Programme Highlight

Web open	-	11 hr
Welcome	Kunjarani-	11.02 hr
Theme introduction	Muhindro -	11.05 hr
Keynote speech	Jyotiraj -	11.10 hr
Chief Guest speech	Binota -	11.20 hr
President speech	Mangi -	11.27 hr
Technical session - I	11.35 hr - 12.37 hr	
Technical Session - II	12.40 hr - 13.10 hr	
Technical Session - III	13.12 hr - 13.45 hr	
Question Hour	13.50 hr - 14.30 hr	
Closing	14.35 hr.	

Jyotiraj Pathak, (MA, M Phil, Ph. D, PDF) is a Professor, Dean, School of Social Science, & Head, Department of Political Science, Bodoland University Assam, 18 years Teaching Experience, 2 MRP, authored and edited 18 books, 30 papers, 4 M Phil, 7 Ph. D scholars produced, Coordinator of Human Rights Education Programme, NSS programme officer, Editor of Journal JONER. Area of interest: Human Rights, North East Studies and South Asia.
Executive Member of IPSA and vice President of AAPSA

Please click on https://youtu.be/DGT7jwA4eXA

Theme Introduction

L. Muhindro (Moderator)

With the advice of UGC, Women's Studies Section, New Delhi, the college has been organising different programmes under the Women's Studies Centre in relating to COVID pandemic. Of which this webinar is also a part of this programme. In this national webinar on COVID Pandemic: Nutrition, Socio-economic and Sustainable Living, has three sub themes

(i) Nutrition, Health and hygiene
(ii) Environment and sustainable living
(iii) Socio-economic issues related to women

All together 11 papers will be presented on this webinar,
In the first theme, five papers will be presented of which three papers are invited
In the second theme, only three papers including one invited papers will be presented
In the third theme, one invited paper and another two papers will be presented

Eating a healthy diet is very important during the COVID-19 pandemic. What we eat and drink can affect our body's ability to prevent, fight and recover from infections WHO, (2020). Good nutrition is always important, but during this pandemic, it's even more important because a well-balanced diet of nutritious foods helps support a strong immune system. Eat plenty of fruits and vegetables, which are rich in vitamins and minerals as well as fiber (Craig, 2020). Frozen or canned fruits and vegetables also contain vitamins and minerals, although the processing of these products sometimes adds ingredients such as sugar, salt or preservatives.

Effective responses and recovery plans will therefore need to take into account the pandemic's multiple dimensions, as well as its deep roots in environmental stresses and global mobility (Kanae, 2020). The recovery process serves as a critical occasion to materialise much-needed transformative change toward a sustainable society. Some solutions will be needed in the immediate future while others will be important over the longer term.

The emerging ideas for managing nature post Covid-19 take us towards 'Sustainable Development Plus' with 'Safe Living" getting high priority in the core objectives of our development initiatives along-with 'Safe Future' (Jitendra and Rishika, 2020). For the purpose of keeping focus on safe living leading to health security for the people, the principle of sustainable development needs to be strengthened adequately even by adding new management parameters.

While we are facing the pandemic, a new thinking emerges to manage nature and its resources. So far, our policy response to the Covid-19 outbreak has been based on the principle of 'safe living', with precedence on the health and well-being of people. Safe living has been accorded high priority, along with the principle of sustainable development for a 'safe future'. Due to the highly contagious nature of the disease, people have been left with no option but to stay at home and take multiple precautions at a personal level. From disinfecting every single material brought for daily consumption to avoiding social interactions, the situation has been quite stressful. We are facing an extraordinarily tough situation that has compelled us to think how to manage nature and its resources differently to avoid this pandemic. At a time like this, it is imperative to revisit the established principle of sustainability.

In a very flexible way of participation, all the participants can get the benefit of this webinar in a very simple way that they can watch the presentation at any time from 11.00 a.m. onwards on the given link of YouTube, and can interact with WhatsApp group, without any mode of virtual platform like zoom or other else.

WHO, (2020). Healthy At Home: Healthy Diet, retrieved from https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---healthy-diet, accessed on 12 July 2020

Craig Hamilton, (2020). The importance of maintaining a healthy diet during the COVID-19 pandemic, Mount Nittany, retrieved from, https://www.mountnittany.org/articles/the-importance-of-maintaining-a-healthy-diet-during-the-covid-19-pandemic , accessed on 22 July 2020

Kanae Sho (2020). Implications of COVID-19 for the Environment and Sustainability, Institute for Global Environmental Strategies (IGES), retrieved from https://www.iges.or.jp/en/news/20200514 , accessed on 03 July 2020

Jitendra Kumar and Rishika Surya, (2020), Post COVID-19, World Needs Sustainable Development Plus, NITI Aayog, retrieved from https://niti.gov.in/post-covid-19-world-needs-sustainable-development-plus, accessed on 23 July 2020

Technical Session (i) Nutrition, Health and hygiene

Paper – I: Food Hygiene during COVID Pandemic: Some Guidelines

Ch. Ritu Devi
Assistant Professor
Department of Home Science
S. Kula Women's Collage, Nambol

FOOD HYGIENE

Food hygiene is the conditions and measures necessary to ensure the safety of food from production to consumption. Food can become contaminated at any point during slaughtering or harvesting, processing, storage, distribution, transportation and preparation.

Food hygiene, otherwise known as food safety can be defined as handling, preparing and storing food or drink in a way that best reduces the risk of consumers becoming sick from the food-borne diseases. The principles of food safety aim to prevent food from becoming contaminated and causing food poisoning.

Food hygiene –

- All measures necessary to ensure the safety of food
- Protect- from contamination
- Prevent- multiplication of bacteria
- Destroy- by cooking, heating and freezing

IMPORTANCE

Food hygiene is important for the following reasons-

1. If food or drink is not safe to eat, you cannot eat or drink. The easiest example of this is safe drinking water. We would never drink water that did not come from a reputable source. The very same principle applies to food.
2. Everyday people worldwide get sick from the food or drink they consume. Bacteria, virus and parasites found in food can cause food poisoning.
3. There is no immediate way of telling if food is contaminated because you cannot see, taste or smell anything different from the norm.
4. Food poisoning can lead to gastroenteritis and dehydration or potentially even more serious health problems such as kidney failure and death.
5. This risk is especially significant for those in the high risk category – small children/babies, pregnant moms, the elderly and immunocompromised, especially HIV infections and cancer patients.
6. Food hygiene and safety prevent germs from multiplying in foods and reaching dangerous levels.
7. Ensure daily healthy family living.

8. Keeping one healthy and preventing the additional cost of buying medication and medical check-ups. This is especially important in business. Companies worldwide loss Billions of Dollars per year due to staff downtime.
9. Hand washing accounts from 33% of all related food poisoning cases. It is therefore important to maintain good personal hygiene practice. This is something we are taught early in our childhood, yet handwashing is still a critical problem in the kitchen.

SOME GUIDELINES

FRUITS AND VEGETABLES

- Keep fruits and vegetables bought from vendors for 4 hours within the packet itself in an isolated place.
- Wash fruits and vegetables thoroughly with lukewarm water or put a drop of 50 ppm chlorine for fruits and vegetables in warm water and dip the vegetables in it.
- Clean vegetables with potable/clean drinking water.
- Do not use disinfectants, cleaning wipes or soap on fresh produces.Sanitizers are completely not recommended for vegetables and fruits, rather they can be harmful because of the presence of chemicals. Sanitizers are useful only for our hands, body and metal or steel surfaces. Spraying chemicals on vegetables and fruits becomes all the more harmful as it is chemicals being sprayed on things which one will consume.
- Store fruits and vegetables, which require to be refrigerated, in the refrigerator. Keep the rest at room temperature in baskets or racks.

PACKAGED MILK

- Wash the packet thoroughly with water.
- Don't cut the pack immediately. Let the packet dry off otherwise external surface water will also pour into pan.
- Cut the pack, pour milk into a pan and heat to a boil.
- Wash hands after pouring milk into the pan.
- If you take milk from the milkman, check if the milkman is wearing a mask. If not, request him to wear one. Maintain safe distance while receiving milk immediately for at least one minute.

MEAT AND EGGS

- Always clean meat at the end after cleaning of fruits and vegetables etc.
- Use running tap water for proper cleaning.
- Clean drip from meat, pack and refrigerate appropriately.
- Avoid taking broken and damaged eggs.
- You may wash the eggs. Follow these simple instructions. In a bowl, add drinking water that is warmer than the egg (but not hot). Dip the egg into the water and lightly wipe it clean. Rinse the egg under cool drinking water. Gently dry and refrigerate or use immediately. Do keep in mind that eggs have a porous surface. Do not disinfect eggs with antibacterial substances, using any kind of cleaner (bleach etc.) could pose a health risk, as these products can transverse the porous shell of the egg and cause contamination.
- Store eggs at refrigeration temperature.
- Buy eggs as per consumption and try to consume within a week time from purchase.
- Tray used for keeping egg should be periodically cleaned and disinfected.

OTHER FOOD MATERIALS

- Other food items purchased for later use that cannot be washed such as onions, grains, canned foods etc. shall be stored separately for at least 72 hours.
- Consume or cook them only after waiting for 72 hours

PACKED FOOD

- In some cases, washing the surface may not be easy. Try emptying the contents in an appropriate container or storage box. Bread can be put in a bread box.
- Pulses and other such items can also be transferred to containers, after the packet has been wiped clean with soap and water.
- Wash your hands before touching the contents in a packet, while transferring it to a container.

- Dispose all packets in the dustbin and ensure that the dustbin is nowhere in reach of children.

MEDICAL STRIPS

Even medical strips have changed hands multiple times right from packing, procuring, distribution, at the shopkeeper's and then to buyers. There is no evidence of sanitizers working on it but you can always keep them aside for a few hours before opening or consuming it. This will help to prevent COVID-19.

PLASTIC AND NYLON BAGS

- Discard or recycle single-use plastic bags or put away reusable bags and then wash your hands again before touching your face or the food.
- Clean inside and outside of the bag with soapy water and rinse.
- Spray or wipe down the bags inside and out with a bleach solution (sodium hypochlorite, bleaching powder etc.).
- Allow bags to air dry completely before storing and using.

CLOTH BAGS

- Wash in warm water with normal laundry reagent.
- Dry the washed bag with exposure to sun as far as possible.

GENERAL FOOD HYGIENE TIPS

- Wash your hands thoroughly with soap and water for at least 20 seconds before preparing any food.
- Use separate chopping boards to prepare uncooked meat and fish.
- Cook food to the recommended temperature.
- Where possible, keep perishable items refrigerated or frozen and pay attention to product expiry dates.
- Aim to recycle or dispose of food waste and packaging in an appropriate and sanitary manner, avoiding build-up of refuse which could attract pests.
- Wash your hands with soap and water for at least 20 seconds before eating and make sure your children do the same.
- Always use clean utensils and plates.

HOW TO PRACTICE FOOD HYGIENE AT HOME

- Practice good personal hygiene
- Clean utensils and cooking equipment
- Keep foods that need to be kept cold in the fridge
- Separate raw and ready to eat foods
- Wash fruits and vegetables before use
- Use appropriate kitchen tools for food preparation
- Keep dry foods separate from liquids
- Cook food to an appropriate temperature
- Keep insects and pests away from food areas
- Always use clean water to prepare food
- Clean the kitchen and mop the floor after each food preparation
- Keep kitchen towels, sponges and cleaning cloths clean and replace regularly

SOME USEFUL DIETARY AND LIFESTYLE GUIDELINES

1. Follow a healthy diet and make right choices from available sources.
2. Choose to consume local foods, whole grains, fresh and seasonal fruits and vegetables. Ensure that you eat a variety of foods.
3. Choose traditional recipes and methods of preparation.
4. Avoid overeating and undereating. Exercise portion control. Stop eating a little before when you are absolutely full.
5. Limit consumption of highly processed foods (biscuits, cheese, pies, cakes, breakfast cereals etc.) fried foods, sugar, sweetened fruit juices and carbonated drinks, salty snacks etc. as these are high in fat, salt

and sugar and poor in desirable nutrients (vitamins, minerals ,phytonutrients). Thoroughly cooked meat/poultry may be included in moderation if you are non-vegetarian.

6. Avoid fats like vanaspati, lard, shortening and margarine.
7. Get exposure to sunlight for at least 15 minutes per day, preferably from 11a.m. – 1p.m., which would ensure adequate vitamin D status, while taking necessary precautions in time of COVID-19.
8. Keep your body active; keep a check on your weight.
9. Moderate physical activity/yoga will reduce stress and build immunity.
10. Maintain ideal body weight (less than 18.5 BMI is undernourished more than 23/25 is overweight/ obese for an adult) being underweight or excess weight/ obesity – impairs immunity or leads to other disease.
11. Keep your body hydrated with adequate water intake for good immune response to any infection.
12. Smoking and alcohol adversely affect immunity and increase the risk and severity of infections, hence it must be avoided.
13. Seek appropriate medical and nutrition advice from qualified professionals (online/ telephonic consultations).
14. Get adequate sleep every night.
15. Stay connected with family and friends.
16. De-stress and be positive
17. Maintain an overall balance and good lifestyle by exercise, yoga, meditation, good nutrition, sleep and hydration.

WHO GUIDELINES

5 Keys to safer food/ practice good food hygiene

1. Keep clean

- Wash your hands before handling food and often during food preparation
- Wash your hands after going to the toilet
- Wash and sanitize all surfaces and equipment used for food preparation
- Protect kitchen areas and food from insects, pests and other animals

2. Separate raw and cooked

- Separate raw meat, poultry seafood from other foods
- Use separate equipment and utensils such as knives and cutting boards for handling raw foods
- Store food in containers to avoid contact between raw and prepared foods

3. Cook thoroughly

- Cook thoroughly, especially meat, poultry, eggs and seafood
- Bring foods like soups and stews to boiling to make sure that they have reached 70◦ C. For meat and poultry, make sure that juices are clear, not pink. Ideally, use a thermometer
- Reheat cooked food thoroughly

4. Keep at safe temperature

- Do not leave cooked food at room temperature for more than 2 hours
- Refrigerate promptly all cooked and perishable food (preferably below 5◦C)
- Keep cooked food piping hot (more than 60◦C) prior to serving
- Do not store food too long even in the refrigerator
- Do not thaw frozen food at room temperature

5. Use safe water and raw materials

- Use safe water or treat it to make it safe
- Select fresh and wholesome foods
- Choose foods processed for safety, such as pasteurized milk
- Wash fruits and vegetables if eaten raw
- Do not use food beyond its expiry date

CONCLUSION

No reported case of COVID-19 pandemic has been linked to transmission by food. Coronaviruses cannot multiply in non-living things like other viruses – they need a living body as host to multiply and survive. The main risk involved with food is human to human transmission during food handling from close contact with infected food handlers or individuals. There can also be transmission through surface of food and food packaging material containing droplets of corona- infected food handlers. These can be avoided with good hygiene practices.

Food is the basic necessity of an individual and is the fuel for life. It provides energy and helps in developing immunity. Even during these difficult times of the COVID-19 pandemic, food being an essential commodity, was supplied without interruption and will continue to be supplied in the future.

So food businesses and consumers have been advised by FSSAI to take all precautionary measures during this pandemic.

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Paper -2: Maintenance of Health and Well-Being during Covid-19

Soibam Chanu Shreela
Assistant Professor
Department of Home Science
S. Kula Women's Collage, Nambol

The COVID-19 pandemic is causing many changes in every aspect of our lives including the social norms that we took for granted, but there are things that can be done to maintain a healthy lifestyle in these difficult times. Everyone is encouraged to follow WHO guidance and governmental advice to protect from COVID-19 infection and transmission. Physical distancing and good hygiene are the best preventive measure from COVID-19. Good nutrition is very important before, during and after infection. Good exercise, getting good sleep, managing stress and anxiety and maintaining a healthy diet is important part of supporting a strong immune system. This presentation is a brief overview of the physical activity, mental well-being and socially well-being during COVID-19.

Introduction:

Health systems around the world are being challenged by increasing demand for care of people with COVID-19 while trying to maintain the delivery of routine health services. As part of the response to the COVID-19 pandemic, WHO is coordinating efforts across several regions and departments to support countries in ensuring continuity of essential health services across the life course.

It is different to maintain a healthy lifestyle when we are in the middle of a crisis like this. The uncertainty and worries related to finances, childcare, elderly parents, and job security disrupt our routines, our lifestyles and mental health. The uncertainty about the future, the ceaseless news coverage and constant social media driven

flood of messages can increase our sense of anxiety. Stress is a normal response to these types of situations. Stress disturbs our sleeping and eating patterns, leads to irritability or emotional outbursts, low motivation and changes in use of alcohol or other drugs. Please do not hesitate to seek help if you are experiencing anything like this. It is also important to maintain a healthy lifestyle and get back into a routine.

Maintaining healthy body and active lifestyle during COVID-19

The COVID-19 pandemic, many of us are staying at home and sitting down more than we usually do. It's hard for a lot of us to do the sort of exercise but it is very important for people of all ages to be as active as possible. Just taking a short break from sitting, by doing 3-4 minutes of light intensity physical movement, such as walking or stretching will help ease muscles and improve blood circulation and muscle activity. It also improves bone and muscles strength and increases balance, flexibility and fitness. For older people, activities that improve balance, help to prevent falls and injuries. Regular physical activity can help our routine and a way to stay in contact with family and friends. It benefits both physical and mental health during pandemic. Physical activities can reduce high blood pressure, help manage weight and reduce the risk of heart disease, stroke, diabetes, and cancers. It is also good for our mental health- reducing the risk of depression cognitive decline and delays the onset of dementia and improves overall feelings.

Some important routine to maintain good health during COVID-19:

- *Stay active*: The gyms may not be opened however, there are lots of safe alternatives to get physically active. Aerobics can be done successfully at home. Going for a brisk walk or jog outside in uncrowded areas is still considered relatively safe. Push-up, sit-up, jumping-jacks and more exercises are great ways to stay fit away from the gym for more ideas.
- *Adequate sleep*: Good sleep is essential to our overall health. Sleep reduces stress, improve memory, maintain body weight and blood pressure and puts in better mood. While the amount of sleep needed for good health and optimum performance mostly depends on the individual, the CDC (Centers for Disease Control and Prevention) recommends adults age 18 - 60 years get seven or more hours of sleep per night.
- *Diet and nutrition*: Practicing self-discipline and avoiding "emotional eating" due to stress that may be related to the drastic changes surrounding the COVID-19 pandemic and how it affects our lives is imperative. According to the CDC, whole foods like dark green leafy vegetable, oranges and tomatoes- even fresh herbs- are loaded with vitamins, fibre and minerals. Make it a habit to try to eat more whole nutritious foods instead of processed snacks or fast food.

Maintaining mental health and well-being during pandemic

Mental health is essential to our overall well-being and as important as physical health. When we feel mentally well, we can work productively, enjoy our free time, and contribute actively to our communities. As the coronavirus [COVID-19] pandemic sweeps across the world, it is causing widespread concern, fear and stress, all of which are natural and normal reactions to the changing and uncertain situation that everyone finds themselves in. The issue facing each and every one of us is how it manages and reacts to the stressful situation unfolding so rapidly in our lives and communities. Here we can draw on the remarkable powers of strength and cooperation that we also fortunately possess as humans. And that is what we must try to focus on to respond most effectively to this crisis as individuals, family and community members, friends and colleagues.

The coronavirus disease (COVID-19) pandemic may be stressful for people. Fear and anxiety about a new disease and what could happen can be overwhelming and cause strong emotion in adult and children. Public health action, such as social distancing, can make people feel isolated and lonely and can increase stress and anxiety. However, these actions are necessary to reduce the spread of COVID-19. The respond to stress during COVID-19 pandemic can depend on background, social support from family or friends, financial situation, health and emotional background, the community live in and many other factors. The change that can happen because of the COVID-19 pandemic and the ways we try to contain the spread of the virus can affect anyone. Providing social support can also make the community stronger. During times of increased social distancing, people can still maintain social connections and care for their mental health. Phone calls or video chats can help loved ones and feel socially connected less lonely or isolated. Feeling of isolation, depression, anxiety, and other emotional or financial stresses are known to raise the risk for suicide. People may be more likely to experience these feelings during crises like a pandemic. However, there are ways to protect against suicidal thoughts and behaviour. For example support from family and community or feeling connected and having access to in person or virtual counselling or therapy can help with suicidal thought and behaviour particularly during a crisis like the COVID-19 pandemic.

Mental health and well-being is just as important as physical health.

Positive mental health and well-being enables us to function well and have meaningful social connections, positive self-esteem and be better able to cope with life's ups and downs.
Keeping our mind healthy is an important part of our overall health and wellbeing.
A few tips that can help maintain the mental health and well-being:

- Spend time with friends, loved ones and people who trust
- Talk about or express the feeling regularly
- Reduce alcohol consumption
- Avoid illicit drug use
- Keep active and eat well
- Develop new skills and challenge capabilities
- Set realistic goal
- Relax and enjoy hobbies
- Take time out
- Get enough sleep.

Importance of Social support during coronavirus:-

Social contact and social support may help to reduce stress, depression, anxiety and isolation, as well as promote our self-esteem, normality, well-being and quality of life- while lack of social support has the opposite effect. If it is healthy & motivated, there are many ways to get involved in the response to COVID 19.
Here are some suggestions:

1) *Be a force of positive change:*
   This will give a chance to contribute share and avoid feeling helpless when
   the problem due to COVID-19 may seem very large. Practice recommended measure and sanitary behaviours to control the spread of COVID-19. Report if symptoms, or isolate or quarantine if there is a travel history.
2) *Volunteer*:
   In time of COVID-19 pandemic volunteering to help others in greater need provides sense of purpose. Some of the things include online donation for COVID-19 relief, offering to work as a health volunteer and donating blood. Hospitals are currently in need of blood, as many community drives have been cancelled due to social distancing. Be sure to ahead and schedule an appointment and be prepared to answer questions about recent health and travel.
3) *Stay virtually connected with family and friends:*
   When face to face interactions are limited, it may use phone calls, text messages, video chat and social media to access social support networks. If feeling sad or anxious, use these conversations as an opportunity to discuss experience and feelings. Reach out to those who are in a similar situation through whats app groups, facebook groups, etc. However, social media should be used mindfully and with responsibility.
4) *Caregiving [Talking to children about the impact of COVID-19.]:*
   Provide children with accurate, age-appropriate information about COVID-19. For example, what it is, how it is spread, what to do in order to avoid infection with it and what to do if infected. But do not give unnecessary frightening information. Avoid language that might blame others and lead to stigma. Don't make assumptions about who might have COVID-19. Pay attention to what children see or hear on television, radio, or online. Consider reducing the amount of screen time focused on COVID-19. Too much information on one topic can lead to anxiety.
5) *Be kind to others and practice gratitude:*
   Acting with kindness helps people. Being kind to others not only makes them happy but increases happiness as well. Acts of kindness towards others increases positive emotions and decreases negative emotions more than acts of kindness could be writing a letter to a friend, sending artwork to a local nursing home or hospital for patient room, cooking dinner to drop off at a neighbour's house and donating to charity.
6) *Be a positive influence on social media:*
   Share websites and news articles from reputable sources, and do not share articles from questionable sources. If a friend shares something, it believe might be false, ask them for the source of information. This is also a great time to share positive news sources about the good things going on in the world right now.

7) *Reduce screen time:*
Reduce the time spend watching TV or other media. Walk around, talk to someone or read a book. Spending time with screens such watching TV may lead to obesity .Moreover, if watch less TV, it will less likely be bombarded with news or programs that lead to anxiety and fear.

Conclusion:
Some preventive measure from COVID 19:

- Regularly and thoroughly clean hands with an alcohol-based, rub or wash them with soap and water because it kills viruses that may be on hands.
- Maintain at least 1 metre (3 feet) distance between two individual because coughs, sneezes or speaks spray small liquid droplets from mouth which may contain virus.
- Wear a mask when physical distancing is not possible. Mask can help prevent the spread of the virus from the person wearing the mask to others.
- Avoid touching eyes, nose or mouth because hands touch many surfaces and can pick up viruses that can enter and infect the body.
- Follow good respiratory hygiene this means covering mouth and nose with bent elbow or tissue when coughing and sneezing. Dispose the used tissue immediately and wash hands.
- Stay home and self-isolate even with minor symptoms such as cough, headache, mild fever, until it recovers.
- If you have a fever, cough and difficulty breathing, seek medical attention.
- Keep up to date on the latest information from trusted sources, such as WHO or the local and national health authorities are best placed to advice on what people in the area should be doing to protect themselves.

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Paper 3: Nutrition during COVID 19 Pandemic

Dr. L. Sumobala Devi
Assistant Professor
Head of Department Food Tech
S. Kula Women's College, Nambol

In the COVID-19 pandemic, it is incredible to note the efforts put in by one and all to meet the essential requirements. Food, a basic necessity, managed to create the maximum panic as the lockdown was announced. Individuals started rushing to grocery stores, super markets and other such places to indulge in panic buying which to some extent led to the shortage of commonly consumed food items. On the brighter side, this Novel Corona virus Pandemic, also taught us how to survive with limited commodities or prepare a decent meal out of whatever we have got in our kitchens. It is also ironical how this Novel virus brought entire nation on the same scale, with the affluent class struggling to procure the exotic ingredients and the poor struggling to get one meal a day.

The food we eat plays a key aspect in determining our overall health and immunity. Eating a healthy diet is very important during the COVID-19 pandemic. What we eat and drink can affect our body's ability to prevent, fight and recover from infections. While no foods or dietary supplements can prevent or cure COVID-19 infection, healthy diets are important for supporting immune systems. Good nutrition can also reduce the

likelihood of developing other health problems, including obesity, heart disease, diabetes and some types of cancer.

Eat a variety of food, including fruits and vegetables every day:

Eat a mix of whole grains like wheat, maize and rice, legumes like lentils and beans, plenty of fresh fruit and vegetables, with some foods from animal sources (e.g. meat, fish, eggs and milk).Choose wholegrain foods like unprocessed maize, millet, oats, wheat and brown rice; they are rich in valuable fibre and can help you feel full for longer. For snacks, choose raw vegetables, fresh fruit, and unsalted nuts.

Cut back on salt:

Limit intake of to 5 grams (equivalent to a teaspoon) in a day. When cooking and preparing foods, use salt sparingly and reduce use of salty sauces and condiments (like soy sauce, stock or fish sauce). If you are using canned or dried food, choose varieties of vegetables, nuts and fruit, without added salt and sugars. Remove the salt shaker from the table, and experiment with fresh or dried herbs and spices for added flavor instead. Check the labels on food and choose products with lower sodium content.

Eat moderate amounts of fats and oils:

When cooking replaces butter, ghee and lard with healthier fats like olive, sunflower or corn oil. While choosing meat choose white meats like poultry and fish which are generally lower in fats than red meat; trim meat of visible fat and limit the consumption of processed meats. Select low-fat or reduced-fat versions of milk and dairy product. Avoid processed, baked and fried foods that contain industrially produced trans-fat. Try steaming or boiling instead of frying food when cooking.

Limit sugar intake:

Limit intake of sweets and sugary drinks such as fizzy drinks, fruit juices and juice drinks, liquid and powder concentrates, flavoured water, energy and sports drinks, ready-to-drink tea and coffee and flavoured milk drinks. Choose fresh fruits instead of sweet snacks such as cookies, cakes and chocolate. When other dessert options are chosen, ensure that they are low in sugar and consume small portions. Avoid giving sugary foods to children. Salt and sugars should not be added to complementary foods given to children under 2 years of age, and should be limited beyond that age.

Stay hydrated: Drink enough water:

Good hydration is crucial for optimal health. Whenever available and safe for consumption, tap water is the healthiest and cheapest drink. Drinking water instead of sugar-sweetened beverages is a simple way to limit your intake of sugar and excess calories.

Avoid hazardous and harmful alcohol use:

Alcohol is not a part of a healthy diet. Drinking alcohol does not protect against COVID-19 and can be dangerous. Frequent or excessive alcohol consumption increases your immediate risk of injury, as well as causing longer-term effects like liver damage, cancer, heart disease and mental illness. There is no safe level of alcohol consumption.

Breastfeed babies and young children:

Breast milk is the ideal food for infants. It is safe, clean and contains antibodies which help protect against many common childhood illnesses. Babies should be breastfed exclusively during the first 6 months of life, as breast milk provides all the nutrients and fluids they need. From 6 months of age, breast milk should be complemented with a variety of adequate, safe and nutrient-dense foods. Breastfeeding should continue under babies at 2 years of age or beyond.

Women with COVID-19 can breastfeed if they wish to do so and should take infection prevention and control measures.

Boosting Immune System against Corona virus
Improve Your Diet

Eat low carb diets, as this will help control high blood sugar and pressure. A low carb diet will help slow down diabetes and focus on a protein-rich diet to keep you in good shape. And regularly consume vegetables and fruits rich in Beta carotene, Ascorbic acid & other essential vitamins. Certain foods like mushrooms, tomato, bell pepper and green vegetables like broccoli, spinach are also good options to build resilience in the body against infections.

You can also eat supplements rich in omega 3 & 6 fatty acids for your daily dose, if stepping out to buy groceries is not an option during social distancing. Some natural immunity supplements include ginger, gooseberries (amla) and turmeric. Some of these superfoods are common ingredients in Indian dishes and snacks. There are several herbs that help in boosting immunity like garlic, Basel leaves and Black cumin. Certain seeds and nuts like sunflower seeds, Flax seed, pumpkin seeds and melon seeds are excellent sources of protein and vitamin E.

Probiotics like Yoghurt, Yakult and fermented food are also excellent sources to rejuvenate the composition of gut bacteria, which is important for nutrient absorption by the body. These are good options for the older generation too.

Don't Compromise on Sleep

Good snooze time for 7-8 hours is the best way to help your body build immunity; lesser sleep will leave you tired and impair your brain activity. The lack of sleep will prevent the body from resting and this will impair other bodily functions that will have a direct impact on your immunity. Lack of sleep adversely affects the action of the flu vaccine.

Stay Hydrated

Drink up to 8-10 glasses of water every day, to stay hydrated. Hydration will help flush out the toxins from the body and lower the chances of flu. Other alternatives include juices made of citrus fruits and coconut water, to beat the heat.

Don't Skip on Exercise

A good diet should be followed by an exercise routine. Remember to exercise regularly; even light exercise will go a long way in releasing the toxins from your body. It is recommended to exercise for 30 to 45 minutes, depending on your stamina. Regular exercise improves metabolism, which has a direct correlation with body immunity.

Distress Yourself

These are testing times, and a prolonged period of staying indoors has its implications on your mental wellbeing. The growing anxiety around the pandemic is another concern that is affecting millions across the globe. While the uncertainty might be overwhelming, there are few steps we can follow regularly to help relieve our stress, stress is known to have an adverse effect on immunity.

Practice meditation

Too much stress releases the hormone known as cortisol, which impairs your response to immediate surroundings and makes your body susceptible to infections; you are left feeling constantly anxious. The best way to relieve stress is through meditation, it is a tried and tested activity to calm the nerves.

Avoid Smoking, alcohol and other addictive substances

Certain habits like smoking, alcohol consumption and substance abuse have a direct correlation between weakened body defences and respiratory illnesses. Engaging in smoking is proven to weaken your lung capacity and destroy the cells lining your respiratory tracts, these cells are crucial to fight viruses that enter through your nasal orifices. There is new research claiming that individuals who engage in heavy alcohol consumption tend to suffer from ARDS (Acute Respiratory distress syndrome) which is one of the conditions caused by Covid 19 infection. Practice moderation, if you are dependent on any of these, as sudden withdrawal can also prove to be risky.

Travelling

Avoid all kinds of non-essential travels. Most Covid 19 positive cases are imported cases, which later spread to the communities. Avoid being exposed to the public transport system and public places to avoid any likelihood of exposure. In case you have to travel, make sure to cover your nose and mouth with a mask and carry an alcohol-based hand sanitizer, at all times. Remember to sanitize each time you touch a surface, as Covid

19 strain can stay on surfaces for a few hours to days. Use your non-dominant hand while accessing the doorknobs and handles, as these are frequently touched by many people.

Supplements and immunity boosting foods

While all the above-mentioned tips will definitely help, the need of the hour is a quick boost to your immunity system to keep it fighting fit. If you're concerned whether you are getting the right amount of nutrients from your diet, consult with your doctor about a supplementation regimen to boost your immune system. Here are a few common supplements and superfoods that can help.

Vitamin C

This particular vitamin is a crucial participant in the army of immunity. It helps prevent the common cold. It acts as a powerful antioxidant and protects against damage induced by oxidative stress. For severe infections, including sepsis and acute respiratory distress syndrome (ARDS), high dose intravenous vitamin C treatment has been shown to significantly improve symptoms in patients.

Vitamin D

Vitamin D supplements have a mild protective effect against respiratory tract infections. Most people are deficient in Vitamin-D, so it's best to consult with a doctor about taking a Vitamin D supplement to boost immune response.

Zinc

Zinc is a vital component to WBC (white blood corpuscles) which fights infections. Zinc deficiency often makes one more susceptible to flu, cold and other viral infections. It is advisable to take a zinc supplement, especially for older people.

Turmeric and Garlic

Turmeric contains a compound called curcumin, which boosts the immune function. Garlic has powerful anti-inflammatory and antiviral properties which enhances body immunity.

Apart from maintaining a healthy lifestyle and taking supplements, the Indian health ministry is also suggesting few organic and natural ways to practise as preventive measures to fight COVID-19. The Ministry of AYUSH has recommended the following self-care guidelines as preventive measures and to boost immunity with special reference to respiratory health.

- Drink warm water throughout the day.
- Practice Meditation, Yogasana, and Pranayama.
- Increase the intake of Turmeric, Cumin, Coriander and garlic.
- Drink herbal tea or decoction of Holy basil, Cinnamon, Black pepper, Dry Ginger and Raisin.
- Avoid sugar and replace it with jaggery if needed.
- Apply Ghee (clarified butter), Sesame oil, or Coconut oil in both the nostrils to keep the nostrils clean.
- Inhale steam with Mint leaves and Caraway seeds.

Frequently asked question about Covid 19 and Food

Can corona virus spread through food?

- The current outbreak is not spreading through food. Instead, it's spreading from person-to-person through invisible droplets of water that are suspended in the air after someone who is sick sneezes or coughs. Anyone within six feet of an infected person is at risk. The public health officials who track the disease haven't found any examples of someone catching COVID-19 from food. We're still learning about this virus, but it's safe to say the main risk people should be focused on is avoiding contact with an infected person, not food.

What are the best foods to stock up on during an outbreak?

- Foods from grocery stores are safe to eat during the outbreak, including fresh fruits and vegetables. But if you want to minimize trips to the store, you can stock up on healthy staples like beans and chickpeas, frozen or canned fish, frozen or canned fruits and vegetables, and whole grains like oats, brown rice, and whole grain pasta. Be sure to wash your hands with warm water and soap for at least 20 seconds before handling food. Hand washing protects against COVID-19 as well as common foodborne illnesses and other infectious diseases – avoiding unnecessary visits to the doctor for these illnesses will allow healthcare providers to focus more resources on the outbreak!

I've heard about a dietary supplement that is supposed to prevent COVID-19 does it work?

- There is no supplement that can treat or prevent COVID-19.

While the battle against the Covid-19 pandemic is fought by our health care workers, we can do our bit by limiting our exposure to the virus by staying indoors, social distancing, eating healthy, hydrating and following basic hygiene protocol.

[www. Cspinet.org. >covid-19-and- food-frequently-ask-question
http://www.emro.who.int/nutrition/nutrition-infocus/nutrition-advice-for-adults-during-the-covid-19-outbreak.html
https://www.narayanahealth.org/blog/boost-immune-system-against-coronavirus-covid-19-infection/]

Paper 4: Importance of Proper Nutrition and Hygiene for Health during Global Covid-19 Pandemic

Dr. H. Sorojini Devi
Associate professor,
Dept. of Anth, D. M. College of Science,
Dhanamanjuri Univ., Imphal,

Abstract: The mental health and well- being of the human societies have been severely impacted by the crisis of Covid -19 since people all over the world are surrounded by deaths and disease and force to isolation, poverty and anxiety by the pandemic. More than 18.14 million people around the world are reported to have been infected with the disease and 688,080 have died till the end of 3rd August, 2020 according to a Reuters tally. During this crucial point of time, the role of nutrition, and hygiene, are important to prevent from infections, and well-being of health. Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Proper nutrition is an outmost part of life as living cells need nutrients in every single second and as it can fight off against infections and body function properly. The main job of our immune system is to fight against the pathogens or germs that enter our body. Immune system a complex network of cells, tissues and organs to defend against the foreign bodies. Antibodies are secreted into the blood and mucosa, where they bind and inactivate foreign substances such as pathogens and toxins (neutralization). Nutrients help the immune system in several ways, working as antioxidant, protect cells, supporting growth and activity of immune cells and producing antibodies. Epidemiological studies find that poor diets are at greater risk of bacterial, viral and other infections. As nutrition promotes good health, hygiene, simultaneously, help to maintain good health and prevent the spread of diseases. It includes personal habit of choices as how frequently to wash hands, trim fingernails, and wash cloths and make clean utensils, floor, pets, bathrooms etc. The neglect of hygiene can be considered disgusting, disrespectful and threatening. Unhygienic is the root cause of diseases. Micro-organisms are capable of causing diseases or pathogens usually enter our bodies, through the eyes, mouth, or urogenital openings, through wounds or bites that breach the skin barriers by several routes. During this Covid-19 pandemic, the WHO appeals for regular use of facial masks, regular washing hands, use of hand sanitisers, physical and social distancing to maintain environmental hygiene and home stay etc. as preventive measures against this SARS Covid -2 until and unless appropriate vaccine become available.

Introduction

SARS-CoV-2 began spreading in December, 2019 in Wuhan, China and is causing covid- 19 pandemic, which is the most challenging crisis in the history humanity after the Second World War. This crisis is killing people, spreading human sufferings in the form of disease, force psychological distress, isolation and fear about countless deaths of the future. More than 18.14 million people around the world are reported to have been infected with the disease, COVID-19 and 688,080 have died (WHO, 2020). Several issues concerning the origin, time of virus introduction to humans, mutational patterns, and appropriate vaccine yet to be clarified (Wu, 2020). The mental health and well- being of the human societies have been severely impacted

by the crisis of Covid -19 since people all over the world are surrounded by deaths, disease and anxiety due to this pandemic. During this health crisis, attention on proper nutrition and hygiene should be given in order to prevent from the severe respiratory infection and illness of covid-19. Therefore, this paper aims at highlighting the importance of proper nutrition and hygiene for health during global covid-19 pandemic.

Objective

The objective of the paper is to highlight the importance of nutrition and hygiene so as to prevent from covid -19 infection and illness.

Methodology

The source of data of the present study is based on the secondary data such as published books, e-books, journal articles, different websites, encyclopaedia, news articles of Times of India, Hindustan times etc. The search were conducted and retrieved during 5th August-11 August, 2020.

Importance of proper nutrition and hygiene

Nutrition concerns about the foods and their compositions and the ways in which the chemical components of food are made available to the body for its growth, reproduction, maintenance and repair (Collier's encyclopedia, 1959). The term nutrition comes from the Latin root 'Nutr'-meaning to nurture or nourish (Williams, 1990). The term "Food" is the basic unit of all living organisms since the inception of life, on the other hand, "nutrients" are chemical substances that are present in the foods.

Proper nutrition refers "to the daily consumption of the required amount of nutrients in our body". The nutritional status serves as an outlook on the past, present, and future of one's health. It is the condition of health influenced by the utilisation of nutrients ((Srilakshmi, 2004). Proper nutrition is an important part of leading a healthy lifestyle.

Macronutrients and micronutrients

Macronutrients *(proteins, fats and carbohydrates):* **Proteins** are the building blocks of bone, muscles, brain, nervous system, blood, skin and hair etc. The combination of collagen (a kind of protein) and calcium makes bone strong and flexible enough to withstand stress. The main sources of proteins are meats, fishes, eggs, pulses etc. Protein consists of 20 different kinds of amino acids. The daily requirements of proteins for adult male and female are 60g/day and 50 g/day (ICMR, 1994). **Fats** provides as important source of energy as well as cell function and organ protection. Excess fat contribute to obesity and cause various diseases. Sources of fats are animal fats, and vegetables oils. 20g/day is the daily requirement of fat for both adult sexes. **Carbohydrates** are body's preferred source of fuel. It is the most economical form of energy. Main sources of carbohydrates are cereal items and many vegetables. It is easier to convert carbohydrates into immediately usable energy. Just after consuming it is converted into sugar (glucose) and enters into the blood stream, thereafter, used or stored in the cells for use at another time. The nutrients of proteins, fats, and carbohydrates can be converted into kcal energy at the rate of 1g of protein and carbohydrate = 4 kcal and 1 g of fat = 9 k cal as per Gopanlal et al., (2004). The RDA (recommended daily allowance) of various nutrients of different age group children, adult male and female of different physical activity group have been reported by ICMR, 1994 (Indian council of medical research) to meet the daily requirements of the body.

Micronutrients *(vitamins and minerals)*

Vitamins are organic compounds that are essential in very small amounts for supporting normal physiological function. They are required as functional parts of enzymes involved in energy release and storage. The water soluble vitamin B vitamins are involved as co-enzymes in the breakdown of nutrients and in the building of macromolecules, such as protein, RNA and DNA. **Vitamin C** strengthened our immune system, increases iron absorption, and **Vitamin B6** is vital in the bio-chemical reactions in the immune system. Among the fat soluble vitamins, **Vitamin D** is a powerful antioxidant that helps the body to fight off against infections. **Water-soluble vitamins are eight B vitamins and vitamin C** and Fat-soluble vitamins are Vitamins A, D, E, and K. B vitamins are B1 (thiamine), B2 (riboflavin), B3 (niacin), B6 (Pyridoxamine, pyridoxal) B9(Folate, folic acid), B12 (cobalamine) etc.

Minerals are inorganic substances that organisms need to grow, repair tissues, metabolism, and carry out other processes. Minerals perform hundreds of roles in the body. As for example, calcium, not only a composition of bone and teeth, it is required for normal contraction of muscles, heart and limb movements. Sodium and potassium are essential to maintain the osmotic balance of the cell. Iron is also used for formation

of haemoglobin and it carries oxygen. Minerals include iron (28/30mg/day) calcium(400mg/day),copper(23mg/day),sulphur(13mg/day),phosphorus(700mg/day)magnesium(350mg/day),Zinc(8/11 mg/day), sodium (8-10g/day), iodine (100-150mg/day) and potassium. The values given in the parenthesis are daily requirements of minerals.

Hygiene

WHO refers to hygiene as conditions and practices that help to maintain health and prevent the spread of diseases. Hygiene can be viewed from 3 different angles.

1) **Personal hygiene:** The aim of personal hygiene is to promote standards of personal cleanliness, within the setting of the condition where people live. Personal hygiene includes bathing clothing, washing hands and toileting, dental care, care of nails, feet, teeth, spitting, coughing, sneezing, personal appearance etc.
2) **Domestic hygiene:** Domestic hygiene comprises of presence of fresh air, sunlight light, ventilation inside the home, proper storage of food, clean utensils, bathrooms, toys, floor, door, window, every items of household, domestic pets, and avoidance of rats, mice, insects etc.
3) **Community Hygiene:** It includes safe disposal of wastes, control of vectors responsible for transmission of diseases, control of air and water pollution of rivers, lakes and ponds, cleanliness in and around the houses of the community, proper construction of sanitary system with septic tank, management of drainage system.

The neglect of hygiene can be considered disgusting, disrespectful and threatening. Unhygienic place, thing or human can cause chain of infections and diseases since many germs stuck on the unhygienic places. Swachh Bharat Mission is a part of hygiene which was launched by our Prime Minister Narendra Modi for attainment of healthy life of our Nation. Hygiene gives great impact in the socio-economic and demographic life of a group of people. Maintaining hygiene is a determinant of health. It is equally important as proper nutrition for healthy life since many germs such as bacteria and viruses live everywhere, in the air, in the soil, in the water, above the surface etc. and enter into our body when our immune system is weaken down. Immune system is a complex network of cells, tissues and organs that defends against the foreign bodies. Antibodies (kinds of proteins) are secreted by this network, thereafter it enters in to the blood and mucosa and binds the germs to neutralise. Nutrients strengthened the immune system, acts as antioxidant, and protect cells, on the other, proper hygiene can prevent pathogens from entering into the body.

Conclusion

Health is the complete state of physical, mental and social well-being of individuals and not merely the absence of diseases (WHO, 1946). Health is the most important aspect of life. Ill health affects the welfare and economy of the family and of the country. Emerging new strains of viruses, which are deadly to humans give significant threat leading to uncertain future. During this covid-19 pandemic of SARS CoV-2, proper nutrition, hygiene along with Proper use of masks, gloves, physical and social distancing should be taken up with care until and unless an appropriate vaccine become available. Moreover, the secret to fitness is consistent devotion to physical activity or exercise since it can relieved us from mental stress, improve muscles, heart and prevent from causing severe diseases.

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Paper 5: Role of healthy diet in the context of Covid-19 pandemic

Longjam Rebita Devi,
Asst. Professor, Food Technology Department
S. Kula Women's College, Nambol

Abstract- Corona virus is affecting every aspect of our lives. Up to the date, there is no such exact medicine or machines that can cure a person from Covid-19. However, there are certain measures that can be adopted to prevent the disease from entering into human body. Everyone should be encouraged to follow the instructions of WHO and the orders from the respective government from time to time. Physical distancing and maintaining healthy lifestyle with proper nutrition is the basic key to combat the disease. WHO has recently emphasised the importance of appropriate diet and lifestyle measures including the adequate nutrition to protect the immune system. Immune system is an intricate, co-dependent structure of white blood cells, antibodies, complex protein network and organs. Some parts of immune system act as a literal barrier, preventing virus and bacteria from reaching various human organs. Other part of the immune system hunts and removes invaders from various part of the human body. For the current situation, it is necessary to be aware of the specific type of food that can improve our immune system in order to combat covid-19. Our foods must contain appropriate amount of micronutrients commonly Known as Vitamins and Minerals. Foods containing Vitamin A, C, B1, B2, B6, B12 and also among the minerals zinc, magnesium, selenium, copper are the main booster of human immune system. This paper aims to explore the importance of food in relation with Covid-19.
Key words : Covid-19, Food types, Micronutrients, Immune system.

Introduction

As the Corona virus (covid-19) is spreading rapidly across the globe, it is important to take note of the approaches that can help prevent and fight infections, particularly viral infections. Evidence already suggests that viral infections are one of the world's greatest public health challenges (WHO, 2020). For sanitation and personal hygiene, overcrowding, contaminated food and water and inadequate nutrition knowledge contribute to the susceptibility of infection. As highlighted recently by the world health organisation, healthy lifestyle makes all bodily functions work better, including immunity. Having healthy diet including lots of fruits and vegetables, is a key component of a healthy lifestyle and play a vital role in supporting a well functioning and effective immune system to help protect against infections and other diseases. It is now generally accepted that nutrition is an important determinant of immune response. Epidemiologic and clinical data suggest that nutritional deficiencies alter immune competence and increase the risk of infection.

Methodology

Google scholars search, PubMed, MEDLINE were used to gather information relating to corona virus/ covid-19 and healthy diet, micronutrient and immune system.

Discussion

Covid-19 : Corona virus disease 2019 (covid-19) is defined as illness carried by a novel corona virus now called severe acute respiratory syndrome corona virus2 (SARS-cov2, formerly called 2019-nCov), which was first identified amid an outbreak of respiratory illness case in Wuhan city, Hubei Province, China(Saif et al 2019). It was initially reported to the WHO on December 31, 2019, on January 30, 2020, the WHO declared the covid-19 outbreak a global health emergency (WHO, 2019). On March 11, 2020, the WHO declared covid-19 a global pandemic, its first such designation since declaring H1N1 influenza a pandemic in 2009 (Maruyama et al 2016). Covid-19 is spread from human to human by droplets coughed or respired by infected person and by touching droplet contaminated surfaces or objects and then touching the eyes, nose or mouth. A new study from china has been done by Nan-Shan, on 1099 confirmed cases establish that most common clinical appearances included: fever (88.7% of the patient), cough 78.0 %, weakness 38.1%, sputum production 33.4%, shortness of breath 18.6 %, sore throat 13.9 %, muscle ache 11.0% and headache 13.6%. Furthermore, certain patient appeared with gastrointestinal symptoms like diarrhoea 3.8%, vomiting 5.0%. Fever and cough were the major symptoms, on the other hand upper respiratory symptoms and gastrointestinal symptoms were not common (Sohrabi et al 2019).

Most people infected with the covid-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people with underlying medical problems like cardio vascular disease, diabetics, chronic respiratory disease and cancer are more likely to develop various illnesses.

Relationship between nutrition and immunity

Song et al, 2019; Patel et al 2012 Gombart et al 2020, state that good nutrition is fundamental to improving immunity. The immune system is the body's defence against disease and infection and it has long been established that several factors influence the function of immune system including stress, sleep and nutrition. According to the WHO 2020, guidance on diet especially during the current pandemic states that ", good nutrition is crucial for health, particularly in time when the immune system might need to fight back ". Providing a diet, high in nutritious foods, rich in micronutrients i.e. vitamin and minerals support optimal function of the immune system by providing antioxidant to slow damage of cells caused by free radicals and assisting in T-cells production. The European journal of clinical nutrition concluded that "without adequate nutrition, the immune system is clearly deprived of the components needed to generate an effective immune response" (Marcos et al 2003). Good nutrition is thus supporting an optimum immune system which can reduce the risk of viral infections (Beck et al 2000). The immune system is one of the most complex bodily structured, made up of a network of cells, molecules, tissues and organs all working together to protect the body. This complexity means that it cannot be modified acutely by a specific nutritional intervention. Rather, adhering to a healthy diet provides ongoing support to the immune system and may even delay the process of immune senescence (the natural gradual deterioration of the immune system as we get older). As highlighted recently by the WHO (2020), a healthy lifestyle makes all bodily function work better, including immunity. Having a healthy diet, including lots of fruits and vegetable, is a key component of a healthy lifestyle and play a vital role in supporting a well-functioning and effective immune system to protect against infections and other disease. Base on a variety of systematic and clinical data food containing vitamin A, Vitamin B_2, Vitamin $B_{6,}$ Vitamin B_{12}, Vitamin C and also among the minerals like Zinc, Magnesium, Selenium, Copper are the main booster of immune system.

In the current scenario Covid-19 has impose a new set of challenges for the individual to maintain a healthy diet. A well balance diet will guaranty a strong immune system that can help withstand any assault by the virus. In the current situation it is necessary to be aware of the specific type of food that can improve our immune system in other to combat Covid-19. Khayyatzadeh(2020) has given some professional and authentic dietary guidelines to withstand Covid-19;

- Eat fruits daily (guava, apple, banana, strawberry, cantaloupe melon, grapefruit, pineapple, papaya, orange, Longman fruit, blackcurrant, pummel) with a serving size of two cups (4 servings).
- Eat fresh vegetables (green bell peppers, garlic, ginger, kale, lime, coriander (dried), broccoli, green chilli pepper) 2.5 cups of vegetables (5 servings) legumes (beans and lentils).
- Eat whole grains and nuts, 180 g of grains (unprocessed maize, oats, wheat, millet, brown rice or roots such as yam, potato, taro or cassava)
- Use nuts like almonds, coconut, and pistachio.
- Red meat can be eaten once or twice per week, and poultry 2−3 times per week. Use foods from animal sources (e.g. fish, fish, eggs, and milk) and 160 g of meat and beans.
- For snacks, choose fresh fruits and raw vegetables rather than foods that are high in sugar, salt or fat. Avoid irregular snacking.
- Do not overcook vegetables as it leads to the loss of important nutrients such as vitamins and minerals.
- When using dried or canned fruits and vegetables, choose varieties without added sugar or salt.
- Make sure the food is prepared and served at acceptable temperatures (≥72°C for 2 mins).
- Limit the salt intake to five g a day.
- Consume unsaturated fats (found in avocado, fish, nuts, soy, olive oil, canola, corn oil, and sunflower) rather than saturated fats (found in butter, fatty meat, coconut and palm oils, cheese, ghee, and cream).
- Drink 8–10 glasses of water every day. It helps to transport nutrients in the blood, gets rid of waste, and regulates the body temperature.
- Avoid all fizzy, carbonated, concentrated juices, and all drinks which contain sugar.
- Maintain a healthy lifestyle of exercise, meditation, and regular sleep. Adequate sleep will help to support immune functioning.

- Eat at home to avoid contact with other people and try to reduce the chance of being exposed to COVID-19.

Conclusion

A proper diet can help to ensure that the body is in strongest possible state to fight against viruses. Individual consuming well balanced diets appear to be safer with batter immune system and lower the incidence of chronic diseases and infection. Nutrition may help a positive impact on covid-19 as it may be a way to support people at higher risk for the disease that is older people and people with pre existing conditions (non communicable disease). Nutrition is not a cure for covid-19 but healthy pattern of eating optimize the function of the immune system, improve immune metabolism and are a modifiable contributor to the development of chronic disease that is highly associated with covid-19 death.

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Technical Session - (ii) Environment and sustainable living

Paper I: Sustainable Agriculture- integrating environmental health, economic profitability & social and economic equity.

Mrs. T. Joymala Devi
Asst. Professor
Department of Geology
S. K. Women`s College, Nambol

Introduction

According to Environment Protection Act 1986, environment includes all the physical & biological surrounding of an organism along with their interactions. Increased consumption of resources due to increased population results in environmental deterioration. Environment is crucial to human survival. So, every

human being has a duty to assure that the earth remains environmentally hospitable life.
A cleaner environment supports better economic & social development. However this is all possible only on the willingness of humans to alter the use of natural resources. Some of the environmental issues that people are facing today are climate change, destruction of biodiversity, pollution, deforestation, water scarcity, desertification, ozone layer depletion, soil erosion, etc.

Environment, types

Types of Environment – There are 3 types of Environment & they are –

a) Natural Environment.
b) Man – made Environment.
c) Social Environment.

a) **Natural Environment** – Natural environment has 4 components – atmosphere, hydrosphere, lithosphere (abiotic = non – living components) & biosphere (biotic or living component).

Atmosphere consists of gases, dust, water vapour, SPM, etc. Changes in the atmosphere caused by humans are –

i. Release of solids, gases that are not normally found in the atmosphere. Example – CFC.
ii. Change in proportion of gases (of atmosphere). Example – increase in green house gases.
iii. Alteration of the earth`s surface that affect atmosphere. Example – effect of ice sheets that change in global weather.

Hydrosphere – Water influence the environmental ecology of the earth`s system. Water vapour takes part in greenhouse effect and it is the source of tropical cyclone, monsoon, etc. Surface water and ocean water influence biodiversity. Ice sheets influences weather system and is a source of large climatic variation.
Hydrospheric Environmental issues include – Sea level change (fluctuation in mean sea level), rise in sea level, coastal erosion & deposition.
Lithosphere – Soil is the most important constituent of lithosphere. Environmental issues in lithosphere domain include – desertification and land degradation.
Desertification is a type of land degradation in which a relatively dry region becomes increasingly arid losing its bodies of water, vegetation & wildlife.
Land degradation is caused by loss of fertility, soil erosion, water logging, salinity & alkalinity and floods & droughts.
In India, about 130 million hectares of land are affected by erosion problems. Shifting agriculture alone has about 30 million hectares. In north – eastern states of India, shifting agriculture is a serious problem. In Northern plains, vast areas of land have been affected by salinity & alkalinity due to over – irrigation.
Accelerated use of chemical fertilizers & biocides in agriculture is the major cause of soil pollution. But it should be noted that biocides first kill germs & unwanted plants & them degrade the soil. They reduce water holding capacity of soil. In urban areas, land is degraded due to irrigation of agricultural fields with polluted water.
Biosphere – it extends to any place that life can exist on the earth.

b) **Man - made Environment** – It consists of those places which are artificially made by man by planned manipulation. Example – Crop fields, Urban Centres, industrial setups.
c) **Social environment** – Includes cultural norms & values prevailing in a particular society. It also includes all network of political, economic and religious institutions which decide that environmental resources will be utilised by the people.

Imbalance in the ecosystem and hazards to humans & animals

Presence of dangerous and unnatural ingredients causing imbalance in the ecosystem and hazards to humans and animals can be called as pollution. It is a phenomena where natural ingredients are replaced or damaged by the presence of dangerous unnatural ingredients that cause imbalance to the ecosystem.
A pollutant is a waste material that pollutes air, water or soil and is the cause of pollution.
There are 3 factors to determine the severity of a pollutant – Chemical nature, concentration & persistence.
Some pollutants are biodegradable and so will not persist in the environment in the long term. But degradation

products of some pollutants are polluting the environment. *Example – Degradation of DDT produces DDE & DDD.*
There are 2 types of pollutants – primary & secondary.
Primary pollutants are emitted directly from a source. Example – SO_2, CO_2, CO, CFC, etc.
Secondary pollutants are formed when one pollutant reacts with other pollutant. Example – Photochemical smog.

Pollution – Common sources

Activity	Source	Emissions
Agriculture	Open burning	SPM, CO, volatile organic compound (VOC)
Mining & Quarrying	Coal mining, stone quarrying, crude oil & gas production	SPM, SO2, NO, VOC
Power generation	Electricity, gas, steam	SPM, SO2, CO, VOC, SO3, Pb
Transport	Combustion engine	SPM, SO2, NO, CO, VOC, Pb
Community service industry	Municipal incinerators	SPM, SO3, NO, CO, VOC

Sustainable development – The basic concept of sustainable development is that we must utilise the resources according to their capacity or the rate at which they are replenished so that their perpetual availability is ensured. In social sense, sustainability is a well-developed economy & thriving social order ensuring a fair distribution of income, power & opportunity. In fact, it is a nature oriented & people oriented development concept in which social justice, welfare quality of life & environmental protection are kept at par with the economic growth. One important measure for sustainable development is improving quality of life including social, cultural & economic dimension.
Sustainable development promotes the idea that social, environmental and economic progress all are attainable within the limits of our earth`s natural resources. It is multidisciplinary in nature. Society, environment and economy are the three pillars on which sustainable development thrives. Any imbalance between the three can create alarming situations.
There are 4 objectives of sustainable development and these include:

i. Social progress & equality.
ii. Environmental protection.
iii. Conservation of natural resources.
iv. Stable economic growth.

i. ***Social progress & equality*** – Every person has the right to a healthy, clean & safe environment. To achieve this, it is needed to reduce pollution, poverty, power housing & unemployment.
ii. ***Environmental protection*** – Global environmental issues like climate change & poor air quality must be reduced to protect human & environmental health.
iii. ***Conservation of Natural Resources*** – the use of coal, petroleum, etc should be done in an efficient manner & at the same time, the development of their alternatives should be encouraged.
iv. ***Stable Economic Growth*** - Everybody has the right to a good standard of living with better job opportunities. Economic prosperity is required if a country needs to prosper & business must offer a high standard of products that consumers want at the price they are prepared to pay.

Sustainable Development Goals SDGs
As a part of new sustainable development agenda, countries adopted a set of goals on 25th September, 2015. There are 17 goals. Each goal has specific targets to be achieved by 2030. Here are 3 goals.
Goal 1 – End poverty in all its forms everywhere.
Goal 2 – End hunger, achieve food security, improve nutrition & sustainable agriculture.
Goal 3 – Ensure healthy lives, promote well being for all at all ages, etc.

Sustainable Agriculture

Sustainable Agriculture enables us to produce healthful food without compromising future generation`s ability to do the same. It is done to satisfy human food and fibre needs, to enhance environmental quality and the natural resource, to make most efficient use of non – renewable resources and on - farm resources, to sustain the economic viability of farm operations and to enhance the quality of life for farmers and society as a whole.

Methods and Techniques

Certain methods & techniques used in sustainable agriculture are –

i. Drip irrigation.
ii. No Till Farming.
iii. Contour ploughing.
iv. Soil steam sterilization.
v. Agroforestry.

i. ***Drip Irrigation (also called trickle irrigation or micro irrigation).*** – It is an irrigation method that saves water and fertilizer by allowing water to drip slowly to the roots of plants through a network of valves, pipes, tubing & emitters, etc. The goal is to place water directly into the root zone & minimize evaporation. Advantages of drip irrigation are –

- Water Application Efficiency is high.
- Nutrient loss is minimized.
- Moisture within the root zone can be maintained at field capacity.
- Soil erosion is minimized.
- Water distribution is highly uniform.
- Weed growth is minimized.

ii. ***No till farming /zero tillage farming*** – It is an agricultural technique which increases the amount of water that infiltrates into the soil and increase organic matter retention and cycling of nutrients in the soil. It is done to remove weeds and to shape the soil into rows for crop plants and furrows for irrigation.

iii. ***Contour Ploughing*** – It is done in Assam, Meghalaya, etc in North – Eastern India. It prevents soil erosion upto 50% and controls surface runoff. Ploughing is done across a slope following its elevation contour lines. Ruts run perpendicular to slopes. It also enhances soil quality & composition.
Contour ploughing follows the natural slope without altering it & the contour lines create a water break which reduces formation of gullies during times of heavy water. The main use of contour ploughing is that it mitigates the impacts of floods, storms & landslides on the crops.

iv. ***Soil steam sterilization –*** Soil is sterilized with steam to destroy pests of weeds, bacteria, fungi & viruses. Biologically the method is a partial disinfection. It leads to quicker growth & strengthened resistance against plant disease & pests.

v. ***Agroforestry –*** It combines agricultural & forestry technologies to create more diverse, productive, profitable & sustainable land use system. Impacts of agroforestry are – Reduce poverty, counters global warming and risk of hunger, contributes to food security by restoring soil fertility & reduce pressure on woodland.

Conclusion

Today, environment is regarded as a resource. There is a need to strike a balance between resource use & resource availability. Safe & clean environment is man`s first right. Without a safe environment, man cannot exist to claim other rights be they political, social & economic. Sustainable development is necessary to balance our economic, environmental & social needs. It is also necessary to achieve healthy & develop community. Sustainable development requires the knowledge of scientific, economic & social sides of problems & their solutions and how they interact.

To achieve sustainable development in India, there is need for co-ordination between government agencies, NGOs & the public for proper management of environment quality. Sustainable agriculture enables us to produce healthful food without compromising future generation`s ability to do the same.

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Paper 2: Vermicomposting of Organic Solid Waste by using *Eisenia foetida* : A Sustainable Living in Post Covid-19 Pandemic.

Sunita Mongjam*, Mithra Dey and N. Mohilal*****
*Research Scholar, Department of Ecology and Environmental Sciences, Assam University
** Professor, Department of Ecology and Environmental Sciences, Assam University
*** Professor, Department of Life Sciences, Manipur University

Abstract: Vermicomposting is widely being used as an organic solid waste management strategy. The research work deals with harvesting of organic rich compost called vermicompost from garbage generated from houses by utilizing an earthworm called *Eisenia foetida*. The biodegradable waste was weighed and mixed with cow-dung slurry and kept for 21 days for precomposting. Fifty adult earthworms with profound clitellum was released in experimental pots and kept for 60 days for vermicomposting. During vermicomposting, *Eisenia foetida* ingest the solid organic waste and after bioconversion process it is expelled as vermicompost. The vermicompost is odourless, dark brown in colour and has rich plant nutrients. The chemical analysis of vermicompost indicated that there were increase in the percentage of Carbon, Nitrogen, Phosphorus, Potassium, Manganese, Copper, Zinc and Iron.

The vermicomposting of the organic solid waste is a simple process and it could be taken up in every household for waste management and also keeping the surrounding neat and clean. The vermicompost so generated can be used for organic manure and it can also be sold at a good price. There are some units in the state of Manipur which have taken up vermicomposting as a successful business venture. This paper suggests that taking up the vermicomposting as an income generating activity in the households with minimal investment will give livelihood support to the family in the post Covid-19 situation. Today, there is a good demand for organic items the world over and as such the demand for vermicompost is also increasing as it is truly an organic manure. Thus, promoting vermicomposting activity will be an opportunity to keep the environment more pollution free and also to manage the organic waste and garbage of households in an effective and productive manner.
Keywords; Organic solid waste, *Eisenia foetida,* Vermicompost, demand, livelihood.

Introduction:

Municipal solid waste is an unwanted byproduct generated from human settlements (residential area), small industries, commercial and institutional areas, public areas, market and municipal activities. Municipal solid waste (MSW) is highly organic in nature and often referred as residential waste. According to a World Bank study, it is estimated that in the selected countries per capita urban waste generation rates will climb by 1.14-1.73 times between 1995 and 2025. The urban population generated about 114,576 tons per day of MSW in 1996, which predicted to amplify fourfold in future and could reach 440,460 tons per day by the year 2026 (Hoornweg and Laura, 1999). Generally, MSW is disposed of in low-lying areas without taking any precautions. Therefore, MSW management is one of the major environmental problems of Indian megacities due to poor facilities of treatment and disposal of the larger amount of MSW generated daily in these cities. Unscientific disposal causes an adverse impact on all components of the environment and human health (Rathi, 2006; Sharholey et.al., 2005; Ray et.al 2005; Jha et.al 2003; Kansal, 2002; Kansal et.al. 1998; Singh and Singh 1998). Land application of MSW can be carried out as it is rich in organic matter and contains significant amount of recyclable plant nutrients. Vermicomposting of MSW, prior to land application may be a sustainable waste management option as the vermicast obtained at the end of vermicomposting process is rich in plant nutrients and is devoid of pathogenic organism. Vermicomposting of MSW can be an excellent practice, as it will be helpful in recycling valuable plant nutrients. J.N. Hogarh et.al, (2008) studied the presence of macro-nutrient and heavy metal concentration in the compost. Rajiv K Sinha et.al. (2002) studied on the action of earthworms *Eisenia foetida, Eudrilus euginae* and *Perionyx excavatus* on biodegradation of some community wastes in India and Australia.

In Manipur, as per information from Imphal Municipal Council (IMC), the solid waste generated at Imphal city is about 160-200 tons per day. The IMC is working on daily collection of solid waste. Some non-governmental organizations (NGOs) are also on the collection and transportation of solid waste from the Imphal city.

The study aims to bring proper management of organic solid waste and the production of more organic manure through vermicomposting using the species of earthworm *Eisenia foetida.* Continuous use of chemical fertilisers causes lose of soil fertility which adversely impact on agricultural productivity. So people are opting the use of organic manure in plant nurseries, kitchen gardens, and crop fields and Vermicompost is a good source of plant nutrients as it provides all nutrients in readily available form. In Manipur, many vercomposting units have been set up for proper management of organic solid waste.

Objectives:

The main objectives of the research work are

- To prepare vermicompost from organic waste from Imphal Municipal area using the species of earthworm *Eisenia foetida*.
- To examine the nutrient content in the vermicompost obtained at the end of the experiment.
- To impart the knowledge of vermicomposting to people for a better environment and social upliftment.

Study sites:

The study area covered selectively the municipality areas of Imphal West district in the state of Manipur, India. It lies in extreme eastern India and Geographically stretching between 93.95° East Longitudes and 24.82° North Latitudes. Imphal is located at an altitude of 2578 feet, and a total area of 29.57 square kilometers.

Methodology:

Methods of waste collection:

The samples weighing about 125 kg were collected separately in random manner from the residents of Manipur University Campus, Imphal West, Manipur. The waste was characterized by segregating and discarding the non-biodegradable fraction. The biodegradable components were mixed with cowdung slurry in the ratio 3:1 and kept for 21 days for precomposting. Thermal stabilization was done prior to introduction of earthworms into the substrate.

Experimental Design:

The research work was done by taking an experimental study on coolite boxes. The earthworm species viz. *Eisenia fetida* (500adults) were added on the surface beds of the boxes containing 10 kg each of pre-composed substrate. The experiment was kept for observation for sixty days. Water was sprinkled for every alternate day. The coolite boxes were covered with jute cloths. As the process of vermicomposting progressed, the waste had been degraded and converted into a loose, black, granular mass and the worms start aggregating at the base of the container. Harvesting of vermicompost was done just after 60 days. The growth, number of cocoons, number of worms per cocoon, number of juveniles, number of adults and biomass of earthworm was recorded.

Analysis of physical parameters

Weight was recorded by using digital electronic balance. Temperature and pH were recorded by using mercury thermometer and digital pH meter respectively. Moisture content was recorded following Bhatt and Limaye, 2012.

Chemical analysis

The chemical analysis of substrate and vermicompost samples, collected on 0 and 60 days was done for total organic carbon (TOC), total Kjeldahl nitrogen (TKN) and total potassium (TK) and phosphorus. The TKN and TOC were estimated by micro-Kjeldahl (Jackson, 1973) and Walkey and Black's Rapid Titration method (1934) respectively. TK was estimated by Flame Emission Technique, (Simard,1993). Phosphorus was estimated by UV Calorimeter (Anderson and Ingram, 1993). Iron, Copper, Zinc, Manganese were estimated by Atomic Absorption Spectrophotometer (Chapman and Pratt, 1961).

Results and discussion:

Table.I The different physical parameters of the substrate (M.W) and it's vermicompost. (Mean ±SD, n = 5)

Parameters	0 Days	60 Days
		Vermicompost
		Eisenia foetida
	Substrate	MW
Weight (Kg)	10±0	5.25±0.07
Temperature (°C)	25.6±0.55	23.6±0.55
pH	6.52±0.08	7.15±0.05
Moisture contents (%)	58.4±0.55	62.6±0.55

The physical characteristics recorded during the period of the study presented in **Table I** are:
Temperature: The temperature ranged from 25.6 to 23.6°C. At the beginning of the experiment, the temperature of the substrate was high and then decreased gradually as the composting process progressed.
pH: The pH ranged from 6.52 to 7.15 from substrate to vermicompost.
Moisture: The moisture content ranges from 58.4-62.6%.

Table.2 Growth parameters of *Eisenia foetida* during the process of vermicomposting of Municipal waste

Earthworm growth parameters	*E.foetida*
	Municipality waste
Individual length (cm)	
Initial Final	8±0.01 11.52±0.04
Individual weight (g)	
Initial Final	1.15±0.04 2.13±0.11
Total biomass (g)	
Initial Final	107±0.01 854±0.02
Average worm no. per cocoon	3.5±0.02
Average cocoon no.at the end	72±0.01
Average Juvenile no. at the end	126±0.02

Average adult no. at the end	323±0.02

Table.2 shows the main individual length and live weight, total biomass gain, total number of cocoons, juveniles and adult numbers studied.

The growth parameters of the *Eisenia foetida* cultured in Municipal Waste showed a final length of 11.52±0.04 cm. Final increase in weight was recorded to be 2.13±0.11 g at the end of experiment. The total biomass of earthworms increased at the end of experiment.

Table 3: Analysis of elements present in substrate and vermicompost

Nutrients	Substrate 0 Days	Vermicomposst 60 Days
OC	20.17±0.005	14.02±0.005
N%	1.33±0.05	2.36±0.05
P%	0.015±0.001	0.05±0.001
K%	0.2±0	0.4±0
Total Fe%	0.18±0.005	0.22±0
Total Mn%	0.05±0	0.17±0.005
Total Cu%	0.004±0	0.048±0
Total Zn%	0.03±0	0.073±0.005

From Table 3, the following observations were made.

The above table 3 shows that the carbon content at 0 day substrate is 20.17±0.005 which reduces to 14.02±0.005 in 60 days vermicompost. Initially the level of nitrogen, phosphorus, potassium, iron, manganese, copper and zinc were 1.33±0.05, 0.015±0.001, 0.2±0, 0.18±0.005, 0.05±0, 0.004±0 and0.03±0. Finally, vermicompost collected on 60th day has higher contents of the nutrients i.e. nitrogen (2.36±0.05), phosphorous (0.05±0.001), potassium (0.4±0), iron (0.22±0), manganese (0.17±0.005), copper (0.048±0) and zinc (0.073±0.005).

Thus, vermicompost has higher content of nutrients when compared to substrate.

Conclusion:

The findings show that the species of earthworm *Eisenia foetida* has high potentiality of converting organic waste into vermicompost. Thus, vermicomposting can be taken up in every household with the available waste generated from kitchen, garden, agricultural field, etc. This vermicompost can be applied to the nursery plants,flower pots, kitchen garden and even crop fields to get good yield.

The benefits of utilizing vermicompost are manifold viz; in farming, lesser investments on fertilizers, increased soil fertility & productivity and better plant growth and crop yield. Regarding Industries, it is a cost effective way of controlling pollution. And in general, it is an alternate source of income to everyone, an environment friendly method of converting organic waste and garbage into organic manure and a boost to the economy as well.

Eisenia foetida can be utilised in vermicomposting as it is a good surface feeder and dwells in organic waste. It can live in a wide range of climate type and is active in all the seasons. Thus, vermicomposting can be taken up all round the year as an income generating activity in the households with minimal investment even in the post Covid-19 situation. This will give livelihood support to the family as well as help in reducing pollution to some extent. During and after the Covid Pandemic, people can take up this cottage industry as a recreation, for production of organic manure, economic support and also maitaining a clean environment.

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Paper 3: Learning to live with CoVID-19, the need of the hour

Dr. Lukram Imbempishak Devi
Assistant Professor, Dept. of Philosophy
D. M. College of Arts,
Dhanamanjuri University

Introduction:

The Novel Coronavirous is a kind of disease caused by a virus . This virus was first introduced by a Chinese doctor called Li Wenliang on 31st December 2019 in Wuhan City at Hubi Province and entitled the virus as COVID-19 .

Objectives :

1. to discuss the COVID-19 as a pandemic .
2. to discuss how to prevent and safe life from COVID-19.
3. to discuss the Clinical trials developed by the researchers with collaboration with the Government Institutions.

Methodology:

In this research work I used both primary and secondary sources . Almost the materials I collected from News papers,websites ,Breaking news of DDK Channel, ISTV Chennel, Discussion Hours of other chennels of TV, and other reliable intellectual person's talks on COVID-19.

Results and Discussions:

Many doctors and researchers said that Coronavirus is a respiratory illness droplets generated from a person's coughs or sneezes . It is transmitted from person to person. It cannot be transmitted from food or packaged foods . Mostly COVID-19 is quick to spread to those persons who having weakness of immune system, chronic diseases of diabetes, cancer. Kidney ,hypertension, heart and other patients already undergoing treatment. Nowadays ,there is a local or community transmission symptom without travelling history. This is a most dangerous thing to solve the problem. This disease can be caused illness in any part of the of the body . Because of local transmission occurred in the locality the percentage of infection and death increasing very fast. Hence, it is necessary to held awareness programmes in every locality with the partnership of the local club organizations and the government.

This disease was first spread from China to Europe and North America then it spread throughout the world. In India COVID-19 appeared as earlier in some states such as Delhi, Kerala, Rajasthan, Karnataka , Telangana, Ladack, Uttar Pradesh since then it spread throughout India. It reached in the North-Eastern regions lately.
Even the Doctors MLA, Ministers , president are also infected by COVID -19. A total number of 196 doctors lost their lives till 8th August of this year. Almost the demised doctors are above 50 years of age who had general practitioners to fight COVID-19. Hence, advanced age persons are more infected than teenagers.

Development Trials to Prevent from COVID -19 :
Almost the countries are undergoing trials to invent medicines to safe the life of human beings from the COVID-19 . India also invented one vaccine called Covaxin to protect from Coronavirus . It has two phases of trials . The first phase trial has been done to a 30 years old male youth having no-morbid . Later on it has to be done on healthy people aged between 18 and 55 years.In the second phase 750 people will be recruited and the aged between 12 and 65 years old. All India Institute of Medical Sciences ,New Delhi is among the sites selected by the Indian Council for Medical Research for phase 1 and phase 11.

The Human Clinical Trials of India's first Coronavirus vaccine named Covaxin has introduced in Uttar Pradesh Rana Hospital and Trawna Centre. This Clinic is also one of the 12 Institutes selected by the Indian Council of Medical Research (ICMR)for Clinical human trials . The Covaxin has been developed by Hydrabad based Bharat Biotech in collaboration with Indian Council of Medical Research and the National Institute of Virology (NIV) . The first trial of COVID-19 vaccine began at AIIMS New Delhi on 4th july 2020. Dr.Balram Bhargava said that "this is the first indegeneous vaccine (Covaxin) being developed by India and is one of the priority projects,is being monitored at topmost level of the Government ……it is envisaged to launch the vaccine for public health use latest by August 15th after completion of all clinical trial"(The Sangai Express ,p.no.1.2020) . Further Zydus also stresses that the potential vaccine should be a strong immune response in animal studies and antibodies produced were able to completely neutralise the wild type virus". (The Sangai Express ,p.no.1,2020).Thus the Indian Council of Medical Research is trying to launch the Coronavirus vaccine on 15th August 2020. The twelve Clinical trial sites have been identified at present . Covaxin is derived from a strain of SARS-COV-2 isolated by the Indian Council of Medical Research's National Institute Virology . No vaccine has yet been approved for commercial use from over 100 candidates globaly are being tested on humans.
Covid- 19 is an environmental polluted disease that caused illness and sufferings in the human beings. In view of the alarming covid -19 issue, ILP may be suspended for the time being and precautionary measures may be taken up to fight COVID-19 involving the entire population by following the guidelines laid down by the government and the concerned authority. Moreover,in the North-Eastern states it will make population explosion in these regions. Increasing population caused many problems such as environmental pollution, ecological balance, unavoidable interventions etc. Because the migrants will need all the requirements that are necessary to them . Besides, incoming of migrants will add a new problems of local transmission or community transmission . Because of this reason ,the number of infection of COVID-19 will be increased more. Hence,it is the right time to prohibit to issue the Inner Line permit system by the Government in the North-Eastern reasons.

Main Findings :

1. COVID-19 is one of the pandemics caused by a virus as other pandemic occurred in the past .
2. This disease is mild and curable by treatment to the healthy persons but to the advanced age infected by this virus it is difficult for treatment.

3. Necessity to keep the protocol and ethical norms given by the WHO, doctors and Ministry of Health and Family Welfare Government of India .

Conclusion:

Conclusively, viruses are not living things. They cannot do anything in their own until they enter into a living being's cell such as ,human beings, animals and plants. As they are composed of proteins and nucleic acids when two viruses enter into the human cell they may swap genetic materials to make a new or mixed to form unique properties. Because, human beings are also being involved proteins, it is easy to make more virus when they inter into the human cell. As a human being we have to fight with sustainable effort to protect and safe our lives from COVID-19 pandemic for the survival of future generations in this world. Now, it is the need hours we all the people together fight this worst disease.

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Technical Session 3: (iii) Socio-economic issues related to women

Paper I: Socio-Economic Impacts of COVID 19 Pandemic on the Women of Manipur

Dr Mangoljao Maibam
Assistant Professor,
Department of Political Science
N.G. College, Imphal

Introduction:

The COVID 19 is an infectious disease caused by Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-COV-2). It is also generally known as Corona Virus. It is firstly reported in Wuhan City of China in December, 2019. The disease is quickly spread to other parts of the world. In India, it was first reported in Trichur District of Kerala on 30th January, 2020 to a student returnee from Wuhan City, the first epicentre of the COVID 19. In Manipur, it was first reported on 24th March, 2020 to a resident of Imphal West who was a student returnee from London.

Due to a serious global health emergency, the World Health Organisation (WHO) on the 11th February, 2020 has declared COVID 19 a pandemic. Till now, there is no particular vaccine for its treatment; and many researches are going on for the effective treatments which are all in trial stage. The WHO says the best effective measures to safeguard against this pandemic is to observe the standard operating procedure (SOP) such as to stay home, social distance, face mask, frequent washing of hands with hand sanitizers, soaps etc.

As a containment measure of the spread of COVID-19, the world is witnessing and experiencing lockdown in most of the affected countries for an extended period of time. To fight COVID-19 pandemic, the first lockdown was imposed in Manipur from the 21st to 26th March, 2020 by the Government of Manipur. In the meantime, the nationwide total lockdown 21 days also started from the 25th March to the 14th April 2020. Then a series of five lockdown is continuing till now. There is a complete prohibition of the movement of people except those having curfew pass holders and those involving in essential services and officials of the government on roster basis. The deadly corona virus which causes a global shutdown has left everyone affected,

also reaches its nemesis in Manipur. The State is economically insufficient and not equipped to tackle something of this magnitude of the current pandemic. In the meantime, a new social phenomenon which heard for the first time and which is mandatory to follow by all i.e. 'social distance' is come into practiced by everybody in Manipur. In such pandemic influence, the most affected section of the Manipuri society is felt by the womenfolk of Manipur as the daily socio-economic activities for maintaining a family is generally managed by them.

Objectives of the Present Paper:

The main objectives of the present paper are:

1. To study social impacts of COVID-19 on the womenfolk of Manipur.
2. To highlight economic impacts of COVID-19 on the womenfolk of Manipur.
3. To suggest any possible means to improve socio-economic burden on the womenfolk of Manipur after COVID-19 impacts in Manipur.

Methodology of the Present Paper:

The present paper is mainly based on explorative and descriptive in nature. Both primary and secondary sources are used in the collection of materials. The main primary sources in the collection of materials of this paper are observation, interview and works at the emerging so called 'corona keithels (markets)' especially at Andro Parking, Tera Keithel, Moirang Leirak, Khamnam Leirak and Naoremthong, mini shifting markets, sporadic local mini potpham (selling place) of vegetables, fruits and other items which are sprang up during this period. The main secondary sources used for this paper are newspapers, websites, news from ISTV, TOM TV and social media.

Results and Discussion:

A. Social Impacts of COVID-19 Pandemic on the Womenfolk of Manipur:

Social impacts of COVID-19 pandemic on the womenfolk of Manipur can be discussed as follows:

I. Social Responsibility of Female Health Workers (FHWs):

According to WHO, health workers are people whose job is to protect and improve the health of their communities. (http://www.who.ent>who) Thus the primary goal of health workers is to improve health of the people. And a health care worker is one who delivers care and services to the sick and ailing either directly as doctors and nurses or indirectly as aides, helpers, laboratory technicians, or even medical waste handlers. (http://www.ncbi.nim.gov>pmc) As per reported in media and websites, around 70% health workers of India is female health workers. In Manipur also the majority of them are females. In Manipur those include in this group female health workers are facing many social and professional responsibilities as a mother or a wife or daughter or a medical staff. At the same time, doing official works, they must also try not to infect from corona virus to them and their respective families so as to escape from social stigma. Social stigma faced by those affected population is not a soft issue. Such stigma and social discrimination are suffered along with their families, caregivers, friends and those staffs involving in their professional works. Such people developed mental stress and greatly affected to their normal life. (Imphal Free Press, August 6, 2020:2)

2. ASHA Workers' Vulnerability:

ASHA stands for accredited social health activist; and is a community health worker instituted by the Government of India's Ministry of Health and Family Welfare (MoHFW) as a part of the National Rural Health Mission (NRHM). ASHAs are local women trained to act as health educators and promotes in their communities. The Indian MoHFW says them as "… health activist (s) in the community who will create awareness on health and its social determinants and mobilise the community towards local planning health planning and increased utilisation and accountability of the existing health services". Their tasks include motivating women to give birth in hospitals, bringing children to immunisation clinics, encouraging family planning (e.g. surgical sterilisation), treating basic illness and injury with first aid, keeping demographic records, and improving village sanitation. (nrhm.gov.in/communitisation/asha/about-asha.html.). In other words ASHAs serve as key communicators between the health care system and the rural population.

ASHA workers are volunteers and they receive outcome based remuneration and financial compensation for training days. For example, if an ASHA facilitates an institutional delivery she receives Rs 600 and the mother receives Rs 1400. ASHAs also receive Rs 150 for each child completing an immunisation session and each individual who undergoes family planning. In Manipur, due to the shortage of expert health care workers in present pandemic, ASHAs are used to as medical helpers in many quarantine centres of Manipur. So, ASHAs are

at sometimes very vulnerable and may be exposed to corona virus if there is COVID-19 positive among the inmates of the quarantine centres where they work. Such fear comes into reality when a 60 years old ASHA worker from Kangpokpi District Ward No. 5 with no travel history tests COVID-19 positive (her sample was collected on the 31st July along with other ASHA workers and result came on August 3, 2020). (Imphal Free Press, August 4, 2020; 1)

3. Pregnant Women's Woes:

The pregnant women also have been many difficulties such as regular check-up at the government hospitals or private hospitals during this pandemic period. The most critical time for them is the delivery period of their babies. Due to spike of positive cases of corona virus in Thoubal District where the community spread like local transmission is spreading at an alarming rate, a young woman in Thoubal was died at delivery her baby at home with the help of a traditional mid-wife. Luckily her child was safe. At the delivery period, another critical period for them is when the hospitals refused to admit them. In this regard, a 20 year old woman hailing from Noney District died in the early morning of on August 6, 2020. The woman was identified as Kanpatlieu Kamei, was first admitted at Government Hospital at Senapati at 2 p.m. on wednesday, August 5, 2020. The doctors of the hospital referred her to another medical hospital at Imphal at 10.30 p.m. after she developed complications. She was brought at Imphal but two government run hospitals (JNIMS and RIMS) and three private refused to admit her on the ground that there was no doctor to attend her. She was died along with her unborn baby at the gate of casualty ward of a premier private hospital. Unfortunately, the deceased pregnant woman carried Non-COVID -19 certificate which became a mandatory to visit a doctor or a hospital now-a-days. (The Sangai Express, August 7, 2020:1)

B. Economic Impacts of COVID-19 on the Womenfolk of Manipur:

The deadly corona virus or COVID-19 which caused a global shutdown has left everyone affected. This pandemic has impacted the life of every section of the society and especially the poor, daily wagers and women at large. The economic impact of this crisis is huge and has hit every sector in a big way. (The Sangai Express, August 10,2020: 4) In the on-going lockdown women are the silent sufferers. Because, in Manipur since time immemorial, women are the backbone of Manipuri society; and played a positive role in shaping our society. Due to the current pandemic, Manipuri womenfolk have been facing a lot of economic burdens. The main economic impacts of COVID-19 on the women of Manipur can discussed as follows:

1. Women Vendors of Ima/Nupi Keithel (Market):

Ima Keithel or Nupi Keithel is a market run exclusively by women at the heart of Imphal city. Women vendors, having more than 3000 'Imas' run the stalls, selling handloom and handicraft items, fruits and vegetables, fish and other items indifferent sections. It is a centre of economic activities and the largest socialisation place in the whole of Manipur. Ever since the lockdown to fight the COVID-19 pandemic was imposed from March 21, 2020, the women vendors have been hit hard; and they are now poise precariously between hunger and the fear of infection by corona virus if they venture outside. Till now, unlike the other places and shops, the lockdown is continuing at Ima Keithel for the last five months. And many of them are the sole bread earners of their families. Loss of livelihood and financial insecurities during the extended lockdowns (five in number) period, many of the women vendors are facing a lot of problems in maintaining their families.

2. Women Street Vendors :

The shifting women vendors of Imphal city and nearby markets also faced the similar socio-economic hardships.

3. Corona Keithels (Markets):

In the initial stages of the lockdown, all markets places remained under shutdown in the State. Although, restrictions under the lockdown have been eased in some sectors, the government has still not given permission for opening of three Khwairamband Ima Keithels, temporary market or trade activities of the street vendors. It can be said that despite he danger of COVOD-19 disease, women vendors are coming out to sell their wares on the roadside so as to provide two square meals to their families. There has been steady increase in residential pockets of the valley areas with women vendors even calling it 'Corona Keithel'.A random glance around Imphal area would enable one to experience sprouting up of many new temporary markets, mostly run by women vendors who used to operate at Khwairamband Keithel, women vendors coming from faraway places. Many

women vendors revealed that they started selling consumer goods at such local markets to meet requirement of their daily households' items as there were no option left due to the lockdown. (The People's Chronicle, July 5, 2020:1) Many women vendors from distant places arrive around 2-3 a.m. to Imphal to find a place to market their goods (especially vegetables and fish items) in such temporary markets. The main 'corona keithels (markets)' of Imphal area are at Andro Parking, Tera Keithel, Moirang Leirak, Khamnam Leirak and Naoremthong. Now, they are also facing economic hardships due recent 14 days total lockdown imposed by the Government of Manipur after community like local transmission are found in many places of the valley of Manipur.

4. **Petty Tea Stalls Women Vendors at every Leikai:**

Vendors who survive on the meagre income they earn by selling tea and local snacks also faced the economic hardships. With the tight of lockdown, it has become difficult to sell and hike in price of commodities have also added to their woes. For survival, they open their shops in short period of time generally maintaining social distance. If they are caught by the police, they must give fine for breaking the SOP given the Government

5. **Emergence of Home Distribution of Tea and Snacks:**

Another area related with selling tea and local snacks at local petty tea stalls is home delivery of tea and local snacks by going home to home selling in respective areas by the young married women for survival of their improvised respective families. They are doing such earning during the lockdown time in the early morning every day in their localities.

Conclusion:

From the above discussion, it is cleared that due to COVID-19, all parts the globe seriously affected. The women of Manipur also facing a lot of socio-economic hardships as in Manipur all socio-economic activities especially at home is managed by them. And traditional economic roles are played by them. Due to the current pandemic, the Manipuri womenfolk have been facing a lot of socio-economic hardships especially women vendors and street vendors as well as daily wage earners. So, the government and all concerned must help them. At the same time, the people also must try to prevent and not to infect with corona virus by observing strictly guidelines given by the WHO and SOP of the Government of India and Manipur Government.

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Paper 2: The impact of COVID-19 on the informal economy in India with special reference to Manipur's women


S. Romee

Khumanthem Romabai Devi[1] . Seram Romee Devi[2]
[1]Department of Political Science, N.G College, Imphal
[2]Department of Commerce, Biramangol College, Sawombung

Abstract: The economic impact of the COVID-19 pandemic in India has been largely disruptive. The informal sector, despite being a huge contributor to India's GDP, is often neglected when it comes to supportive policies especially in times of crises. The informal sector has been the worst hit by Covid-19, as cash-starved businesses have either shut shop or delayed workers' salaries. And the women around the world have been hurt financially by the COVID-19 outbreak, but the situation in India is more precarious for them than almost anywhere else. According to the India-based trade union Self-Employed Women's Association, more than 94 percent of India's female labor force is employed in the informal sector. From the very beginning women in Manipur, plays a significant role in the socio-economic life of the state. In Manipur 70% of our street vendors in our khwairamband bazar are women of different caste and creed. The lockdown in Manipur started from 24th March 2020 has significant impact on the day today activities of women of Ima market and those street vendors in respect of their income resource and social interactions. Street vendors have been very severely hit. Markets being shut down means no income and so they have taken to becoming mobile vendors. Moving around constantly to try and evade the police while finding a market or clients increases their exposure. The COVID-19 impact on the informal sector comprising women in weaving, garland-making, domestic work or self-help group in the state has largely gone unrecognised.
Key Words: Lockdown, COVID-19, Vendor, Informal Sector, Manipur and Ima Market

Introduction

The economic impact of the 2020 COVID-19 pandemic in India has been largely disruptive. India's growth in the fourth quarter of the fiscal year 2020 went down to 3.1% according to the Ministry of Statistics. The informal sector, despite being a huge contributor to India's GDP, is often neglected when it comes to supportive policies especially in times of crises. Informality also has a gender bias. Women are somewhat more likely to be engaged in the informal economy but significantly more likely than men to be working as informal workers in the formal sector. Women around the world have been hurt financially by the COVID-19 outbreak, but the situation in India is more precarious for them than almost anywhere else.

Social distancing, work from home and hand sanitisation are the most logical elixirs correctly recommended and implemented worldwide. It is, however, worth understanding why many of our brethren don't have these luxuries, essential in a lockdown situation. Currently, with the spread of the COVID-19 virus, there is significant rallying by governments, policymakers and health professionals for 'social distancing' and maintenance of proper hygiene. We must be considerate to factor in compassion and incorporate concepts of affordability and accessibility to the fore, if policy is to be overhauled. As the number of COVID-19 cases shows no signs of abating and relief from the state government is not enough, there is a need to resolve their plight.

The informal/unorganised sector of the economy.

The terms unorganised/ informal sector is used inter changeably in the India context. The informal sector/unorganised sector consists of enterprises which are own account enterprises and operated by own account workers or unorganised enterprises employing hired workers. They are essentially proprietary and partnership enterprises. An informal economy (informal sector or grey economy) is the part of any economy that is neither taxed nor monitored by any form of government. The informal economy is classified and can be defined in two parts. The first one is informal employment, which refers to workers employed by formal, registered firms on a casual, day-wage basis, as well as subsistence actors such as self-employed workers. This includes individuals and entrepreneurs that might undertake piecework in their own premises, street vendors and

most domestic workers. They lack protection for non-payment of wages, retrenchment without notice, and often work under limited occupational safety conditions with no sick pay and health insurance.

The second group involves informal sector enterprises, which engage in coordinated commercial activity, such as bazaar traders, restaurants, and manufacturing in small ad hoc factories.

In India despite high levels of economic growth during the past two decades, the informal economy still accounts for more than 80 per cent of non-agricultural employment. Informality is found in both the traditional informal economy and – increasingly – through the growth of informality in the formal sector. Limited employment creation in the formal economy means that for many people the only alternative is to seek employment in the informal economy.

Women in Informal Sectors

In India, women are inevitably involved in some kind of productive or reproductive work but much of their work is invisible and they are largely employed in low skilled, low paid informal sectors with little or no social security.

Furthermore, women working in the informal sector face different structural constraints and women in poorer households are more likely to work in the informal sector and are often found in the more vulnerable categories of work, for instance as domestic workers or self-employed home-based workers. Women represent 49% of India's population yet contribute only 18% to its economic output, about half the global average. According to the India-based trade union Self-Employed Women's Association, more than 94 percent of India's female labor force is employed in the informal sector.

With a huge informal workforce and persistent gender-based occupation segregation, it goes without saying that the COVID-19 pandemic is intensifying pre-existing inequalities, exposing vulnerabilities across every sphere, from health to the economy, security to social protection and women continue to bear the maximum brunt simply by virtue of their sex.

Women form a massive part of the informal economy. In fact, a larger percentage of women, compared to men, work in the informal economy and are concentrated in low-paying, highly-precarious sectors. Not only do they facing higher risks due to their social disadvantages and poor working conditions, they also have fewer resources at their disposal to address these risks.

For example, home-based workers, who work from their own homes to produce goods and services for the market, are left with nothing right now. Estimates suggest that one-third of all women workers in India are home-based. The current crisis and market closures have meant that they are no longer receiving work orders from contractors. This has led to a complete breakdown of cash flow

Women also shoulder a disproportionate responsibility for care-giving, both inside and outside the home. These duties will increase their likelihood of exposure to Covid-19. Covid-19 outbreak and market closures have meant that they are no longer working. This has led to a complete breakdown of cash flow.

Women in informal economy of Manipur and the impact of COVID-19

Manipuri women's role in the socio-economic of Manipur is significant. Manipuri women do not stay behind the veil. They also do all the buying and selling of goods in the market. Women dominate the markets in the rural and urban areas. Their unique role in the market will be known if one visits Khwairamband Bazar at the heart of Imphal. They are greatly involved in the agricultural related activities. They are artistic and creative which they prove in the field of handloom and handicrafts. The intricately woven handicrafts and handloom items is popular even outside the state. In fact, women are engaged in various activities as for instance weaving, silk rearing, yarn making, embroidery, pottery, fishing, and in the agricultural sector women's contribution is more than their male counterparts.

Women's participation is important, right from sowing the paddy, weeding, husking and winnowing etc. There are many women who run pan-shops, tea and snack stalls contributing into the financial back-up of the family. One can find many women construction workers, domestic helpers increasing in the state. The number of women entrepreneurs is rising. And Manipur's women-only market-Ima Keithel is the most important place in Manipur for business. Here women from far away districts bring their goods, may be vegetables, clothes, rice, fruits, flowers and many other items essential for daily uses.

They will sell their product to the women vendors in the market. However, if we look into the earning of these women vendors, it is far more negligible looking at the amount of labour, time and energy they are putting into it. Most of them are compelled to sell things due to lack of proper source of income in the family.

The COVID-19 pandemic brought uncertainty to women workers' lives. COVID-19 lockdown hit hard on Women Vendors at Ima Keithel, who are now getting restless -- torn between hunger and fear of getting infected by coronavirus if they ventured out. In Manipur 70% of our street vendors in our khwairamband bazar are women of different caste and creed. The women vendors of the Ima Keithel have played important role in the socio-economic life of the state. The COVID-19 lockdown in Manipur started from 24th March 2020 has significant impact on the day today activities of women of Ima market, markets in rural and urban areas and those street vendors in respect of their income resource and social interactions and were confronted with huge hunger and deprivation.

Some vendors fruit and vegetables sellers venturing out after a few days without explicit permission and immediately faced police harassment. However, the cost of doing business as well as the risk has gone up significantly, with vendors not having access to wholesale market and suppliers and having to spend more on travel cost, due to travel restriction on the city. Also with the lockdown still partially in place, the number of buyers has gone down and so has earning.

Manipur, with a mosaic of ancient traditions and rich cultural patterns and a unique industry of only women weavers has also been extensively affected by the COVID-19 pandemic. Weaving is the backbone of rural women economy in Manipur. To know weaving is a primary qualification in women households. At least 84 per cent of handloom worker households in the state live in rural areas; nearly 16 per cent in urban areas. The handloom sector in the state is predominantly a rural activity led by women.

Weaving here empowers women. But with supply chains and production of goods badly affected due to the pandemic, the women have been praying for a secure future. As weaving has not been able to incorporate itself into the formal sector, prompting women to move towards an informal sector network. As a result, they have lost their jobs and with it, their savings.

Many are being affected by the disruptions to the global supply chain across artisans and the production sector. The COVID-19 impact on the informal sector comprising women in weaving, garland-making, domestic work or self-help group in the state has largely gone unrecognised. Those in the tailoring, sewing, embroidering industries are seeing a drastic drop in demand for their work as weddings, events have been called off. Women in Domestic Work, Construction, factory have been laid off. Women in daily wage has stopped finding work. These may get pushed into deeper poverty. Overall income losses already accumulated are significant, and are worried about the situation worsening. Concerns about making it through the virus, and then finding work again after, are paramount. Health is being prioritised but at very significant costs to people's incomes, and ability to survive.

Conclusion

It's true that hunger and starvation are among major worries, but we also need to tread cautiously to bring the wheels of economy back on track. Today, there is an urgency to reframe and rephrase the national and state women policy to recognise the identity and dignity of women workforce. It is time for us to go beyond relief and develop recovery measures that target not just the formal sector, but also informal enterprises and informal workers. A more serious and empathetic approach to cooperative federalism towards coordinated action between the centre and the states, most importantly, becomes the need of the hour.

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Paper 3: Women's Socio-Economic Issues in Manipur during this Pandemic Season of Covid-19: Socio-economic Issues

S. Dineshori
Asst. Profe. Dept. of Home Science
S. Kula Women's College
Nambol

Poverty is a socio-economic issue. Socio-economic issues are the factors that have negative influence on an individuals' economic activity including: lack of education, cultural and religious discrimination, overpopulation, unemployment and corruption. Poverty is also a variable that determines one's socio-economic status- meaning, an individual's or group's position within a hierarchical social structure which depends on a combination of variables, including occupation, education, income, wealth, and place of residence.

In Manipur:

Socio-economic status of women plays a very vital role in both individual and community life as women constitute half of the society. In Manipur from the historic period, women have been an important part of the society. As we know, our state, Manipur is a small state in North-East India. There are many people who face the issues of poverty since various years. We, the women, also face many problems in earning our livelihood as behalf of our family.

And now, more issues come to our life with this virus, COVID-19. There are thousands of women who earn money for food for their family. Also they earn money to provide education to their children. But from the last 5 months, women have more issues in their socio-economic life. They have no ability to make source of their income under this lockdown of CORONA VIRUS. This period, on the other hand, prices of all essential commodities have been hiked unreasonably in our state which is under a lockdown to check the spread of COVID-19. Some media reports quoted people as saying that rice and flour were not available. Some grocery shops which used to sell these items through the backdoor, in view of the curfew restrictions, have closed down as stocks had run out. Prices of onion, potato and other essential items have become prohibitive. And some pharmacies are open for certain hours in the urban areas.

From all above these, our women think only how to survive their family. They have many tensions for their children's career and for running family but the reason of no income they more concentrate on food for their life. In our state, there are many women who earn their daily essential goods by selling vegetables in Khwairamband Keithel. There are also many women who could not afford license for selling their products. Now, during this pandemic of COVID-19, how they are running their families? Can they survive? This is very difficult to analyze.

We all know that this CORONA VIRUS spread all over the world. The only ways to survive our life from this COVID-19 are the maintaining of social distance, washing our hands frequently with soap and water or sanitizing our hands frequently and using mask in public areas. There is also some Standard Operating Procedures (SOP) s to follow which is issued by Government. We should follow these ways to survive our life. But can we, the human beings, survive without food? No. we have to earn money for our food.

In our state, number of women who employed by government is very less from the others. The literacy rate of our women is also least. But Manipur witnessed the successful role of collective women's power in the past and also in the present day. There is something which we can celebrate. However despite their major contributions in the socio-economic life of the state, they are not given their due position in society. Thus there is mismatch between women's role and status. Our Manipuri women's role in the socio-economic and cultural life of Manipur is significant. They do not stay behind the wall. They also do all the buying and selling goods in the market. Women dominate the market in the rural and urban areas. Their unique role in market will be known if one visits Khwairamband Bazar at the heart of Imphal. They are greatly involved in the agricultural related activities. They are artistic and creative which they prove in the field of handlooms, handicrafts, and dance. They dominance in the field of sports not only in the national level but also in the international level is remarkable.

Moreover, handloom is also very important income generating activities for the Manipuri women. From the time immemorial the handloom industry has been playing a vital role in the economy of North-East India and specially to Manipur, the traditional skill of handloom weaving is not only a status symbol for the women-folk but is also an indispensable aspects of the socio-economic life. Handloom weaving is by far the largest and the most important cottage industry in the state. From the employment point of view, it has occupied a position providing employment to great number of women.

But now, all these income generating activities of our women is on mud. There is no chance of selling their products. All the efforts they made are on freeze now. Our women's socio-economic life is totally shutting down day by day under this pandemic of COVID-19.

Yes, we have to face this issue because this is not our state's issue this is global issue of this year but how can we face this vast issue without food? One day, our society may be severely suffered more than suffering from CORONA VIRUS due to rise of socio-economic issues.

During this pandemic, we heard many heart rending news of our state. Poor women who could not afford private hospital's fee for their delivery face dead. Due to this pandemic, many hospitals have fear to treat unknown patient without COVID-19 test. In case of testing this COVID-19, poor women are again facing the problem of unaffordable fees. These socio-economic issues in Manipur, our women may not able to survive now. Women living with selling vegetables in market and women living with selling their handloom products in the market are now in difficult life due to this pandemic of COVID-19.

Conclusion:

Poor state like our state, Manipur, will severely suffer more than suffering from the CORONA VIRUS if we are not taking better steps. As raising the socio-economic issues in our state we all need to cooperate each other. From the historic period, our women supported socio-economic life of our state. During this pandemic of COVID-19, our Manipuri women never give up their role to support family and society. As mention in the above, Manipuri women's role in the socio-economic life of Manipur is very significant. Due to CORONA VIRUS, our women face many issues in their socio-economic life. So please respected related department of this sector suggests some ways to solve these socio-economic issues which are face by our women in their day to day life during this pandemic of COVID-19.

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L. Muhindro, (MA, Ph. D, PDF, SRF) MA in Political Science from Manipur University, PG Diploma in Human Rights, Indian Institute of Human Rights, New Delhi, Visiting Indian Scholar and Post-Doctoral under (UGC-TEC Mauritius Fellow) University of Mauritius and recipient of Short-term Doctoral Fellow ICSSR, New Delhi; UGC FIP Doctoral Fellow; Senior Research Fellow, ICSSR New Delhi, at present, he is Head, Department of Human Rights and discharging various responsibility as:

1. Project Coordinator UGC-STRIDE
2. State Supervisor (Manipur) National Election Studies, CSDS New Delhi
3. Nodal Officer, UGC-University Activity Monitoring Portal, SKWC
4. Coordinator, Internal Quality Assurance Cell
5. Coordinator, Human Resource and Research Innovative Centre
6. Research Officer, Women's Studies Centre, SKWC

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- International Foundation for Electoral System, Washington;
- Indian Political Science Association, UP;
- Indian Sociological Society, New Delhi.

Latest award: PERFICIO AWARD – Educational Supporter of the Year 2020, conferred by **DHS Foundation, New Delhi** and **CAMPBELL University, North Carolina, USA.**

His area of interest includes Election Studies, Armed Conflict, Human Rights, and Peace Studies. He has successfully carried out different Minor and Major research projects including International Research Collaboration under UGC, ICSSR and IGNOU, and guided 42 Minor Research Projects of different colleges. Guiding 2 Ph. D and 1 Post Doct. (ICSSR). Published 21 Documentation monograph, 39 research papers in peer reviewed journals; published 3 books including 1 in German; 15 chapters in edited books; 17 research papers in Proceedings; 4 modules in UGC E-content Program under EMRC Manipur University, 33 invited lecture/speech; chaired 11 technical sessions including, 25 IPSA World Congress of Political Science, Brisbane, Australia in 2018. organized 22 national and state seminars; 46 papers presented in national and international seminar; delivered 9 key note address in national and international seminars; Curriculum Developed: four courses as (BA-Human Rights; Foundation Course- Human Rights; Six month Certificate course in Human Rights; six month certificate course in women studies etc.)

He was editor-in-chief of SKWC Journal of Social Sciences, a peer review international multidisciplinary biannual journal. He is also associate with different academic bodies in India and abroad.

About the Moderator

Invitation

The Organising Committee
S. KULA WOMEN'S COLLEGE
Kongkhampat, Nambol, Manipur
Cordially request the pleasure of your kind presence on
Online Inaugural

National Webinar

On

COVID PANDEMIC: NUTRITION, SOCIO-ECONOMIC AND SUSTAINABLE LIVING

On

https://chat.whatsapp.com/JE0uEMCGTB5CmAlOQsHyJo

The 14th August, 2020
At.11.00 a.m Sharp
Organized by: Women's Studies Centre, SKWC
Sponsored by UGC, New Delhi

Programme Highlight

Web open	-	11 hr
Welcome	Kunjarani-	11.02 hr
Theme introduction	Muhindro -	11.05 hr
Keynote speech	Jyotiraj -	11.10 hr
Chief Guest speech	Binota -	11.20 hr
President speech	Mangi -	11.27 hr
Technical session - I	11.35 hr - 12.37 hr	
Technical Session - II	12.40 hr - 13.10 hr	
Technical Session - III	13.12 hr - 13.45 hr	
Question Hour	13.50 hr - 14.30 hr	
Closing	14.35 hr.	

Chief Guest
Prof. (Dr.) M. Binota
Chairperson,
Manipur State Commission for Women

President
Prof. S. Mangi Singh
Former Director, Centre for Manipur Studies
Head, Dept. of Political Science

Guest of Honor-
Keynote Speaker
Prof. Jyotiraj Pathak
Head, Dept. of Political Science
Bodoland University

Guest of Honour
Dr. W. Kunjarani Chanu
Director, Women's Studies Centre, SKWC
Head Dept. of Philosophy

Prog. Coordinator &
Moderator
L. Muhindro Meitei, Ph. D
Project Coordinator, UGC-STRIDE- C1, SKWC
Coordinator-IQAC, & HoD., Human Right

Participant list

COVID Pandemic:Nutrition, Socio-economic and Sustainable Living
14 August 2020

National webinar - COVID 14 August 2020, WSC, SKWC

Sl No	Name	Certificate No
1	Kh. Shyamkanhai Singh, Kakchingkhunou College Department of Physics	1NWWSC14082001
2	Dr. Rocky Thokchom Department of Horticulture PanditDeenDayalUpadhyay Institute of Agricultural Sciences, Utlou	1NWWSC14082002
3	N. Brojendro Singh Assistant professor Department of Physics S.K. Women's College, Nambol	1NWWSC14082003
4	Dr.MaibamDineswori Devi Assistant Professor Dept of Botany S. Kula Women's College, Nambol	1NWWSC14082004
5	Ch. KomoliniDevi Dept. of Pol Sc, SKWC	1NWWSC14082005
6	KhalidaNasir Ph D Scholar, Dr. A.P.J. Abdul Kalam University, Indore.	1NWWSC14082006
7	Dr.PaonamPriyobrata Singh, Department of Genetics and Plant Breeding, PanditDeenDayalUpadhyay Institute of Agricultural Sciences	1NWWSC14082007
8	Dr.ThongamChanuAnel Dept. of Food Technology SKWC	1NWWSC14082008
9	K. Umabati Devi Dept. of Home Sc. Skwc	1NWWSC14082009
10	Ch. Biren Meitei Assistant Professor, Department of Statistics, KakchingKhunou College	1NWWSC140820010
11	Caroline Laishram S. Kula Women's College, Nambol	1NWWSC140820011
12	M. GeetmalaDevi Biotechnology Skwc	1NWWSC140820012
13	AnandChingtham Department of Geology Skwc	1NWWSC140820013
14	Dr.OinamSadananda Singh, G.P. Women's College	1NWWSC140820014

15	Th. Ranjana Devi Geo Skwc	1NWWSC140820015
16	LaiphangbamSomeswar Roy Assistant Professor, Department of Geology DM College of Science (Utilized).	1NWWSC140820016
17	MaibamBimola Devi D. M College of Teacher Education Imphal	1NWWSC140820017
18	Md. Jalaluddin, Assistant professor, Chemistry Department, KakchingKhunou College,	1NWWSC140820018
19	Md.Tamijuddin Asst.Professor Department of History kakchingkhunou college ,Manipur	1NWWSC140820019
20	HawaibamJashoda Devi, Department of Computer science, S.Kula women's college, Manipur	1NWWSC140820020
21	Saheeda Begum Assistant professor, Standard college, kongba....English Dept.	1NWWSC140820021
22	Dr.NongthombamSardaChanu, Assistant Professor, Dept of Botany, S. Kula Women's College, Nambol	1NWWSC140820022
23	Dr.UmabatiKhumanthem Assistant Professor Liberal College Luwangsangbam	1NWWSC140820023
34	Dr.Sumitra Salam Assistant professor Department of botany NambolL.Sanoi College ,Nambol	1NWWSC140820024
35	Dr.SaikhomJoylani Devi Assistant Professor Department of Botany Presidency College, Motbung	1NWWSC140820025
26	Dr.LeimapokpamAmarjit Singh Assistant professor Department of Zoology S. KULA WOMEN COLLEGE, NAMBOL MANIPUR INDIA	1NWWSC140820026
27	Salam Sovachandra Singh Department of Statistics, S. Kula Women's College, Nambol	1NWWSC140820027
28	NingombamSatyabati Devi Asst Professor Political Science Kha Manipur College Kakching	1NWWSC140820028
29	Dr.LongjamBedana Assistant Professor Department of English Maharaja Bodhchandra College, Imphal	1NWWSC140820029

30	Dr.SumatiRajkumari Assistant Professor, G.P. Women's College Dhanamanjuri University lmphal West Manipur	1NWWSC140820030
31	MeenaAkoijam. Asst Prof SKWC Hscdeptt	1NWWSC140820031
32	Dr Salam Shantibala Devi. Asst.Professor,Manipuri Dept. NambolL.Sanoi College ,Nambol	1NWWSC140820032
33	ThiyamPriyadarshini Devi. Asst. Professor GP Women's College, Dhanamanjuri University Imphal	1NWWSC140820033
34	NingthoujamKeinahanbi Devi S.K. Women's College	1NWWSC140820034
35	NingthoujamMinakumari Devi, Assistant professor – G. P. Women's College, Imphal	1NWWSC140820035
36	Ngangom James Singh Department of Computer Science SK Women's College Nambol	1NWWSC140820036
37	HaobamChandrabala Devi Dept of political science Standard College, Kongba	1NWWSC140820037
38	AsemShyam Singh Asst professor. Department of botany MayaiLambi College YumnamHuidrom	1NWWSC140820038
39	LaiphrakpamGeetamala Devi Dept. of Botany S. Kula Women's College,Nambol	1NWWSC140820039
40	Dr. Sophia Moirangthem Assistant Professor Environmental Science S. K. Women's College, Nambol	1NWWSC140820040
41	Ch. Rameshwor Singh SKWC	1NWWSC140820041
42	Babina A N G College	1NWWSC140820042
43	Dr. P. Dhaneshwari Devi Kakching	1NWWSC140820043
44	W. Lata Devi Skwc	1NWWSC140820044
45	Dr.ErinaKshetrimayum SKWC	1NWWSC140820045
46	Kh. SomolaDevi Skwc	1NWWSC140820046
47	Th. Ranjana Devi, Asst. Prof. Phy SKWC	1NWWSC140820047
48	Md. Amir Khan Kkc joined via an invite l	1NWWSC140820048
49	W. Anita N G College	1NWWSC140820049
50	Dr.Kh. Tombisana Singh	1NWWSC140820050
51	+91 98566 73103 joined via an invite link	1NWWSC140820052
52	+91 85918 72892 joined via an invite link	1NWWSC140820052
53	+91 89740 41867 joined via an invi	1NWWSC140820053
54	+91 70057 70296 joined via an invite lin	1NWWSC140820054
55	+91 70051 36873 joined via an in	1NWWSC140820055

56	+91 98620 54587 joined via an invite link	1NWWSC140820056
57	+91 96154 45939 joined via an invite link	1NWWSC140820057
58	+91 87298 15673 joined via an invite link	1NWWSC140820058
59	+91 96155 44336 joined via an invite link	1NWWSC140820059
60	91 70631 02366 joined via an invite link	1NWWSC140820060
61	+91 98561 09873 joined via an invite link	1NWWSC140820062
62	+91 87946 10121 joined via an invite link	1NWWSC140820062
	Resource persons	

Sl No	Topic	Presenter	1NWWSC140820063
	Prof. JyotirajPathak Head, Dept. of Political Science Bodoland University	Keynote speech https://youtu.be/DGT7jwA4eXA	1NWWSC140820064
1	Food Hygiene During COVID Pandemic: Some Guidelines https://youtu.be/UrojrqqBors	Ch. Ritu Devi Asst. Prof. Dept. of Home Science, S. Kula Women's Collage, Nambol	1NWWSC140820065
2	Health and Well-Being COVID-19 https://youtu.be/2KVLR_sLNHc	SoibamChanuShreela Assistant Professor Department of Home Science S. Kula Women's Collage, Nambol	1NWWSC140820066
3	Nutrition during Covid 19 Pandemic https://youtu.be/LZ7N579YJrw	Dr. L. Sumobala Devi Head, Dept. of Food Technology Nodal Off. B Voc. M. Voc.	1NWWSC140820067
4	Importance of Proper Nutrition, and Hygiene for Health during Global Covid-19 Pandemic https://youtu.be/c8uVt6-szDM	Dr. H. Sorojini Devi Associate professor, Dept. of Anthropology, D. M. College of Science Dhanamanjuri University, Imphal, 795001, Manipur.	1NWWSC140820068
5	Role of healthy diet in the context of Covid-19 pandemic https://youtu.be/KhOvh7WxH78	LongjamRebita Devi, Asst. Professor, Food Technology Department S. Kula Women's College, Nambol	1NWWSC140820069
Technical Session (ii) Environment and sustainable living			
1	Sustainable Agriculture: Integrating environmental health, economic profitability & social equity https://youtu.be/Xlq_1LZyq3Y	T. Joymala Devi Asst. Professor Dept. of Geology S. Kula Women`s College.	1NWWSC140820070

2	Vermicomposting of Organic Solid Waste by using Eiseniafoetida : A Sustainable Living in Post Covid-19 Pandemic. https://youtu.be/MidDQDQKkpg	SunitaMongjam, Research Scholar, Department of Ecology and Environmental Sciences, Assam University	1NWWSC140820071
3	Learning to live with COVID-19 the need of the hour https://youtu.be/a0m8eL_XwW0	Dr.LukramIbempishak Devi Assistant Professor, Dept of Philosophy D.M.College of Arts, Dhanamanjuri University Manipur	1NWWSC140820072
Technical session (iii) Socio-economic issues related to women			
1	Socio-Economic Impacts of COVID - 19 pandemic on the Women of Manipur https://youtu.be/R1EMa5YoEUI	Dr MangoljaoMaibam Assistant Professor, Department of Political Science N.G. College, Imphal	1NWWSC140820073
2	The impact of COVID-19 on the informal economy in India with special reference to Manipur's women https://youtu.be/pT2SXhrymaI	KhumanthemRomabai Devi, Department of Political Science, N.G College, Imphal SeramRomee Devi, Department of Commerce, Biramangol College, Sawombung	1NWWSC140820074
3	Women's socio-economic issues in Manipur During this pandemic season of covid-19 https://youtu.be/KZ3n8BTe-WI	S. Dineshori Asst. Prof. Dept. of Home Science S. Kula Women's College	1NWWSC140820075

Schedule for National Webinar

On

COVID Pandemic: Nutrition, Socio-economic and Sustainable Living

14 August 2020

You will get YouTube link accordingly on the given schedule/click on that link to participate this webinar.

1	Opening Welcome & Theme introduction	L. Muhindro Dr. W. Kunjarani https://youtu.be/o1i4m45fBvg	11.00 am
2	Keynote speech	Prof. Jyotiraj Pathak Head, Dept. of Political Science Bodoland University https://youtu.be/DGT7jwA4eXA	11.10 am
3	Chief guest speech President speech	Prof. (Dr). M. Binota Prof. S. Mangi Singh https://youtu.be/sI3k43SpJjg	11.25 am
Technical Session (i) Nutrition, Health and hygiene			
Sl No	Topic	Presenter	
1	Food Hygiene During COVID Pandemic: Some Guidelines	Ch. Ritu Devi Asst. Prof. Dept. of Home Science, S. Kula Women's Collage, Nambol https://youtu.be/UrojrqqBors	11.41 am
2	Health and Well-Being COVID-19	Soibam Chanu Shreela Assistant Professor Department of Home Science S. Kula Women's Collage, Nambol https://youtu.be/2KVLR_sLNHc	11.52 am
3	Nutrition during Covid 19 Pandemic	Dr. L. Sumobala Devi Head, Dept. of Food Technology Nodal Off. B Voc. M. Voc. https://youtu.be/LZ7N579YJrw	12.05 am
4	Importance of Proper Nutrition, and Hygiene for Health during Global Covid-19 Pandemic	Dr. H. Sorojini Devi Associate professor, Dept. of Anthropology, D. M. College of Science Dhanamanjuri University, Imphal, 795001, Manipur. https://youtu.be/c8uVt6-szDM	12.20 pm
5	Role of healthy diet in the context of Covid-19 pandemic	Longjam Rebita Devi, Asst. Professor, Food Technology Department S. Kula Women's College, Nambol https://youtu.be/KhOvh7WxH78	12.32 pm
Technical Session (ii) Environment and sustainable living			
1	Sustainable Agriculture: Integrating environmental health, economic profitability	T. Joymala Devi Asst. Professor Dept. of Geology S. Kula Women`s College. https://youtu.be/Xlq_1LZyq3Y	12.44pm

	& social equity		
2	Vermicomposting of Organic Solid Waste by using Eisenia foetida : A Sustainable Living in Post Covid-19 Pandemic.	Sunita Mongjam*, N. Mohilal** and Mithra Dey*** * Research Scholar, Department of Ecology and Environmental Sciences, Assam University **Prof. Department of Life Sciences, Manipur University ***Prof. Department of Ecology and Environmental Sciences, Assam University https://youtu.be/MidDQDQKkpg	12.54 pm
3	Learning to live with COVID-19 the need of the hour	Dr. Lukram Ibempishak Devi Assistant Professor, Dept of Philosophy D.M.College of Arts, Dhanamanjuri University Manipur https://youtu.be/a0m8eL_XwW0	01.04 pm
Technical session (iii) Socio-economic issues related to women			
1	Socio-Economic Impacts of COVID - 19 pandemic on the Women of Manipur	Dr Mangoljao Maibam Assistant Professor, Department of Political Science N.G. College, Imphal https://youtu.be/R1EMa5YoEUI	01.-15 pm
2	The impact of COVID-19 on the informal economy in India with special reference to Manipur's women	Khumanthem Romabai Devi, Department of Political Science, N.G College, Imphal Seram Romee Devi, Department of Commerce, Biramangol College, Sawombung https://youtu.be/pT2SXhrymaI	01.25 pm
3	Women's socio-economic issues in Manipur During this pandemic season of covid-19	S. Dineshori Asst. Prof. Dept. of Home Science S. Kula Women's College https://youtu.be/KZ3n8BTe-WI	01.33 pm

Question hour: 03.35 to 2. 30 pm.