population but also in SC community in India. He majorly focuses on the distribution of those diseases in India and epidemiological burden of it. There are more than three million adolescent cases of sickle cell anemia. But there are no cure for this disease, the life expectancy of those patients is 15 to 20 years. He further described the importance of policy implication in India for this sectors.

The third invited speaker was **Prof. R.K. Dhamija** focused on the food consumption pattern and its relation with heart stroke. It is observed that Micro-nutrients and macronutrients also have an enormous effect in heart-attack. Excessive consumption of red meat, alcohol also has a significant association with it. On the contrary Alternative Healthy Eating Index had a 40% lower odd of stroke compared to others. Nutrition plays an important role for major diseases. Policies and programmes must address the need for change at the individual level as well as the modifications in society and the environment to make healthier choices accessible and preferable.

The last invited speaker **Dr. Nita Mawar** discussed on ‘Ethical Concerns in Biomedical Research and ICMR Guidelines 2017: Sharing Experience from Research Studies’. She described broad aspects of research ethics and how ethical principal are divided in three basic categories: the respect to person, the autonomy and the justice. Guidelines of research should be revised after a certain period of time and it should be implemented though policy also. She also discussed that sensitive issues like sex workers, drug addicts, HIV positive individuals in jails also need very critical and analytical research procedure where research ethics should be a fundamental pillar.

Parallel SESSION-III: Food Industry, Globalization and Market

The session was **chaired by Prof. Roumi Deb** and **co-chaired by Dr. Sanjenbam Yaiphaba Meitei**. The session was addressed by three oral presenters Ms. Sonal Gulati, Ms. Manavi Pant and Dr. Upasona Sarma. Apart from them six flash presenters also delivered their talk.

Ms. Sonal Gulati presented her paper “Evolution of Marketing Strategies and Food quality of Dabur”. She talked about digital marketing and how it has impacted the sales in Dabur company. Dabur has been able to manage its food reputation in the market despite the fact they always use regular customers for their advertisement rather than celebrities. She also highlighted that they have been able to retain their market share and their brand value thorough strong customer connects by personal marketing strategies, content marketing and TV commercials for brand loyalty.

The next presenter, **Ms. Manvi Pant** talked about the “NutriHealth, Ayurveda, Wellness Culture and Branding”. She studied about Dr. Shikha Sharma and her entrepreneurial initiative of NutriHealth. She collected data though interview with the founder, team members and through indirect observation. She discussed her results that NutriHelath initiative is a core business model for delivering services through voice, video and application with domain knowledge and human intervention for diagnosis, empathy and motivation through the principal of Ayurveda on different food types for different body constitution.

Last presenter **Dr. Upasona Sarmah** talked about “Food Choices and preferences among the tribal women of Assam”. In which she talked about food habits, food preferences, choices and restriction of the tribal women during pregnancy and post-natal care. She gave examples from tribes she studied what they do eat and don’t during pregnancy and post-natal. She concluded with this remark that each tribe practice has their unique food habits related to their physical environment. Socio-cultural factors like religion and customs have a significant influence on pregnancy as well as postnatal health care. Her presentation attracted a few questions from the audience, and she responded well to them.

Flash presentations:

Firstly, **Ms. Monica Kulshreshtha**, presented her work on “Prevalence of Eating disorder among Dancers: a study among female Kathak Dancers of Delhi-NCR”. She talked about how there is significant association between various adiposity indicators and eating disorder among Kathak dancers of Delhi-NCR. She concluded her study with suggestion that awareness regarding the recognition and prevention of eating disorders should be created among Kathak dancers.

The second presenter, **Ms. Neha Sikarwar** talked about the “Accomplishing food security through a sustainable food system approach”. She discussed how food system is largely unorganized and highly fragmented. In the end of her presentation, she suggested that respective taxonomy could provide administrative insights about the drafting of robust policy interventions achieving food security.

The third presenter, **Ms. Zoha Ansari** presented her work entitled “Mulberry leaves: potential agricultural waste for Extraction of Nutraceuticals and Bioactive compound”. She discussed that mulberry leaves could be utilized rationally for their dietary properties. She also proposed revalorization of this underutilized plant for the development of nutraceuticals and antioxidants rich mulberry leaf derived product such as teas, beverages, fortified muesli bars, yogurts, etc.

The next presenter, **Ms. P.S. Vaveine Pao** presented his paper entitled “Junk food consumption and menstrual disorders among the poumai students of Manipur”. She discussed that the consumption frequency of junk food and menstrual disorders, Dysmenorrhea, premenstrual syndrome, oligomenorrhea, and Polymenorrhea has association. She concluded that the lifestyle modification of eating habits, decreasing the intake junk food and promoting healthy eating should be emphasized in school health education programs to improve their menstrual health.

Mr. Raj Kumar Singh presented his work entitled “Food Authenticity: An Anthropological Perspective”. He revealed that Tibetan food has become a medium for Tibetan refugees to create new employment opportunities for their community members and to bring across ethnic elements of their culture in local culture. He also told that food becomes a symbol of their entrepreneurship spirit and enhances their ethnic bonds while the market brings just a medium for attaining this.

The last presenter, **Mr. Sanjoy Kumar Chatterjee** talked about “Effects of climate change on Early fossil hominins and wild non-human primates’ dietary evolution and this significance in human health: An anthropological insight”. In his review, he told us about change in environment at regional and global scenario had significant effects on primate evolutionary history as well as in dietary evolution.

Valedictory Ceremony

The valedictory function was held at the Department of Environmental Studies with lightning of lamp by the **Guest of Honor Prof. Papa Rao** and **Chief Guest Prof. Vinay Kumar Srivastava**, Director (Anthropological Survey of India).

