

# ***NUTRIDYNAMICS***

**NUTRITION MAGAZINE  
ON THE OCCASION OF NATIONAL NUTRITION  
MONTH 2020**

**BY**

**DEPARTMENT OF FOOD AND NUTRITION  
HIRALAL MAZUMDAR MEMORIAL  
COLLEGE FOR WOMEN  
DAKSHINESWAR KOLKATA 700035**



**2020-21**



# **NUTRIDYNAMICS**

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**DEPARTMENT OF FOOD AND  
NUTRITION**

**HIRALAL MAZUMDAR MEMORIAL  
COLLEGE FOR WOMEN  
DAKSHINESWER KOLKATA 700035**

**"Let food be thy  
medicine and medicine  
be thy food"-  
Hippocrates**



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## **PRINCIPAL'S MESSAGE:**



**DR.SOMA GHOSH**

**PRINCIPAL**

**HMM COLLEGE FOR WOMEN**

**A healthy population is a precondition for sustainable development. Since 1947, achieving food security has been a major goal of our country. This was because of the fact that the Bengal Famine created awareness on the need for paying primary attention to the elimination of hunger. In course of time, there has been a paradigm shift from emphasis on mere food security to nutrition security, enabling people to have physical, social and economic access to balanced diet, clean drinking water etc. Our Food Security Act, 2013 specifically mentions about the need for nutrition security, so that the right to live with dignity can be literally ensured. Government spends huge amount of money to address the nutritional factors in the nation, as a drive under National Nutrition Mission, launched on March, 8, 2018, with the allocated budget of Rs. 9046.17 crores for consecutive three years. It was**

designed to address issues like threat of famine, acute starvation due to low food production, under-nutrition due to poverty, food insecurity etc. Optimal health and nutrition were recognized as essential factors for human development and for driving human resources towards nation building. Under this project focus was given on ensuring food adequacy, reducing protein deficiency and deficiency in micronutrients, like, iron, minerals, vitamins, zinc etc.

Article 47 of the Indian Constitution states that “The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties...”. Malnutrition indicators in India remain among the highest in the world, despite a declining trend since the early 1990s. In response to the persistence of the under-nutrition challenge in India, there are lots of policy interventions from government and non-government sectors. These include ICDS programme under the supervision of the Ministry of Women and Child Development, NHRM programme under the supervision of the Ministry of Health and Family Welfare etc. Major targets of these policies are pregnant women, lactating mothers and infants. These programmes are supplemented by Public Distribution System, which is used to provide subsidized food grains to a large section of the people, whose utility is clearly evident during Covid-19 Lockdown phase.

Generating awareness regarding the need for eradication of malnutrition and improvement of health of the population is a major challenge for the government in India. Huge amount of money is spent towards this end. National Nutrition Week is observed to generate awareness about the implications of malnutrition particularly with reference to brain development in the child. As an action programme, every year different events are organized to generate awareness regarding the need for

**nutritional wellbeing of our children and the youth. National Nutrition Week is generally celebrated from September 1 to 7. The theme for National Nutrition Month 2020 is “ Identification and Tracking of Children with Severe Acute Malnutrition (SAM) and Plantation Drive for Promotion of Kitchen Garden Under Poshan ke liye paudhe”. The theme for 2017 was 'Optimal Infant & Young Child Feeding Practices: Better Child Health'; for 2018 it was 'Go Further with Food'; in 2019, the theme was ‘Har Ghar Poshan Vyavahar’. This year National Nutrition Month is being celebrated in India during September to spread awareness about nutritional needs, deficiencies and malnutrition. This is specially required in the New Normal Phase for the survivors of Corona threat. Prime Minister has propagated the idea of nutritional report cards to assess the development of the mission. This has been announced on the basis of the studies made by several organizations that due to a high prevalence of deficiency of vitamin A, vitamin D, and B vitamins like B2, B6, B12 and B1, as well as in protein, a large section of the Indian population of all age groups have come under high-risk groups in this Covid-19 pandemic.**

**In tune with this national urge to address the issues of malnutrition and health hazards, our college has taken the initiative to generate awareness among its students and the community regarding nutrition of the children and availability of food. The department of Food and Nutrition has left no stone unturned to integrate the sciences of Physiology, Biochemistry, Chemistry, Immunology, and Molecular Biology to understand the complex interaction of foods and food components on human health, nutrition and disease. To translate discoveries in nutrition science and clinical nutrition to the practice of dietetics and public health for all ages, the Department has organized several programmes and events and thus this department has made us proud as one of the departments which has blended the claims of academics with the need of the community. Smt. Soma Saha(Head of the Department), Dr. Bhaswati Ghosh, Smt. Mousali**

**Sinha, Smt. Gopa Chatterjee, Smt. Debosmita Pathak , all have devoted tireless efforts towards this end.**

**Several webinars have been organized by the department of Food and Nutrition in collaboration with the department of Physiology and IQAC. Kitchen garden with bio-fortified plants may be an important tool for fighting hidden hunger and nutrient supplement and teachers and students of the department have taken initiative for kitchen garden, even during this traumatic phase of pandemic.**

**It is my immense pleasure to introduce this E-magazine ‘NUTRIDYNAMICS’, with a note of enormous appreciation to all the teachers and the former and current students who have made us feel proud on all occasions. I congratulate them all and wish them success in all the future endeavours. Hope blessings and cooperation of all will help the department to flourish further.**

**Dr. Soma Ghosh**

**Principal**

**Hiralal Mazumdar Memorial College for Women**

**Dakshineswar**

**Kolkata - 700035**



**MESSAGE FROM IQAC CO-ORDINATOR  
HIRALALMAZUMDAR MEMORIAL COLLEGE FOR WOMEN**



**“HEALTH IS WEALTH”**

**DEPARTMENT OF FOOD AND NUTRITION**

**INTERNAL QUALITY ASSURANCE CELL (IQAC)**

**HIRALAL MAZUMDAR MEMORIAL COLLEGE FOR WOMEN**

**MESSAGE FROM HEAD OF THE  
DEPARTMENT OF FOOD AND NUTRITION**

**Smt. Soma Saha  
Assistant Professor & HOD  
Department of Food and Nutrition**



September it is, and when September is knocking at our door, it reminds us that we have many things to do to spread awareness about proper Nutrition among all. Earlier 1<sup>st</sup> to 7<sup>th</sup> September was celebrated as National Nutrition Week, but as per central Govt. directives from the last two years, the entire September months were celebrated as NATIONAL NUTRITION MONTH or RASHTRIYA POSHAN MAAH. This year the theme is identification and tracking of SAM child and plantation drive for promotion of kitchen garden under "poshan ke liye paudhay" drive.

Duo to COVID -19 pandemic this year, we are unable to celebrate it physically. Still, we have arranged many programs for our students, including E -Quiz, an Online Recipe Contest, Oral Presentation Competition. Not only this under plantation drive, but we, the faculties of the Department of Food and Nutrition, and our students also took the initiatives for plantation of many nutritious plants at their kitchen garden and prepared healthy recipes with these locally available plants.

It's my pleasure to announce that we, the Department of Food and Nutrition, HMM College For Women Dakshineswer, is going to publish our first Annual E Nutrition Magazine "NUTRIDYNAMICS" on the occasion of National Nutrition Month 2020. This magazine contains articles, nutritious recipes, and many more based on the theme of National

**Nutrition Month 2020. The top 10 recipes of our National Nutrition Month's online recipe contest and the best 5 oral presentation articles are also there in our magazine. I am incredibly thankful to our Principal, Dr. Soma Ghosh, for encouraging us, also thankful to all my students, departmental faculties, and our editorial expert's team, without whom this magazine would not be published. I hope that all of you have a "Foodtastic" experiences while going through it. Once again, a very Happy Nutrition Month to all. Stay safe and healthy.**



## ABOUT OUR COLLEGE

Hiralal Mazumdar Memorial College for Women, Dakshineswar, Kolkata, has emerged as a center of the learning experience with a difference. Graded with a B++ score in 2016 by NAAC, the College is now striving for excellence and to elevate its academics further. The College aims to transform the institution into a hub of emancipation for the girls' who flock to the campus from adjoining suburban and rural belts of Hooghly, Howrah and North 24 Parganas.

In addition to well-equipped laboratories, the College has a well-stocked library and computers for students. A resourceful library equipped with the technological facility (INFLIBNET), in addition to seminar libraries attached to each department, is an added advantage for the academic pursuance of students. Organizing Seminars, both National and International, quiz contests, debates, "Saraswat Charchachakra an academic club" are steps to sustain the academic ambiance in the College.

The College offers advanced courses in 18 subjects and general courses in 27 subjects in B. A., B.Sc and B. Com. Our ethos is built around our commitment to furthering knowledge at the undergraduate level stimulated by great academic endeavors and effective collaboration with Government and other public services. In all areas of study, we aim to advance knowledge and its application to improve the quality of life. We believe that dynamic research and the pedagogic environment is essential to promote academic excellence, and our erudite scholars are charged to churn out qualified bachelors in the respective streams.

Our impressive range of academic resources, stimulating research, cultural opportunities, and links with creative industries provide a dynamic platform for developing the talents of a vibrant group of staff and students from different parts of West Bengal. The Principal, resourceful teachers, and cooperative office staff all club to the best of their ability to promote the development of each student of the College.





## **ABOUT DEPARTMENT OF FOOD AND NUTRITION**

Department of Food and Nutrition has been one of the famous departments of our College. It had started its journey from 2006 as a honours course. At present this department is affiliated by West Bengal State University, Barasat. The UG Honours course in Food and Nutrition is structured in an interdisciplinary manner. It contains significant sections on Physiology, Epidemiology, Biochemistry, Food Chemistry, and Microbiology, which are autonomous disciplines in their own right. Presently our department has 5 experienced qualified and dedicated faculties.

The department frequently organizes health camps, industrial & slum area visits and assessments of their nutritional status, poster presentation, National seminars, workshops, Health camps, and extension lectures, , for the development of students' quality in the first hand and building research-oriented mindset among the student. The department also celebrates world breastfeeding week, national nutrition month, world diabetes day, etc. and are trying to spread awareness. Besides this, the department runs HEALTH UNIT and FREE DIET COUNSELLING CENTRE for all the students and employees of the college. Not only that, many of our alumni students are currently employed as a clinical dietitians, Nutritionists, counselor, school teacher, Govt employees, researchers. Our student is our strength, and their success is our dream.

### **Departmental faculties**

**Smt Soma Saha Assistant Professor & HOD**

**SmtBhaswati Ghosh, SACT**

**Smt.Mousali Sinha, SACT**

**Smt. Debosmita Pathak, SACT**

**Smt. Gopa Chatterjee, SACT**

## **BRIEF NOTES ON RASHRIYA POSHAAN MAAH 2020**

### **Ministry of Women and Child Development**

#### **Government of India**

In order to bring Nutrition to the centre-stage of the National Development Agenda, Government of India launched POSI IAN Abhiyaan i.e. PM's Overarching Scheme for Holistic Nourishment in March, 2018. It is a multi-ministerial convergence mission with a vision to address malnutrition in a targeted approach by 2022. It aspires to reduce stunting, under-nutrition, low birth weight and anemia. Anchored by the Ministry of Women and Child Development, the Abhiyaan is envisioned to be a 'Jan Andolan' through 'Jan Bhagidaari' i.e. 'People's Movement'.

2. During the 2nd meeting of National Council on India's Nutrition Challenge held on 24.07.2018, under the Chairmanship of Vice Chairman, NITI Aayog, it was decided to celebrate the month of September as National Nutrition Month (RashtriyaPoshanMaah) across the Country as part of Jan Andolan under POSHAN Abhiyaan.

3. To ensure community mobilization and bolster people's participation, September 2018 was celebrated as RashtriyaPoshanMaah across the country. Taking forward the message of 'I larGharPoshanTyohar' approximately 45 crore people participated in different activities conducted across India. Activities like Anemia camps, Poshan rallies, Home-visits, Poshan Mela, I laat Bazaar, Youth Group Meetings, etc. were conducted during the entire month. More than 15 line Ministries participated enthusiastically.

4. Drawing from the leanings, RashtriyaPoshanMaah 2019 was celebrated in the month of September 2019 across the country. It received a massive response from the participants which is also evident from more than 34 lakh impressions generated on Twitter and 8,60,673 impressions

generated on Facebook during the month. A large number of people participated in different activities conducted across India.

5. To maintain the momentum and to capitalize on the gains of these events, third Rashtriya Poshan Maah is planned in the month of September 2020. Due to the COVID-19 situation, Rashtriya Poshan Maah 2020 may be re-positioned from conventional to digital mode of Jan Andolan, wherever required. Activities may be planned accordingly leveraging the power of convergence & technology, for a nutrition specific Digital Jan Andolan. States/UTs may consider extensive use of virtual meetings, social media, mass media, outdoor media, print media etc. in order to bring visibility to POSHAN Abhiyaan through the month long celebration of Poshan Maah during September, 2020.

6. Rashtriya Poshan -Maah 2020 will have two major activities to be carried out at grass root level, namely identification and tracking of children with Severe Acute Malnutrition (SAM) and plantation drive for promotion of Kitchen gardens. Details of these and other suggested activities are listed below. All activities may be planned in convergence with Partner Ministries, at the level of National, States/UTs, Districts, and at grass root level. Development partners may be encouraged to support the activities throughout the Maah. District Collectors may ensure the execution of activities and participate personally.

#### **6.1 Identification and Tracking of Children with Severe Acute Malnutrition (SAM):**

Under Nutrition is one of the leading causes of morbidity and mortality in children under the age of 5 years. Early identification and referral of severe acute malnutrition is important for initiation of treatment and minimizing the risk of complications. Therefore, one of the objectives of Poshan Maah 2020 will be to carry out a drive for identification and referral of Severe Acute Malnourished (SAM) children. All possible efforts to be made in convergence with Ministry of Health and Family Welfare.

#### **6.2 Plantation drive for promotion of Kitchen gardens at all A WCs and Community land:**

Fruits and Vegetables are important sources of micronutrients and their regular consumption is essential for good health, Nutrition and well-being. As an example, regular and proper intake of Iron-rich vegetables and fruits



may help reduce Anaemia. Also, consumption of citrus fruits, turmeric, ginger and other such locally grown products associated with boosting of immunity, may help in prevention of viral infections and diseases.

September being an ideal season for growing vegetables and fruits across most parts of India, a plantation drive such as, "PoshanKeliyePaudhe" for development of kitchen garden may be encouraged up to the grass root level.

Focus should be on planting of nutritious, seasonal and local plants /trees such as Moringa, Brinjal, different varieties of green leafy vegetables (Saag), Banana, Papaya, Tomatoes, Lemon, Guava, Beans, Carrot, Beet, variety of Gourds, Turmeric, Ginger, Tutsi, Mint etc. These vegetables and fruits are nutritious and can be grown locally without much effort. The kitchen garden should be encouraged in A WCs, Schools, Government buildings, as well as at household level in personal backyards and roof-top kitchen gardens/potted plants in urban areas etc. Inter-departmental partnerships can further enhance the reach and success of the Kitchen Garden focused initiatives.

WhatsApp messages, personal guidance during home visit etc. may be planned for motivating beneficiaries in developing Kitchen Garden. Convergence and collaboration with Department of Forest, Agriculture, Horticulture, A YUSI I etc. may be sought for guidance and support.

### **6.3 Online essay competition on Nutrition**

Ministry of HRD is being requested to organize an online essay competition on Nutrition. In this regard, a special session may be organized on how to conduct an online essay competition and its objective covering Importance of 1000 days, Nutrition rich food, Anemia, Diarrhoea and Hygiene & Sanitation. Instructions in this regard may be issued to all Government and Private Schools. Modalities for online essay competition may be decided by the HRD Ministry and shared with Mo WCD.

### **6.4 Digital Poshan Panchayat**

POSHAN Panchayat may be organized during PoshanMaah to encourage local engagement in identification, management and resolution of Nutrition related issues locally. Gram Panchayat, Block Panchayat & Zilla Panchayat special meeting may be held weekly to review the month long POSHAN Abhiyaan outcome aligned with monthly target /impact numbers.



## **6.5 Series of Webinars**

Webinars may be planned with different Ministries/Departments along with States/UTs. Partner Ministries may be involved to be part of Webinars to guide on the topic relevant to their Ministry. States may also invite partner departments to attend webinars during the month of September. Experts/academicians may be called from related field for expert advice, opinion, guidance and information. Some suggested webinar topics are listed below:

**Webinar on Best Practices and success stories**

**Webinar on prevention of Malnutrition, especially Severely Acute Malnourished (SAM) children during and after pandemic with Nutrition experts**

**Webinar on 1st 1000 days**

**Webinar on Nutrition in which expert of the field from AIIMS/IMA/A YUSH etc**

**7. Media Outreach: A Press Conference may be held on 31st August or 1st September, at National, State, District & Tehsil (Sub Div) Level with detailed press release including month long action agenda, programmes and messages from Hon'ble PM, Hon'ble Minister WCD, Hon'ble CMs etc. The District Magistrate's handle for social media should post everyday on Twitter, FB, Instagram etc. to create a momentum and massive engagement.**

**Doordarshan (DD) and All India Radio (AIR), Ministry of Information & Broadcasting (Mol&B), NITI Aayog to keep on sharing and highlighting the positive outcomes related to Nutrition indicators of Aspirational Districts. The same shall be disseminated on various platforms towards wider sensitization of officials, field functionaries and beneficiaries.**

**8. Mass Sensitization through Jan Andolan: Discussions & talk shows may be organized on Community Radio, local channels, etc. with the participation of Gram Pradhan, Zilla Panchayat Members, Government Officials, UN officials & NGO members. Themes for such discussions may be similar to the webinars listed above.**

**Audio/Video footage of speeches of Hon'ble PM, Hon'ble CMs and other dignitaries related to PoshanAbhiyaan may be circulated on Whatsapp, social media, local channels & traditional moving loudspeaker**

announcements. Use of flex posters, signages & wall writings may be considered for strengthening awareness on PoshanAbhiyaan at local level. Poshan related articles/statements may be invited from local level to ensure public outreach & engagement in local newspapers.

All unions, federations, associations (employees, teachers, doctors, farmers, traders, medicos, sports etc.) may be mobilized to seek active support to spread the POSHAN Abhiyaan Mission.

CitiLens' contribution should be placed on District level website for recognition and to inspire community members to create and join mass movement. Each district should have a dedicated mail id/Whatsapp no. to register citizens' contribution, on which local citizens may post their contribution with relevant photos & videos along with their credentials.

**9. Inaugural / Valedictory function:** With Social Distancing Protocol, Inaugural ceremony should be organised at District level (DM Office, Zilla Panchayat Office), Tehsil level & Block level. Participants at District level may be Local MPs, MLAs, Zilla Panchayat Adhyaksh, Zilla Panchayat Members, Nagar Palika Chairman & Members, Red Cross Members, Rotary & Lions Club Members, Doctors, Teachers, Advocates, Social Workers, Faith Leaders (Mandir, Masjid, Gurudwara, Church, etc.), Media Persons, etc.

**10.** All the activities may be uploaded on Jan Andolan Dashboard at [Poshanabhiyaan.gov.in](http://Poshanabhiyaan.gov.in). Activities may also be uploaded on social media extensively and may also be tagged with MWCD handle. A detailed report covering all aspects of celebration of PoshanMaah 2020 with data may be shared with Ministry by 10th October 2020.

**11. COVID-19 Protocol:** In view of the Covid-19 pandemic situation, the Ministry of Home Affairs (MHA), Govt. of India has issued guidelines for social distancing, health hygiene and other precautionary measures. All laid down protocols related to COVID-19 must be strictly adhered to while celebrating the POSHAN Maah. Pregnant women and children below 10 years should be advised to stay at home except for essential and health purposes.

#### **Key Protocols for Event/Activity**

The standard protocols issued by Ministry of Home Affairs (MHA) and Ministry of Health & Family Welfare (MH&FW) on Covid-19 must be adhered to, while conducting any of the activities.

**Practices of physical distancing, hand washing, and respiratory hygiene need to be maintained at all service areas by all beneficiaries and service providers.**

**Staggered approach should be followed, with adequate seating space for participants and organizers ensuring required physical distancing. Event site should be properly sanitized.**

**All Field Functionaries to use appropriate Personal Protective Items like Mask etc. as per guidelines and should be monitored regularly for adherence.**

## *Theme for Rashriya Poshan Maah 2020*

*1- Identification and tracking of children with severe acute malnutrition (SAM).*

*2- Plantation drive for promotion of kitchen garden under "poshan ke liye paudhe"*

*"पोषण के लिए पौधे" drive*



## Article Segments-1

### The First 1,000 Days of Life.



## **THE HEALTHY PREGNANCY -ITS MANAGEMENT**

**Smt. Mousali Sinha**

**SACT, Department Of Food And Nutrition**

**Hiralal Mazumdar Memorial College For Women**

*Pregnancy is a state in which a woman carries a fertilized egg inside her body.*

After the egg is fertilized by a sperm and then implanted in the lining of the uterus

in the lining of the uterus, it develops into the placenta and embryo, and later into a fetus. Pregnancy usually lasts 40 weeks, beginning from the first day of the woman's last menstrual period, and is divided into three trimesters, each lasting three months. Pregnancy duration of the human female, the average length, calculated from the first day of the last normal menstrual period, is 280 days, or 6 lunar months. The normal limits of the human gestation period are from 37 weeks (259 days) to 42 weeks (293 days).

Pregnancy usually lasts 40 weeks in humans, beginning from the first day of the woman's last menstrual period, and is divided into three trimesters.

The First trimester:

Is the time in between fertilization of the egg by the sperm (conception) and week 12 of a pregnancy. A woman's body goes through many changes during the first 12 weeks of a pregnancy.

The Second trimester:

In this time (13 weeks to 28 weeks) a woman begins to look noticeably pregnant and the enlarged uterus is

easy to feel. The nipples get bigger and darker, skin may darken, and some women may feel flushed and warm. Appetite may increase. By the 22nd week, most women have felt the baby move.

The Third trimester:

In this time (29 weeks to 40 weeks)

many women begin to experience a range of common symptoms. Stretch marks may develop on abdomen, breasts, and thighs, and a dark line may appear from the navel to pubic hair. A thin fluid may be expressed from the nipples. Many women feel hot, sweat easily and often

find it hard to get comfortable. Kicks from an active baby may cause sharp pains, and lower backaches are common.

At about the 36th week in a first pregnancy (later in repeat pregnancies), the baby's head

drops down low into the pelvis. This may relieve pressure on the upper abdomen and the lungs, allowing a woman to breathe more easily. However, the new position places more pressure on the bladder.

### Sign & Symptoms of Pregnancy

The first sign of pregnancy is usually a missed menstrual period, although some women bleed in the beginning. A woman's breasts swell and may become tender as the mammary glands prepare for eventual breast feeding. Nipples begin to enlarge and the veins over the surface of the breasts become more noticeable.

### Complications during Pregnancy

Some women experience health problems during pregnancy. High blood pressure, also called hypertension, occurs when arteries carrying blood from the heart to the body organs are narrowed. This causes pressure to increase in the arteries. Gestational diabetes occurs when a woman who didn't have diabetes before pregnancy develops the condition during pregnancy. Severe, persistent nausea and vomiting. Although having some nausea and vomiting is normal during pregnancy, particularly in the first trimester, some women experience more severe symptoms that last into the third trimester. Sexually transmitted infections (STIs), may occur during pregnancy and/or delivery and may lead to complications for the pregnant woman, the pregnancy, and the baby after delivery. Ectopic pregnancy, when the embryo implants outside of the uterus, usually in a fallopian

tube. Preterm labor and delivery, before 37 completed weeks of pregnancy. Birth defects, including blindness, deafness, bone deformities, and intellectual disability. Constipation may develop as a result of food passing more slowly through the intestine. Hemorrhoids and heartburn are fairly common during late pregnancy. Gums may become more sensitive and bleed more easily; eyes may dry out, making contact lenses feel painful. Pica (a craving to eat substances other than food) may occur. Swollen ankles and varicose veins

### Nutritional Needs During Pregnancy

Eating well is one of the best things during pregnancy. Good nutrition helps to handle the extra demands on our body as pregnancy progresses. The goal is to balance getting enough nutrients to support the growth of fetus and maintaining a healthy weight.

#### Energy:

The increase in energy is in order to support the growth of the foetus, placenta and maternal tissue and for the increase in basal metabolic rate due to additional work of the growing foetus and the increase in maternal size.

1st trimester—10 kcal/day

2nd trimester—90 kcal/day

3rd trimester—200 kcal/day

#### Proteins:

The normal protein requirement of an adult is 50 g/day. ICMR increased the requirement during pregnancy by 15 gm./day.

#### Vitamins:

There is an increased need for Vitamin D in order to enhance the maternal calcium absorption and calcium metabolism in the foetus. Vitamin K is of vital importance for the synthesis of prothrombin which is necessary for normal coagulation of blood. It is essential for preventing neonatal haemorrhage.

#### Minerals:



**Calcium:** An Increased intake of calcium by mother is highly essential not only for the calcification of foetal bones but also for protection of calcium resources of mother to meet the high demands during lactation.

**Iron:**It is required for the growth of foetus and placenta. It is required for the formation of haemoglobin as there is 40 -50% Increase in maternal blood volume. To achieve high levels of haemoglobin in the infants which is stored in the liver from 3 -6 months, iron must be transfused to foetus from mother during gestation.

Pregnant women need a balanced eating plan including:

**Whole grains:** Breads, cereals, pastas and brown rice.

**Fruits:** All types of fruits, including fresh, frozen or canned without added sugars.

**Vegetables:** A variety of colourful vegetables, fresh, frozen or canned with no added salt should be included. Raw sprouts should be avoided.

**Lean protein:** Choose lean protein from meat, poultry, fish, eggs, beans and peas, peanut butter, soy products and nuts.

**Low-fat or fat-free dairy:** This includes milk, cheese and yogurt. Unpasteurized milk and some soft cheeses that are made from unpasteurized milk also should be avoided.

**Healthful fats:** From foods such as avocados, nuts and seeds as well as vegetable oils including canola and olive oil.

**Complications during pregnancy due to insufficient Nutrients**

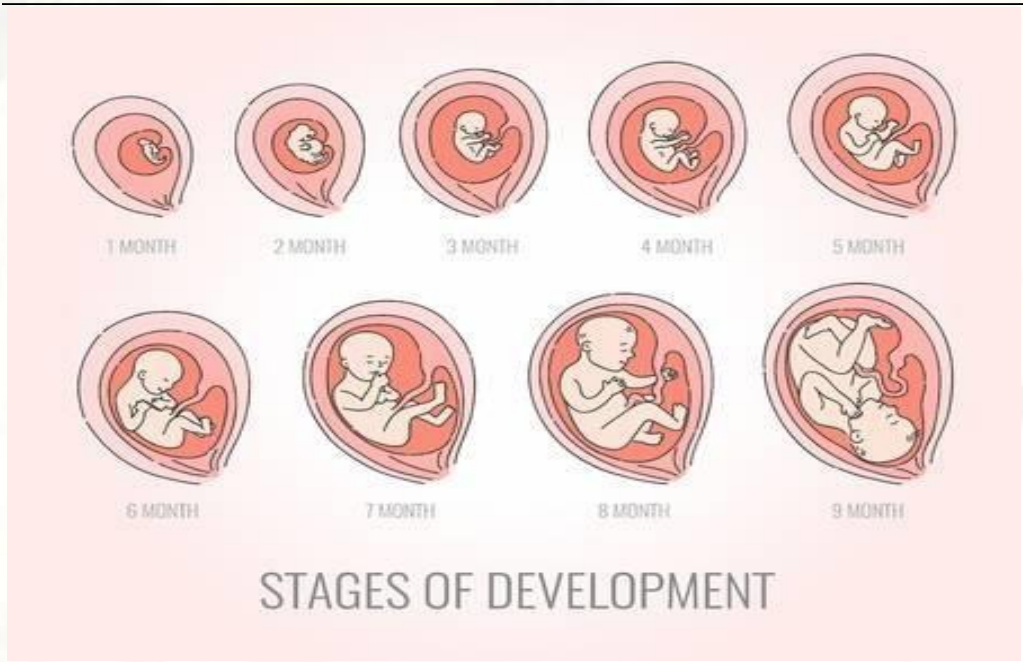
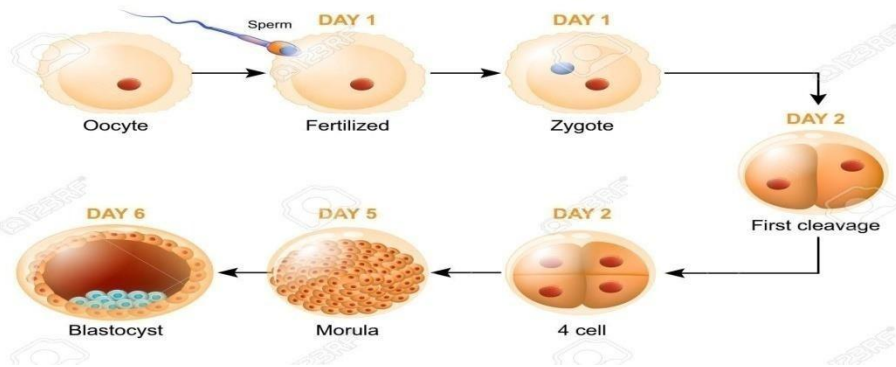
**Iron-deficiency anemia,** Pregnant women need more iron than normal for the increased amount of blood they produce during pregnancy. Iron-deficiency anemia—when the body doesn't have enough iron—is somewhat common during pregnancy and is associated with preterm birth and low birth weight. Symptoms of a deficiency in iron include feeling tired or faint, experiencing shortness of breath, and becoming pale.**Folate or Folic Acid:** This important vitamin reduces the risk of birth defects that affect the spinal cord.

Pregnancy and birth can be a very special time in the life of a woman. The nine months of pregnancy, as well as labor and delivery, are filled with many physical and psychological changes, as well as changes in lifestyle. Each change poses a challenge that can be met successfully when the woman shares her feelings and experiences with a partner or other supportive person and with her physician, midwife, nurse, and childbirth educator.



*FOETAL DEVELOPMENT WEEK BY WEEK*

# FROM OVULATION TO IMPLANTATION



## **Food for an infant during the first one eighty days of life!**

**Bhaswati Ghosh, SACT 1, Department of Food and Nutrition**

Exclusive breast feeding for the first six months of life is an ideal food for an infant. No other food, not even water is required during this period except breast milk. It enables him to become stronger and healthier later in life. It is tailor-made food for them.

The first milk oozing out from the mammary gland is termed as colostrum, the colour of which is yellow and thicker in consistency. It is the first immunization to the child. Though it is secreted in small quantities, but it is rich in protein, arachidonic acid, Docosahexanoic acid (DHA), zinc, vitamin A and K. It contains plenty of immuno-boosting substances like interferon well known for strong antiviral activity, antibodies protect against viral diseases like small pox, polio, influenza. Enzymes such as lysozyme, peroxidase in colostrum help in cell maturation. Last but not the least, it keeps the infant's gastrointestinal tract well protected against harmful microorganisms.

Breast milk has got its different name as foremilk, hind milk or transition milk depending upon the time of secretion. The milk secreted initially, after secretion of colostrum is known as foremilk. It mostly contains water, lactose, protein, vitamins and minerals. It quenches baby's thirst. The milk secreted during the later part of the feed is known as hind milk. It is richer in fat and satisfies baby's hunger. Transition milk is the milk secreted in between the secretion of colostrum and foremilk. It contains protein and immunoglobulin but in lesser quantity than colostrum while there is increment in fat and sugar level.

- ❖ There are immense **nutritional benefits** of breast milk. The constituents of breast milk are just appropriate for an infant and satisfy his requirement.



- **Energy:** The quantity of energy provided by human milk is quite adequate for the infant. Infact cow's or buffalo's milk contain more calories than actually needed by them.
- **Carbohydrate:** The sweetness of human milk is due to its lactose content. It is quite high in amount compared to cow's or buffalo's milk. The presence of galactose in human milk helps in the formation of myelin sheath which acts as a protection around the nerve fibres. It helps to transmit nerve messages. It contains salivary enzyme like amylase that helps in digesting starch.
- **Protein:** Breast milk contains 20%  $\beta$ -casein and 80% whey proteins. Whey proteins are easily digestible and forms soft curd. Lactalbumin and lactoferrin are the components of whey protein. Lactalbumin provides more essential amino acids and lactoferrin found in milk combines with iron in the blood. The solute load of human milk is ideal for immature kidney of the infant.

Breast milk provides amino acids necessary for brain development. It contains sulphur containing amino acids like methionine that is required for the development of central nervous system.

Human milk contains taurine which is an important neurotransmitter and neuromodulator for brain and retina. High tryptophan to neutral amino acids ratio in breast milk helps in brain serotonin synthesis.
- **Lipids:** Human milk contains fat soluble vitamins, steroids, phospholipids, cholesterol, essential fatty acids and prostaglandin

precursors. Plenty of long chain polyunsaturated fatty acids are available in breast milk that help in the formation of brain lipids. It also contains EPA (Eicosapentanoic acid), DHA (Docosahexanoic acid) and arachidonic acid. The level of EPA and DHA in breast milk is a reflection of maternal consumption of fish in her daily diet.

Carnitine which helps in the transportation of essential fatty acids is present in human milk. A lipid like cholesterol is needed for the synthesis of myelin sheath. Phospholipids are required for brain development. The ratio of polyunsaturated to saturated fat in human milk is 1.2:1 that is adequate for an infant.

- **Vitamins:** The availability of vitamins in breast milk is directly proportional to the dietary level of vitamins among mothers. Those vitamins which are easily destroyed by heat like thiamin and ascorbic acid are totally present in human milk. Among fat soluble vitamins, vitamin A, D and E are available in it. Water soluble vitamins like riboflavin, pyridoxine, B<sub>12</sub> and folic acid are available in considerable amount in human milk.

- **Minerals:** Like vitamins, minerals too are completely dependent upon the dietary intake of the mother. They bind with the protein and are biologically available to the body.

Calcium phosphorus ratio in breast milk is 2:1 which is appropriate to prevent infantile tetany. The sodium load in breast milk is favourable for immature kidney of the infant. Iron is available in lactoferrin, sufficient to meet infant's requirement. Trace elements like copper, cobalt, selenium, iron and zinc are bioavailable through breast milk.

❖ Breast milk has **immunological benefits** too. They help to develop passive immunity by the process of transferring of maternal immunity to infant. Immune boosting factors present in breast milk are:

- **Macrophages:** Pathogenic microorganisms are destroyed by macrophages as they engulf and digest bacteria by the process of phagocytosis.
- **Lymphocytes:** They are white blood cells responsible for the destruction of harmful microorganisms. An antiviral substance called interferon is produced from lymphocytes makes it favourable for an infant to fight against diseases.
- **Immunoglobulins:** IgA, IgG, IgM play an important role to fight against virus, bacteria and other infectious microorganisms. Among the three immunoglobulins, the level of IgA in human milk is quite high in comparison to IgG and IgM.
- **Lactoferrin and vitamin B<sub>12</sub> binding protein:** Lactoferrin provides natural protection to an infant by arresting the multiplication of bacteria and removing free iron which would otherwise result in generation of free radicals. It destroys the growth of both staphylococcus and E.coli organisms.

**Vitamin B<sub>12</sub> binding protein** is involved in the unavailability of vitamin B<sub>12</sub> to pathogensthat depend on it for their survival in infant's gastrointestinal tract.

- **Lactobacillus bifidus factor:** The component is an amino sugar, containing N-acetyl neuraminic acid. It is a nitrogen containing carbohydrate in breast milk. It favors the growth of friendly microorganism named Lactobacillus bifidus that obstructs the growth of pathogenic microorganisms as E.coli by releasing acetic acid or lactic acid from lactose. High lactose and low protein diet ensures growth of Lactobacillus bifidus factor.
  - **Enzymes:** Enzymes as amylase, lipoprotein lipase, oxidase, peroxidase etc. are sufficiently present in breast milk that kills specific pathogenic microorganisms and enhances digestive capacity of infant. They also stimulate maturation of cells.
  - **Fatty acids and Monoglycerides:** These compounds help in the destruction of viruses and bacteria.
  - **Para Amino Benzoic acid (PABA):** It kills malarial parasites.
- ❖ Other **benefits** of human milk:
- **Psychological benefits:** Breast feeding ensures development of strong bond between mother and infant. The infant feels secure at her mother's breast while the mother derives complete satisfaction in feeding her infant.



- **Financial benefits:** Breast feeding is cost effective than formula feeding. The nutrients necessary for the growth and development of an infant are available readily without any monetary hassles.
- **Reduction in infant and child morbidity:** Exclusive breast feeding for the first six months of life and continuation of it along with weaning till two years help to reduce risk of childhood diseases.
- **Physiological benefit:** Breast feeding promotes shrinkage of uterus to its normal size and delays onset of menstruation cycle. It reduces postpartum bleeding. Women on exclusive breastfeeding regime have lower chances of developing breast and ovarian cancer.

**WHO** and **UNICEF** jointly have taken initiative to introduce breast milk as the birth right of all infants and encourage mothers to get deeply involved in the active breast feeding process to their newborns.

## **Weaning -Knowledge and Practices**

**Soma Saha,Assistant professor HOD Department of Food and Nutrition**

The term weaning comes from the word (WEMIAN) that means to accustom. Weaning It is the gradual withdrawal of breast milk and the introduction of other food, including milk of different animal and adult food prepared suitably.

**Breast milk should be exclusively given to the infant for the first 6 months,** but after that Weaning should be started.

### *Need for Weaning:*

- All babies reach a stage where breast or formula milk does not supply all the nutrients they need as after a certain time, breast milk production becomes poor. At that time Weaning fulfill the requirement of the infant.
- Weaning also provides an excellent opportunity for all members of your family to become involved in feeding your baby. Solid foods help babies to practice lip, tongue, and jaw movements. Eating together is also an essential social activity.
- Since birth, Babies have to depend on breastfeeding up to 6 months. Iron stores of the infant last up to six months. After 6 months, supplementation with iron is necessary.
- Breast milk is deficient in vitamin c, so supplementation with vit c is necessary during Weaning.

### *Proper timing of Weaning:*

The World Health Organization recommends that all babies be exclusively breastfed for six months, then gradually introduced to appropriate family foods after six months while continuing to breastfeed for two years or beyond. Some babies decrease the number of breastfeeds as they begin to be able to digest solid food.

### Types of supplementary food

### **Liquid Supplements :**

*Milk:* After six months of age, the baby can be introduced to other milk than breast milk, like cow's milk. Calcium is more easily taken into the body from milk than from vegetable foods.

Milk provides some vitamins, especially Vitamin A (in the milk fat) and B group vitamins.

*Soup from green leafy vegetables:* If fruits are not available, then green leafy vegetables can be used. They act as a good source of vitamins and minerals. Soup may be prepared from boiled vegetables. But at the beginning, strained vegetable soup can be given to the baby, then gradually it can be mashed well before feeding like mashed potato, smashed boiled carrots, papaya etc.

*Juice of fresh fruits:* Fruit juice provides several vitamins and minerals to the infant. But at the beginning, strained diluted citrus fruit juices like orange, musambi, pomegranate etc. can be given to the baby, then gradually, it can be mashed well before feeding like banana, boiled apple, Chiku , ripe papaya, ripe mango. Ripe papaya and mango are very good sources of beta carotene, which is essential for babies. Apple a day truly can help babies stay healthy.

*Fish liver oil:* It is a good source of vitamin A & D. It should be provided to infant, it is very essential for their growth and improving their nutritional status and can be added to the milk of the baby 1 or 2 drops.

### **Solid supplements :**

*Mashed product:* Beginning solid food should be introduced to the infant after smashing them well. All kind of food stuffs like, cereal grains, pulses legumes,( khichdi, dalia khichdi, oats porridge, semolina porridge) fruits, vegetables, egg yolk, small fish, minced meat, sugar, oil, every item should be smashed well

and then provide to the baby. It gives balance nutrition to the baby. Egg white should be omitted until 1 yr of a baby as it can cause allergy.

*Un-mashed product:* When the baby gets accustomed to the semi-solid consistency of food, then gradually solid or un-mashed food can be provided to the baby. It will help them to obtain proper nutrition, a balanced diet, and help them to be accustomed to adult food and routine diet.

*Point to be considered in introducing weaning foods:*

1. Introduce only one food at a time.
2. Allow the infant to become familiar with the food before trying another.
3. Give very small amount of any new food at the beginning.
4. Use very thin consistency when starting solid foods. Gradually increase the thickness.
5. If, after several trials, the baby has an acute dislike for a particular food – omit that food for a week or two and then try again. If dislike persists it is better to forget about the food and substitute with another.
6. Food should be slightly seasoned.
7. At first strained fruits, vegetables and cereals are to be given.
8. When the baby is able to chew, gradually substitute finely chopped fruits and vegetables at the age of 8-9 months.
9. Infants may object to taking some foods individually, but will take them willing if mixed with another.
10. Variety in choice of foods is important.
11. The mother or anyone feeding the infant must avoid showing dislike for the food given to the infant.
12. An infant's appetite varies a lot from meal to meal and day to day, e.g. during hot /cold climate and cough/teething.
13. Give freshly prepared food.



14. To make the food calorie-dense, add oil/butter/ghee to the infant's diet.
15. Fruit juice should be fed only with a cup and not a bottle.
16. Hands should be washed with soap before handling and preparing food.
17. Clean and washed sterilized utensils should be used.
18. Forceful feeding must not be practiced.

SOME HOME MADE WEANING FOOD FOR BABIES :-



SEMOLINA  
PORRIDGE



MASHED BANANA



DALIA KHICHDI



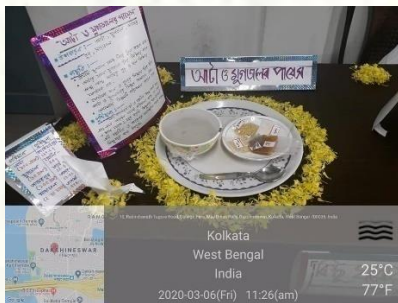
MASHED POTATO



← CHICKEN STEW



← BREAD WITH MILK



← ATTA MUNG DAL PORRIDGE



← MURI SATTU PAYASM

*“ poshan ke liye paudhe ”*

“पोषण के लिए पौधे”





## **GROW YOUR OWN FOOD**

**By Munmun Kundu**

**Teaching Faculty, Department of Botany,**

**Hiralal Mazumdar Memorial College For Women, Dakshineswar, Kolkata**

Many have taken to pursuing hobbies and personal projects during the shutdown and one such hobby is terrace gardening, which has gained popularity over this period. Starting a garden is one of the most rewarding things in itself and requires a bit of patience. Planting rewards either the fragrant florals or vegetables (or both), everyone can benefit from getting their hands a little dirty, in case of vegetable gardening even if it does not bloom or develop seeds at least you will have a nice pretty looking plant, so you definitely give them a try. A vegetable garden is also a great way to give kids exposure to food production that they might not otherwise get. We may face many challenges in the future around the issues of natural resources and food production, so the ability to grow food in one capacity or another is a skill that may be quite beneficial for future generations and it's also a way to preserve biodiversity in our own vicinity. This article provides what all you can grow from your kitchen without going anywhere outdoors and easy to grow without requiring much effort. First, easy to grow basic vegetables which I highly recommend are Mint leaves, Coriander, Curry leaves, Chillies, Lemon grass, Spinach, Potatoes, sweet potatoes, lady's Finger, French beans, Bitter melon, Pumpkin, carrots, Coriander, Chickpea, Mustard, wheat grass etc. Since they don't require too much sunlight, these plants can be kept in a living room or placed near the window. Once you are well-versed with simple plants, graduate to growing cabbage, cauliflower, capsicum, radish, onions and tomatoes. Planting both cool and warm weather vegetables will give you a harvest of vegetables and herbs continuously all year round.

These plants can be easily grown by a beginner, select up to five types of vegetables to grow and plant a few of each type. Even if you don't have a balcony, you can even grow these vegetables at home in an



apartment if you can spare a small amount of window. Prior to regrowing food from your Kitchen you must know the exact process of regrowing, exact way of watering, right amount of sun exposure (doesn't always mean direct sunlight), types of fertilizers and their uses, how to protect plants from pests, etc. Also remember to get open pollinated seeds for whatever you plan to grow.

A container garden with vegetables and fruits may be the ideal thing for you. With them you don't even need a yard; a sunny deck or balcony works fine. One of the great advantage about container gardening is the ability to grow almost any vegetable and many varieties of fruit, given the right conditions and space enough for an appropriately sized container.

Try vertical gardening, for making productive space out of lost space is the key to maximum productivity in the small urban garden, as most vegetables and fruit bearing plants grow upwards for fitting food production into a smaller space, consider using a traditional trellis to a recycled pallet planter to a hanging hydroponic window garden. Plants like Tomatoes, peas, potatoes, kitchen herbs, etc. grow well in vertical gardening.

The smallest and simplest of urban gardens is simply a single large pot. A relatively large pot can be surprisingly productive if one maximises its potential. If you plan the growing year carefully, one can harvest approx 10 different crops in a single year by combining compatible plants. All you need to do is get a large trough or tub, drill some drainage holes, fill it with soil and then plant complementary groups of plants together for fresh, home-grown vegetables throughout the year. You don't need to invest in fancy or earthen pots; plastic bottles, buckets, tubs and old tyres can be a great idea for growing plants too.

Nutrient-rich soil that supports healthy plant growth is simple to prepare and the results are extremely effective. Composting your kitchen scraps and adding cowdung is a great way to enrich your gardening soil. Also, keep sprinkling some fresh soil and wood ash in the pots from time to time. Always mulch your soil, this will reduce water loss from soil surface and keep the soil cool.

You can make your own compost at home using dry crushed leaves, sugarcane baggase or even newspaper along with organic wastes like

Banana peels, Egg shells, Onion peels,etc or use liquid fertiliser like seaweed extract, Neem oil.

So, to

summarize.....

Water regularly as per requirement of your plants. Ensure there's a clear drainage system.

Make sure the roots are not clogging the plant. Rearrange your plants to protect from heavy rain.

- Make sure that the soil used is porous and not lumpy.

Keep an eye out for naughty pests.

Regularly prune your plants for more growth.

Remove dead leaves to prevent fungus.

Keep away insects with simple home remedies -Spray Neem oil on the leaves.

Use home-made fertilizers.

After deciding to grow your own vegetables, choosing the right plants for your space may be the most important decision you'll make. Most of the plants require a minimum of 6 hours of direct sun per day and others vegetables will prefer partial shade during the hottest days of the summer. Assess your space, choose wisely, start small, and dig into this tips and triks to grow the best vegetable garden; good luck! I am sharing a link of “how to grow sweet potato at home”-

[https://youtu.be/Qz11Vdlz\\_ng](https://youtu.be/Qz11Vdlz_ng)





**POSHAN K LIYE PODHEY –“LET FOOD BE YOUR MEDICINE  
NOT MEDICINE BE YOURFOOD!”**

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INDIA a rich heritage of indigenous agriculture can easily contribute in maintaining health, overcoming hunger and malnutrition. Then “why is it so that India is ranked 117th in GLOBAL HUNGER INDEX”? according to UNICEF 2.3 billion population suffers from” HIDDEN HUNGER” i.e. MICRONUTRIENT DEFICIENCY, of which more than half thrives in India. The reason perpetuates largely around poor and marginalized section of our country and in contrary to those of high socio-income status where it is translated into junk foods. This detrimental problem can be systematically solved by fostering nutritional significance of locally available seasonal foods and utilizing the underutilized plants/crops. Emphasizing the platter diversity by including foods present locally and during that specific seasons i.e. those which are naturally grown and harvested and devoid of any unnecessary packaging and processing. Seasonal foods supports diverse climatic transitions and knows how to enhance our physiological systems in that period of time. For instance fruits and veggies in summer are naturally hydrating and cooling, those in winters are for hot sizzling soups and in monsoons are packed with vitamin c against infections. Hence there is always a nature’s plan and tampering with it is what is leading us to all new lifestyle disorders.



Besides the local and seasonal plants, “OUR LAND OF SPICES” is no doubt immensely contributing in this COVID PANDEMIC for its immune boosting significance. From the Traditional TURMERIC, holy BASILS, spicy Ginger Garlic, aromatic cloves and the KING OF SPICES i.e. Black Peppers all contribute as nutraceuticals by its antimicrobial and anti-inflammatory properties and all are utilized globally. As all these are present within our land and that these are utilized, our tradition is also comprising of several underutilized PLANT SPECIES like MILLETS, YACON, CHIRONJI, WATERMELON SEEDS, URBI and many more which has immense phytonutrients participating in enriching diet diversity and nutritional security. These plants not only provide multipurpose ethical nutritive values but also can conserve our lands fertility by promoting inter-cropping facets. For example NUX VOMICA, BLACK MYROBALAN, JIVANTI SEEDS which are native to India has several functional properties over cardiovascular disease, tuberculosis and eradicating the micronutrient deficiencies by its B vitamins, folic acid and other essential micronutrients. Having a glance towards nutritional knowledge by above specifics, emphasis should largely be made upon “CULTIVATION OF CROPS IN

A SYSTEMIC MANNER BY GARDENING THEM IN A SPACE WITHIN HOUSEHOLD, known as” NUTRITION GARDEN” or” KITCHEN GARDEN.” THIS will not only support the organic, authentic and healthy farming but also ensure physical exertion and cost effectiveness by lowering the budget constraints. Last but not the least government understanding the role of kitchen garden by POSHAN VATIKA SCHEME ensures to strengthen the nutrition of marginalized section by promoting millet cultivation, green leafy vegetables and herbal plants in home or backyards. Finally its high time that “ BESIDES A FAMILY DOCTOR WE ALSO REQUIRE A FAMILY FARMER SO AS TO NOT OFTEN VISIT to DOCTORS.” Needless to say basic farming

should be inculcated within children in homes and schools for attaining healthy society, sustainable economy and ecological diversity.

## **ROLE OF UNDERUTILIZED PLANTS IN NUTRITION**

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Underutilized plants are lesser-known plant species in terms of marketing and research but well adapted to marginal and stress conditions. These plants are less available, less utilized, rarely used or region specific but have the potential to contribute to food sources for their immense nutritional importance for common people. These are five plant foods which can be the future of nutrition but the properties are usually neglected or not that famous.

**A) CAULIFLOWER LEAVES-** Though cauliflower is used as a food commodity, the highly nutritious leaves are thrown away. But the leaves can also be used as food as these are completely edible and borne essential nutrients like protein and antioxidants. The leaves being rich in iron, provides 40mg Iron/100 gm to the regular diet and prevents Iron- deficiency anemia. The leaves are also a rich source of fiber, thus keeps gut health at an optimum level. The leaves can be consumed after cooking separately or with other vegetables.

**B) WATERMELON RIND-** the rind is often treated as a trash after having the red juicy part of the melon, but it has a surprising amount of health benefits. The rinds consist of lycopene and flavonoids which promote skin health, rich in fiber and low in calorie so good for obese individuals, enhances immunity by providing Vitamin C and Potassium levels maintain normal blood pressure. The rinds also reduce morning sickness during pregnancy.

**C) AMRUL SHAAK-** The leaves of *Oxalis corniculata* , known as amrulshaak are rich in essential fatty acids like palmitic, stearic and also have high levels of betacarotene. The leaves consist of essential minerals like Calcium,

Phosphorous and have high antioxidant value. From ancient times, the leaves have been known to furnish antidiabetic, antiulcerative and hypolipidemic properties, but nowadays people hardly know about it. The leaves can be consumed with salad or after sautéing with little oil. D) **BEET GREENS**- The greens are completely edible but these are not even available in markets. Beet greens are a good source of fiber, protein, vitamins A, K, C and riboflavin(b2). It consists of an antioxidant called Lutein which keeps the retina healthy and aids in vision. It also contains minerals like Magnesium, Calcium, Manganese, Potassium and Copper. The greens can be eaten in soups, braised or sauteed.

E) **KARONDA/ KOROMCHA**- these fruits are sometimes confused with cranberries but are rarely available in the market use. Karonda fruits contain good amount of vitamin C and other minerals like Zinc, Magnesium, Copper and Iron. It keeps liver healthy as it reduces excessive secretion of bile. Karonda has a significant association to the Indian medicine as it is known to treat anemia. The fruits can be eaten ripe or used to make pickle for consumption.



## **Aushadhamucchyathesarvam**

**Saianka Bhauray**  
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### **What is immunity?**

In biology, immunity is the capability of multicellular organisms to resist. Harmful microorganisms. Immunity involves both specific and nonspecific components. The nonspecific components act as barriers or eliminators of a wide range of pathogens irrespective of their antigenic make-up. Other components of the immune system adapt themselves to each new disease encountered and can generate pathogen-specific immunity. Two types of immunity exist — active and passive:

- Active immunity occurs when our own immune system is responsible for protecting us from a pathogen.
- Passive immunity occurs when we are protected from a pathogen by immunity gained from someone else.

According to ancient Indian texts, “aushadhamucchyathesarvam”, which implies that food is the absolute cure and healer s. A strong immune system helps the body fight flu, disease-causing viruses, as well as bacteria. They also have atiflammatory properties and without any side effects it work on our body. These spices should be added in our daily life to boast our immunity:

**TURMERIC:** Turmeric is called the "Queen of spices". turmeric contains a wide range of antioxidant, antiviral, antibacterial, antifungal, anti-carcinogenic, anti mutagenic and anti-inflammatory properties. It can help prevent prostate cancer, relieves arthritis, controls diabetes, reduces the cholesterol level and immunity booster.

**BLACK PEPPER** :Black pepper is the fruit of the black pepper plant from the Piperaceae family. The health benefits of black pepper include relief from respiratory disorders, coughs, the common cold, constipation, indigestion, anemia, impotency, muscular strains, dental disease, pyorrhea, diarrhea, and heart disease.

**CARDOMON** :It was believed to be a remedy for teeth and gum infection, throat problems, congestion of the lungs, pulmonary tuberculosis, inflammation of eyelids, gastrointestinal disorders, disintegrating kidney and gall bladder stones. Other health benefits of cardamom include cholesterol control, control of cancer.

**CLOVE**: It offers many health benefits, some of which include providing aid in digestion, having antimicrobial properties, antioxidant, anti-inflammatory, antidiabetics, anti-microbial, immunity boosting, cancer and heart disease protecting abilities.

**ANISE** :Anise is an excellent remedy for asthma, bronchitis, cough, microbial infections and diseases, head lice, skin disease, regulating menstruation, pain relief as well as digestive disorders such as flatulence, bloating, stomach pain, nausea and indigestion.

**GINGER**: Ginger as the universal medicine, in particular for relieving nausea, stomach aches, diarrhoea, asthma, respiratory disorders, toothache, gingivitis and arthritis. The phenolic compounds in ginger are known to help reduce gastrointestinal irritation.

**CONCLUSION**: Today worldwide, a novel corona virus disease (COVID-19) has emerged like a havoc to the humanity According to the World Health Organization, around 80% of the world population uses herbal medicines. In the wake of the COVID 19 outbreak, entire mankind across the globe is suffering. Enhancing the body's natural defense system plays an important role in maintaining

optimum health. We all know that prevention is better than cure. While there is no medicine for COVID-19 as of now, it will be good to take preventive measures which boost our immunity in these times.

## **“POSHAN KE LIYE PAUDHAY”**

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**POSHAN Abhiyaan'** (National Nutrition Mission) is launched By Prime Minister **Shri Narendra Damodardas Modi** in March 2018. **The 3rd Rashtriya Poshan Maah** is being celebrated in September 2020 to address the problem of malnutrition among women and young children.

The **aim** behind the celebration of 'Poshan Maah' is to encourage Jan Bhagidaari in order to **ensure Health and Nutrition** for everyone.

**Nutrition** is always important but during this time( as pandemic breaks) nutrition becomes more important. No vaccine is available till now so we need to boost our immunity to combat with the situation. Nutritious & immunity enhancer foods play great role in boosting immunity.

We all need certain vitamins, minerals and other nutrients for good health, and if one knows where to look, they're actually not that hard to come by on the cheap. Whole foods like fruits, vegetables can supply dozens of nutrients, including the all important vitamins that keep us going strong, for a very manageable cost.

To prepare a low cost Nutritious Recipe we need an access of 'Easily Available' and 'low cost ingredients' viz. Fruits and Vegetables.

Socio-economic group , cost and availability of the foods are the main considerations in planning daily menu.

### **Low cost Recipes:**

Budget is always one most important consideration in planning daily menu for a person / family. Low cost Recipes need low cost i.e. affordable ingredients.



In this era, when most of the people are facing unemployment. Eating healthy on a [tight budget](#) can be challenging. In order to plan a healthy daily dietary plan. Many [nutrient-dense foods](#) are quite expensive, which is why some people opt for cheap junk foods instead. However, there are plenty of affordable foods you can purchase that are healthy and easy to add to your diet.

Some low cost Recipes using low cost ingredients :-

Main Ingredients	Recipes
Amla	Amla Jam
Banana Stem	Thor Juice
Banana Flower	Mocha Ghonto
Bottle Gourd	Lauky Halwa

Easily Available:

‘Food availability’ is when all people have sufficient quantities of food available on a consistent basis. ‘Food availability’ is determined by food production and food trade. Easy availability increases the accessibility of foods by people. Availability of Vegetables and Fruits depends on season, some are available throughout year.

food availability is closely linked to the availability and use of natural, human and economic resources, especially scarcity of natural resources . Home gardening can also increases the availability. Home gardening is a growing sector now a days, plays vital role in improving **Nutrition &Reduction in food bill.**

So , try to choose Fruits and vegetables which are easily available , low cost and easily be grown in roofs or yards that are healthy , easy to add in diet. It is

our duty to aware people about the access of Locally available and cost-effective recipes.

বাঙালির খাদ্যাভ্যাস  
সকাল বেলা ছুটির দিনে  
লুচি, আলুরদম সঙ্গে নিলে  
কার্বোহাইড্রেট ভরপুর তাই  
পুষ্টি সমৃদ্ধ ডায়েট মশাই।  
রবিবারের দুপুরবেলা  
ভুরিভোজের খাদ্যমেলা  
মাংস কিংবা ইলিশ মাছে  
হরেকরকম খালা সাজে।  
পরিপাক টাও সঠিক হয়  
উৎসেচকের সাহায্য পেলে,  
তাই তো বলি আমরা সবাই  
ভালো খাবারেই ওষুধ মেলে।

**Shelly Mondal**

**5<sup>th</sup>sem H**

**Food and Nutrition**

**Hiralal Mazumdar Memorial College for Women**

## **THE VITAMINS**

Vitamin A has a mission  
To give to you strong bones and vision

Vitamin D is from the sun  
And helps the mineral calcium

Vitamin E always goes zoom  
To help your system stay immune

Vitamin k helps you clot  
That way you won't bleed a lot

Vitamin C won't let you get sick  
You will pump iron more quick

**Siba Akhtari**

**5<sup>th</sup>sem H**

**Food and Nutrition**

**Hiralal Mazumdar Memorial College for Women**



## গাছের মূল্য

গাছ লাগাও, প্রাণ বাঁচাও

একটি গাছ একটি প্রাণ

ওনেছি ছোটো থেকে

বুঝিনি তার মানে

এখন সেটা বুঝতে পারি গুরুত্ব তার কত!

সবই রোগের একই ঔষুধ আদি কাল থেকে,

গাছ গাছড়া খেয়ে মানুষ বেঁচে আছে সুখে।

বাসক, তুলসি সর্দি সারায় সাথে আর কাশি

নিম গাছের গুণ সব থেকে বেশি।

পাতা, ছাল, ফল, ফুল সবই লাগে কাজে

হিংড়ে, কলমি, সুজনি কোনোটাই নয় বাজে।

তাই তো বলি,

বাঁচতে যদি চাও

গাছ লাগাও, প্রাণ বাঁচাও।

**-Swagata Mukherjee**

**3<sup>rd</sup> semester**

**Honours**

**Department Of Food**

**& Nutrition Hiralal**

**Mazumdar Memorial**

**College for Women**

## ভিটামিনের গুণ

সুস্থ যদি খাবণ্ডি চাঙি,  
বেশি বণ্ডর খেলে খাঙি  
টাঙেগ সবজি খেলে পণ্ড,  
শরীর immunity বাঙে।  
গাজরে ডাঙে -বণ্ডারোঙি  
চাঙের ডুয়টি বাঙেয়,  
ভিটামিন C টেব খেলে  
দাঁঙের বোঙ সরায়,  
ভিটামিন K রক্ত তিখন বণ্ডর জীকন বাঙায়,  
তাই সুস্থ খাবণ্ডি গেলে  
শাখ-সবজি-খেলে খাঙি বেশি বণ্ডর।

Swagata Mukherjee

Department Of Food & Nutrition

Semester – 3

Hiralal Mazumdar Memorial College For Women

## Recipe Segments



- RECIPES USING PLANTS FROM OUR KITCHEN GARDEN
- SUPPLEMENTARY FOOD FOR 6MONTHS TO 2 YEAR BABY

# RECIPES USING PLANTS FROM OUR FACULTIES' KITCHEN GARDEN

## PURPLE DELIGHTS

(APARAJITA PHUL KE SARBAT)



**SOMA SAHA**

**ASSISTANT PROFESSOR & HOD**

**DEPARTMENT OF FOOD AND NUTRITION**

**HIRALAL MAZUMDAR MEMORIAL COLLEGE FOR WOMEN**

**Scientific name: Clitoria ternatea**

### INGREDIENTS

APARAJITA FLOWER – 6-7 PCS

BASIL LEAVES (TULSI) – 4-5 PCS

LEMON :-1 PC

ROCK SUGAR (MISRI) :- 2 TEA SPOON

BLACK SALT :- 1 TEASPOON

CHAT MASALA :- 1 TEA SPOON





### **METHODS OF PREPARATION:-**

1. TAKE 6-7 PCS APARAJITA FLOWER AND WASH THEM WITH WATER.
2. BOIL 1 GLASS OF WATER IN A PAN .
3. PUT THE WASHED FLOWER INTO IT.
4. AS THE FLOWERS BECOME DISCOLOUR, DISCARD THE FLOWER FROM THE WATER.
5. COOL THE SURYP.
6. POUR IT IN GLASS, ADD ROCK SUGAR 2 TEASPOON, BLACK SALT 1 TEASPOON, SOME CHAT MASALA, AND LEMON JUICE.
7. STIR IT WELL.
8. SERVE WITH ICE CUBES.
9. YOUR DRINK IS READY TO SERVE.

### **NUTRITIONAL AND HEALTH BENEFITS:-**

- RICH IN ANTHOCYANIN ANTIOXIDANT THAR PROTECTS US FROM FREE RADICAL DAMAGES OF OUR BODY.
- DELAY AGING.
- CURE ANY TYPE OF HEADACHE, MIGRAINE.
- GOOD FOR CHILDREN WITH DEVELOPMENTAL PROBLEMS OF BRAIN AND ALSO IMPROVE MEMORY.
- HELPS IN DETOXIFICATION OF OUR BODY
- GOOD FOR IMPROVING VOICE QUALITY AND PROBLEMS OF THROAT.
- HAS ANTI-INFLAMMATORY PROPERTIES.
- HELPS TO STRENGTHEN THE HEART AND RESPIRATORY SYSTEM.
- THIS SARBAT IS ALSO RICH IN VITAMIN C AS LEMOM IS USED.





### **Shiuli delight**

Smt .Bhaswati Ghosh

SACT, Department of Food and Nutrition, HMM College

**Scientific name:** *Nyctanthesarbor-tristis*,

Common name: **Night-flowering jasmine** or **Parijator Shiuli**

**Origin :**It is a species of *Nyctanthes*, native to South Asia and Southeast Asia

#### **Chemical constituents**

**Leaves:** The leaves contain D-mannitol,  $\beta$ -sitosterol, flavanol glycosides, astragalol, nicotiflorin, oleanolic acid, nyctanthic acid, tannic acid, ascorbic acid, methyl salicylate, an amorphous glycoside, an amorphous resin, trace of volatile oil, carotene, friedeline, lupeol, mannitol, glucose, fructose, iridoid glycosides, and benzoic acid.

#### **Uses**

##### **Traditional Medicine**

The leaves have been used in Ayurvedic medicine and Homoeopathy for sciatica, arthritis, and fevers, and as a laxative.

##### **Ingredients:**

Shiuli leaves – 8

Besan – 8 tbsp (90gms)

Black cumin (Kalojeera) – 2 pinch

Salt, turmeric powder, red chilli powder – according to taste

White oil – 50 ml

**Method:**

- Wash shiuli leaves thoroughly.
- Make a batter with besan, black cumin seeds, salt, turmeric and red chilli powder.
- Add water to it and prepare a semi thick consistency.
- Heat oil in a kadhai.
- Add 2 tablespoon of heated oil into the batter and mix thoroughly.
- Take two leaves together and dip it into the batter.
- Deep fry till golden brown.
- Serve hot with rice or tomato sauce or green chutney.

**Nutritional significance**

- Juice of shiuli leaves help in weight loss
- Acts as decongestant
- Relieves pain in arthritis and sciatica
- Helpful in fever and malaria.
- Acts as immunity booster
- Antioxidant and anti-inflammatory agent
- Helps in deworming
- Cures pimples







**Summer Special Recipe : Bengali Parwal Curry (Pure Veg)**



**MOUSALI SINHA**

**SACT Department of food and Nutrition**



**Ingredients :**

- 1. With out skin Potatoes cube: 100 gm**
- 2. Peeled Parwal (chopped the parwal in 2 pieces ): 300 gm**
- 3. Whole red chilies : 5 gm**
- 4. Whole cumin seed : 1/2 teaspoon**
- 5. Bay leaves: 5 gm**
- 6. Ginger paste: 2 teaspoon**
- 7. Tomato puree: 1/2 cup**
- 8. Coriander+Cumin+Redchili+Turmeric powder ( Mixed with water) :3 teaspoon**
- 9. Cinnamon +Cardamom + clove (half dust): 1 teaspoon**
- 10. Cashew nut paste: 3 teaspoon**
- 11. Salt& Sugar: As per taste**
- 12. Rice bran oil: 3 teaspoon**
- 13. Water: 1 cup small**

**Processing:**

**On a low to medium flame heat 3 teaspoon rice bran oil in a pan and let it come to its smoking point**

**>Reduce the flame then add parwal the pieces, fry them until it becomes golden, just need to fry them till they are almost cooked. Then remove them from the pan.**

**>Now add the potatoes cube from the same pan and stirring them for 5 minutes until it becomes golden till they are almost cooked. Then remove them from the pan.**

**>In the same oil now add cumin seed, red chilies , bay leaves and Cinnamon +Cardamom + clove (half dust).Fry them till you get an aroma just ,for a minute.**

**>Reduce the flame and add ginger paste and add tomato puree and stir it well till you get an aroma just ,for a minute.**

**>After that add Coriander+Cumin+Redchili+Turmeric powder ( Mixed with water). Mixed and saute for a minute on low flame .**

**>After that add cashew nut paste and saute it for another 1 minute.**

**>Now add fried parwal and potatoes and add sugar , salt as per taste, mix them well**

**>Add 1/2 Cup water, mix well.**

**>Cover the pan with lid, Leave it on low flame and cook until the curry thickness and oil begins to separate.**

**>Turn off the flame.>Now serve Bengali parwal curry with chapaties, parathas or steamed rice. You can garnish with some coriander leaves also while serving.**

### **Nutritional Facts:**

- **Parwal is most common, cheap and has full of nutritional benefits like blood purifier, reduce common cold and flu, improve digestion, lots of fibers with antioxidants, Vitamin A, Vitamin C.**
- **It can helps to reduce constipation , it helps to control blood sugar level and reduce cholesterol. One of the best part of Parwal is to reduce obesity. As a tender vegetable like parwal contains water and low in calories so one can eat this vegetable based curries with no doubt to reduce his/her body weight.**

***So try this dish and stay healthy and fit.***

*Bengali cuisine: Banana blossoms Bharta*



*Ingredients :*

1. Banana Blossoms: 500 gm
2. Shredded coconut: 3 tablespoon
3. Boiled whole Bengal gram/ Boiled desi chick peas: 25 gm
4. Peeled cubed potato: 100 gm
5. Bay leaves: 5 gm
6. Whole cumin seed: 5 gm
7. Dried red chili: 5 gm
8. Ginger paste: 3 teaspoon
9. Green chili chopped: 5 gm
10. Turmeric powder-Chili powder: 5 gm
11. Cumin-Coriander Powder: 15 gm
12. Clove powder-Cinamon powder- Cardamom powder: 5 gm
13. Mustered oil: 2 tablespoon
14. Ghee/ Butter oil: 1 tablespoon
15. Salt: As per taste
16. Sugar: 1 tablespoon



### **Processing:**

- After collecting the blossoms and inner white cone , chopped them very well
- Heat the water in a deep pan and add chopped banana blossoms with pinch salt and turmeric.
- Leave it boil for 2 minutes until blossoms are soft enough and drain it on a colander and run cold water over it
- Squeeze out the water from the blossoms. Leave it for dry.
- Heated mustered oil in a deep pan then add whatever whole spices you have - Bay leaves, whole cumin seed and dry red chili. Fry them till you get an aroma just for a minute.
- Add potato in pan and fry until it will get brown in color.
- Then add Cumin-Coriander Powder, Turmeric powder-Chili powder and ginger paste then stir them for few minutes till you get an aroma.
- After that add dry banana blossoms and boiled chick peas . Fry them on high flame for 3 minutes.
- Shredded coconut is added and saute them for a while.
- Sprinkle salt and sugar as per taste .
- Cover it and leave it in low flame till potatoes are tender
- Stir it well until oil begins to separate.
- Add few drops of ghee/ butter oil and sprinkle Clove powder- Cinamon powder- Cardamom powder, stir it well and put off the flame.
- Dish is ready to serve.

### **Nutritional Fact:**

This dish full fiber and minerals. We know that fiber helps us to reduce constipation,diabetes, weight loss and lowering cholesterol level in blood. Fibers can improves the bowl movement, the fibers acts like a bottle brush that helps to prevent colon cancer. Minerals like phosphorus, copper, iron, calcium are available in banana flowers that promotes HB level in blood , bone health and provide immunity. Banana flower is a galactagogues vegetable , increase the breast milk secretion for lactating mother it can also helps to support the uterus and reduces bleeding post delivery . Banana Flower contains vitamin C which is a potent antioxidant helps to reduce ageing .

Try this dish and get benefits...



## *Delicious young Jackfruit*



### *Ingredients:*

1. Young Jackfruit chopped: 500 gm
2. Cumin seed : 1/2 teaspoon
3. Bay leaves: 3 gm
4. Ginger paste: 3 teaspoon
5. Tomato puree: 4 tablespoon
6. Turmeric powder: 1/2 teaspoon
7. Coriander powder: 1&1/2 teaspoon
8. Cumin powder: 1&1/2 teaspoon
9. Red chili powder: 1 teaspoon
10. Green chili chopped: 1 teaspoon.
11. Dry red chili: 3 gm
12. Cradamom powder-cinamon powder-clove powder: 1 teaspoon
13. Rice bran oil: 2 tablespoon.
14. Salt & Sugar: As per taste
15. Water: 3 cups
16. Fresh coriander leaves chopped: 5 gm
17. Butter oil/ Ghee: 1 teaspoon

### *Processing:*

- Heat oil in a pan over medium heat then add cumin seed, bay leaves and dry red chili. Saute for 30 seconds.
- Then add ginger paste and pinch of salt, stir it.

- Pureed tomato, turmeric powder, cumin powder, coriander powder & chili powder are added and mix it well.
- Add young jackfruit ,salt and chopped chili, stir it and cover.
- Then cook for 15 minutes.
- Add water and cover it, cook for 15 minutes.
- Taste and adjust salt & spices.
- Reduce heat to medium low and cover, then cook for until desired consistency .
- Cradamom powder-cinamon powder-clove powder and Ghee/ butter oil are added and turn off the oven and cover for 5 minutes.
- Garnish with fresh chopped coriander leaves and ready for serve.

**Nutritional Fact:**

**This dish is full of fiber with vitamin C that combination helps to reduce high blood sugar lever and keep it in a normal range in case of Type 2 diabetes patients and we know that fiber helps us to reduce constipation, weight loss and lowering cholesterol level in blood. Fibers can improves the bowl movement, the fibers acts like a bottle brush that helps to prevent colon cancer. Young Jackfruit also contains calcium, Iron that helps to promote bone health and improve HB level in blood. Vitamin C acts as natural antioxidants that gives us immunity.**

***So try this dish and get benefits***



### **Brinjal Coconut Korma**

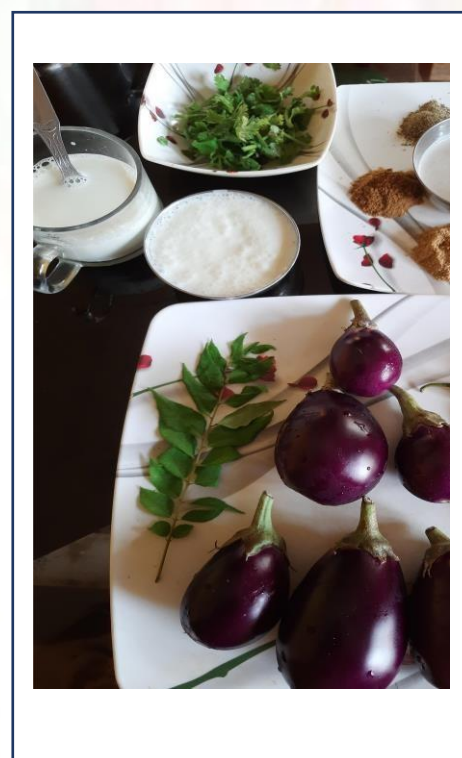
Ms. Kamalika Das Majumdar

S.A.C.T of Department of Sociology.

Hiralal Mazumdar Memorial College For Women

#### Ingredients :

1. Brinjal (from kitchen garden) – 350 g.m
2. Mustard oil – 2 te. Sp.
3. Black mustard seeds - 2 te.sp.
4. Karipata (from kitchen garden) – 7-8 PCs.
5. Red chili -1 pc
6. Turmeric -1/2 te.sp.
7. Salt -To taste.
8. Sugar – To taste.
9. Poppyseed – 2.5 tbl sp.
- 10.Kajubadam – 6-7pcs.
- 11.Green chili – 5-6 PCs
- 12.Hung curd – 2-3 tb sp.
- 13.Coconut milk – ½ cup
- 14.Jeera powder – 2 te.sp.
- 15.Coriander powder – 1.5 te.sp.
- 16.Kashmiri red chili powder – 1 te. Sp.
- 17.Black pepper – 1 te.sp.
- 18.Coriander leaf and lemon for garnishing. □



## **Method : -**

Above all these ingredients, firstly I cut the brinjals in between two slices then put some salt and turmeric powder, then put little bit of mustard oil on the pan, hit the pan and fry all the brinjals until it will cook the golden brown.

After that remove it from the pan then add some mustard seeds, karipata, red chili, ginger and stir fry, add some turmeric, the poppy seed and cashews paste, add little bit of salt and sugar, black pepper, green chili, and the add all the masala like, coriander powder, jeera powder, kashmiri red chili powder, coconut milk, while adding the coconut milk make sure that the flame of the gas should be in low to medium.

After that add some warm water cooker for 5 to 6 minutes on the same flame. After that all the fried brinjals pour into the pan.

Covered the lid for 3 to 5 minutes more. Then add some coriander leafs and sliced lemon for decoration. And ready to eat the delicious **brinjal coconut korma**. □ □





### Brinjal Coconut Korma

Brief notes :- Brinjal is a very good source of flavonoids called anthocyanin which is an anti-oxidant that prevents our body from free radical damage, reduces the risk of heart disease, lower blood pressure, decreases the LDL cholesterol level. The polyphenols in eggplant may help protect the body from [cancer](#). Brinjal contains low calorie that is helpful for weight management. Eggplant also contains the antioxidants lutein and zeaxanthin that is beneficial for eye health. This dish also contains good amount of calcium.



## MANGO AND OATMEAL PUDDING

Munmun Kundu

Teaching Faculty, Department of Botany,

Hiralal Mazumdar Memorial College For Women, Dakshineswar, Kolkata.

### **INGREDIENTS**

1 litre Milk

1 cup Oats (use gluten free, if desired)

1 Cup Fresh Mango Puree (about 2 ripe Mangoes)

Chopped ripe Mango (about 1 ripe Mango) for topping the pudding

1 tbsp Honey or Sweetener of your choice (amount will depend on sweetness of the mangoes)

1 pinch Saffron strands

Mint leaves for garnish.

### METHOD OF PREPARATION

Soak the saffron strands in 1 tablespoon of warm milk for an hour.

Wash, peel and chop mangoes and blend to get 1 cup of Puree. Few chopped mangoes were set aside for topping the pudding.

Spread oats in a single and even layer in a pan and roast on a shallow flame, stir

continuously for about 2 minutes then add entire milk (preboiled), Stir well to make a kind of slurry.

Add 1-2 tbsp of Honey or sweetener as per taste and sweetness of mangoes.

Keep cooking and stirring only to thicken the mixture.

Once it is done, switch off the heat and keep it to cool down at room temperature.

Add diluted saffron and mango puree to it and mix well.

**Now pour it in a glass or bowl and refrigerate at least 3 – 4 hours.**

**After refrigeration,serve it chill with chopped mango topping and garnish with mint leaves. Enjoy!**



Brief notes :- Mango is rich in beta carotene that is beneficial for eye health. It improves digestion .Not only that but also this fruit is a potent sources of antioxidant and 20 different vitamins and minerals. Oats is very helpful for maintaining good heart health and weight management. This dish is also a very rich sources of calcium as it contains milk. Overall it's a nutritious recipe.



## **VEGETABLE KIMCHI**

**DEBOPAMA MISRA**

**STATE AIDED COLLEGE TEACHER**

**Department of journalism and mass communication**

**H.M.M COLLEGE FOR WOMEN Dakshineswar**

Kimchi is a traditional Korean cuisine, which is basically a side dish. It is salty and the main ingredient is vegetable like napa cabbage or Korean radish. With the aroma of garlic, onion, spring onion etc.

Some ingredients are unavailable in my local market. That's why I customise this recipe as per our taste and availability of ingredients. Here I took plain Indian cabbage instead of napa cabbage. I didn't use radish for this recipe. As it is a vegetable recipe, so I prepared it for vegan or vegetarian by adding the substitute of fish sauce. Now I am going to tell you how I prepared this recipe.

It has multiple stages. I will explain each stage thoroughly.

### **Ingredients :-**

Indian cabbage : 200gm

Salt : 4 table spoon

Onion: 3 medium size

Garlic : 6 big cloves

Capsicum- 55gm

Tomato – ½ medium size tomato

Carrot- 1 small size



Beans – 4

Rice flour or any other plain flour – 1table spoon

Sugar- 1 table spoon

Ginger – a very small piece

Water- 3 cup

First step-cut 200gm cabbage into large pieces. (  $\frac{1}{4}$  th part of small size cabbage). Split all the leaves.Add 2.5-3table spoon salt on it . mix well and keep it aside with cover for 5hours (minimum 30mins).

**Second step: vegetable stock reciepe** – cut 2 onions into 4 pieces, cut 3 garlic cloves into 2 pieces, cut a potato into 2 pieces, remove it's peel,cut half of the half tomato, took half of the small size carrot remove it's peel. Take some cabbage leaf don't cut it, take those vegetables with beans, 1 green chili and small pieces of ginger. Add 3cups of water with pinch of salt. Put the pan on oven and keep it medium flame and cover it. Leave it for 20-25mins.after that water color become changed into light brown color. Off the oven and remove the boiled vegetables from the stock. Let it cool down

**Third step : porridge making** – take 1 table spoon of rice flour or any other palin flour and add 1  $\frac{1}{2}$  cup vegetable stock. Stir well. After that put it on low flame. Add  $\frac{1}{2}$  table spoon of sugar. Turn off the gas after 1  $\frac{1}{2}$  - 2mins. Let it cool down.

**Fourth step: sauce making-** take the porridge and bolied onions, bolied garlics, bolied ginger, bolied tomato , bolied green chili, one red chili, half onion, 2 garlic cloves, 1 dry chili. add vegetable stock as per need. And 1 table spoon salt, and  $\frac{1}{2}$  table spoon sugar and 1 table spoon soya sauce.grinde it on mixer grinder or you can use food processor. The sauce should not be very dilute. It should have a thickness.

**Fifth step** :- wash the salty cabbage after 5hours for 3 times. Chop all the leftover vegetables And add those on the salty cabbage. Mix the sauce as per need. Add  $\frac{1}{2}$  table spoon soya sauce and red chili powder or paprika on it as per taste.mix well. Kimchi is now ready to be served. It's better to have it after one day. please preserve it in the refrigerator. It will be safe for another 5days. Thank you .



**Brief notes :-** Kimchi has an excellent **nutritional** profile. The dish is low in **calories** but packed with nutrients like iron, folate, and vitamins B6 and K. It contains healthy bacteria and probiotics for the overall well ness of the body. It lowers cholesterol level.

Patal/Parwal Bharta



**Aatreyee Bhattacharyya**  
SACT

Department of History  
Hiralal Mazumdar Memorial College For Women

### ***Ingredients-***

*Potol/Parwal - 250gm*

*Green chilli - 2 or as per taste*

*Mustard oil- 1 tbsp*

*Black cumin seeds -1/4th teaspoon*

*Dry Red chilli - 2*

*Garlic chopped - 1 teaspoon*

*Salt as per taste*

### ***Procedure-***

- 1. Roughly cut the parwals/potol and make a smooth paste with 2 green chilli.*
- 2. Heat mustard oil in a kadhai and add black cumin seeds,dry red chilli. When it starts to crackle add chopped garlic to the kadhai.*

3. When garlic starts to change colour add the parwal/potol paste and keep frying until it leaves the sides of the kadhai.

4. When it becomes completely dry, turn off the flame and drizzle few drops of mustard oil and serve with hot rice.



**Brief Notes :- Parwal** Is offering vitamins like vitamin A, vitamin B1, vitamin B2 and vitamin C. Pointed gourd also offers you very less calories and hence it helps to keep the cholesterol levels in control. Blood purifier, Reduces flu, Improves digestion, Fight with aging factors, Treats constipation, Controls blood sugar and cholesterol, Aids in weight loss,



## RECIPES USING PLANTS FROM OUR STUDENTS' KITCHEN GARDEN

### PUMPKIN MASALA FRY

Sumana Khatun , Sem – 5<sup>th</sup>sem H

Department of Food and Nutrition

Hiralal Mazumder Memorial College for Women



#### **Ingredients:**

- Pumpkin- 500 gm
- Onion- 30 gm
- Green chilli- 2pcs
- Whole red chilli- 2 pcs
- Oil- 10 gm
- Mustard seeds – as required

- **Turmeric powder- as required**
- **Salt- according to taste**
- **Red chilli powder- as required**
- **Sugar- according to taste**

**Methods :**

- » Oil is heated in a pan
- » Whole red chillis, cuminseeds ,mustard seeds are added.
- » Chopped onion, garlic and green chillis are added to it and fried.
- » chopped pumpkin are added to it and mixed well.
- » Turmeric powder, coriander powder, salt and red chilli powder are added to the mixture.
- » Then pan is covered with a lid and cooked for 8 to 10 minutes.
- » At last sugar is added to it and served hot in a bowl.

**Nutritional Significance:**

1. **Good for eyes-** Pumpkin is an excellent source of vitamin A which is important for sharper vision and helps to prevent eye diseases.
2. **Regulating blood pressure-** It is a good source of potassium, fiber and vitamin c, which help in maintaining blood pressure at a normal level.
3. **Reduces the risk of cancer-** It is one of the richest sources of beta carotene, which reduces the risk of some cancers, including lung cancer and breast cancer.
4. **Good for heart** – pumpkin is a good source of antioxidants, potassium, vitamin C, and fiber. All these contents help to keep our heart healthy.
5. **Helps in digestion-** As pumpkin is rich in fibre, it aids in digestion and prevents constipation.
6. **Strengthens bones-** It is a good source of vitamin K, which gives protection against osteoporosis.
7. **Helps in weight loss** – It is low in calories with vital nutrients. It is high in dietary fiber and water, which helps to curb our appetite.

## Lemongrass Tea

**Name-** Sneha Mahish

**Department of Food & Nutrition**

**B.Sc. 3<sup>rd</sup> Year Honours**

**Hiralal Mazumdar Memorial College For Women**

### LEMONGRASS

**Scientific Name** – Cymbopogon

Cymbopogon or Lemongrass is also known as Malabar grass, Fever grass, Cochin grass or oily heads. It is a genus of Asian, African, Australian and Tropical Island plants in the grass family. Lemongrass are commonly cultivated as Culinary and Medicinal herbs because of their scent, resembling that of lemons (citrus lemon).



### Nutritional Significance of Lemongrass;

- \* Lemongrass contains several Flavonoids that function as antioxidants and anti-inflammatory agents.
- \* Flavonoids prevent damage to cells that can lead to long term diseases such as heart disease or arthritis.
- \* The essential oil present in lemongrass slow the growth of cancer cells, especially in liver, breast cancer and leukemia.
- \* It Improves levels of sugar and cholesterol in the blood; stimulate the uterus and menstrual flow.
- \* Prevents stomach discomfort and other gastrointestinal issues including cramps and vomiting.
- \* Lemongrass oil is used to treat a headache and musculoskeletal pain. As an aromatherapy treatment lemongrass extract inhaled to treat muscle pain, infections, cold etc.



**Ingredients-** 1. Lemongrass- Chopped into small pieces

2. Water- 1cup

3. Tea leaves- 1tea



bag or 1 tea spoon

4. Sugar- 1 tsp

**Methods-** 1. At first boiling the water with lemongrass leaves .Then strained it into a pan/cup.

2. Added sugar and tea bag or tea leaves. Then off the flame and rest for 2 minutes.

3. Lemongrass tea is ready, now it strained into a cup and served hot.



### Benefits of Lemongrass Tea-

- \* A refreshing beverage, good for digestion.
- \* Full of antioxidants.
- \* Regulates high blood pressure.
- \* Boost metabolism and burns fat.
- \* Relieves menstrual pain, vomiting.
- \* Heals cold and flu.
- \* Naturally great for skin & hair etc.



**Beetroot Corn Raita**  
**SIBA AKHTARI**  
**3<sup>RD</sup> SEM H**  
**DEPARTMENT OF FOOD AND NUTRITION**

**INGREDIENTS**

- Beetroot( grated) – 1.5 tbsp**
- 2. Curd-5 tbsp**
- 3. Cumin powder-1/2 tsp**
- 4. Sweet corn -1. 5 tbsp**
- 5. Coriander leave ( chopped) – ½ tsp**
- 6. Salt- According to taste**

**METHOD OF PREPARATION**

- 1. Sweet corn was boiled.**
- 2. To a bowl boiled sweet corn, grated beetroot, curd, cumin powder, chopped Coriander and salt according to taste.**
- 3. Mixed well.**
- 4. Served in a bowl.**

**NUTRITIONAL SIGNIFICANCE**

- 1. This recipe is immunity booster.**
- 2. Beetroot is a great source of fibre and mineral like iron, potassium.**
- 3. Curd is rich in vitamin C, zinc and calcium.**
- 4. Rich in vitamin A.**
- 5. Corn is a good source of the antioxidant Carotenoid, lutein and zeaxanthin, which promote eye health.**



## Carrot Halwa

(Swagata Mukherjee, Department Of Food & Nutrition, Semester -3 H)

### Ingredients:



- ➔ ☐ Carrot - 250 gm
- ➔ ☐ Milk - 500ml
- ➔ ☐ Sugar - 200 gm
- ➔ ☐ Cashew nut - 10 gm
- ➔ ☐ Raisin - 10 gm
- ➔ ☐ Elaichi - 4 pcs

### Procedure:

At first, carrot was grated. Then, butter was taken in a pan and carrot was stirred with it. Next, milk was added in a pan and boiled 10 minutes. Then sugar was added and raisin, Cashewnut, and elaichi was added with it. Finally, carrot halwa is ready to serve.

### Nutritional significance:

Carrots are a particularly good source of beta carotene, fiber, vitamin K1, potassium, and antioxidants. They also have a number of health benefits. They're a weight-loss-friendly food and have been linked to lower cholesterol levels and improved eye health.



## **Cucumber Raita**

**MOHIMA CHAKRABORTY**

**3RD YR H , DEPARTMENT OF FOOD AND NUTRITION**

### **Ingredients For Cucumber Raita-**

- **1 medium sized cucumber.**
- **1 cup fresh curd.**
- **½ teaspoon black pepper.**
- **½ teaspoon rock salt.**
- **Mint leaves.**



### **Method-**

- **At first the cucumber is peeled and Cut lengthwise into 1/4-inch strips, then into thin slices crosswise.**
  - **Then the yogurt is stirred in a bowl until it is smooth.**
  - **Then the cucumber is added in the yogurt .**
- Rock salt and black pepper are added according to the taste.**
- **Mint leaves is used before serving.**

### **Nutritional Significance-**

**Cucumbers are low in calories but contain many important vitamins and minerals, as well as a high water content. Eating cucumbers may lead to many potential health benefits, including**



**weight loss, balanced hydration, digestive regularity and lower blood sugar levels.**

**Raita's hydrating properties can provide with a lot of health benefits, including weight loss. It has zero fat and low calories. Add grated cucumber in raita along with rock salt and black pepper to stimulate weight loss**

## **SUPPLEMENTARY FOOD FOR 6MONTHS TO 2 YEAR BABY**

### **Rava Balls in Crispy Sagoo Bird Nest**

Moumita Banik  
Ramkrishna Vivekananda Mission Sarada Ma Girl's College  
PG student  
Food and Nutrition

COOKING TIME- 25min

#### **INGREDIENTS**

Sagoo (soaked) - 50gm  
Potato (boiled) - 2medium size (75gm)  
Onion -1medium size (30gm)  
Ginger -1inch (5gm)  
Garlic - 4-5pcs (5gm)  
Roasted peanut (chopped) - 8-10pcs (5gm)  
Turmeric powder -1/2tsp  
Black Pepper Powder -1/2tsp  
Salt - as per taste  
Rava (semolina) - 50gm  
Sugar -25gm

#### **PROCEDURE**

At 1st potato is mashed then chopped ginger-onion-garlic is added to it, then again soaked sago is added and mixed well. Then the mixture is hand moulded into a basket form and deep fried it. Procedures for Rava Balls - Firstly sooji is added in a hot kadhai and kept on stirring it so that the sooji grains donot stick to the pan and fried evenly. When the sooji colour turns into light brown then small amount of water sprinkled and sugar is added to it. Then it is cooked for a few minutes and transferred it into another bowl. After cooling a little amount of sooji is taken on hand palm and made a small size ball. Then the sooji balls are kept inside the sagoo bird nest for garnishing and served it into banana leaf.

#### **NUTRITIONAL SIGNIFICANCE-**

Rava Balls in CripsySagoo Bird Nest is an perfect Evening Snacks item for 2 years of a child. Since there are two taste in it (such as sweet and salty), the children will like to eat it. It's not a monotonous food so children with a sweet tooth must be served Rava(semolina) ball for developing their love for traditional Indian Sweets. These balls is very nutritious and delicious for growing babies and toddlers. Rava is an easily digestible grain; hence it is an ideal for babies and small children during illness. It is rich in fiber and hence prevents constipation in babies. It gives instant energy keep the child active throughout the day and keeps the stomach full for longer. It also has a significant amount of Phosphorus and Magnesium which helps in bone development and supports the nervous system. Selenium & Protein is rich in rava helps to prevent infections & strengthens the immune system in children. Rava is rich in vitamin B, folate and thiamine which supports the development of the brain. Rava prevents anemia as the iron helps in building haemoglobin count and also improves the production of red blood cells. Meanwhile Sagoo Bird Nest is also an interesting food item for children. It is considered as an instant energy booster as they are high in carbs. Since Sagoo is a pure starch, peanuts are used here to add some nutrition. Potatoes bind all of these together. So it's totally a carbohydrate rich food. Sabudana is loaded with calcium, iron, potassium, vitamin k which are responsible for the healthy bone growth and development. As sabudana is rich in it's carbohydrate content, helps in healthy weight gain and also increases the height. It also helps regulate the body's temperature. Sabudana is also a good source of protein and aids muscle development. Protein is also a crucial role for cell repair and cellular functions. It promotes satiety and keeps the baby full for long.

**Age of the baby for which the dish is prepared-2yrs**



## **SOYA-RICE DUMPLINGS WITH TAMARIND CHATNI**

SUKLA MAJI

Ramakrishna Vivekananda Mission Sarada Ma Girls' College

PG student

Food and Nutrition

**COOKING TIME**-45 minutes

### **INGREDIENTS**

- Soya-rice dumplings --
  - Soyabean - 50g
  - Rice - 50g
  - Onion - 25g
  - Garlic - 5g
  - Ginger - 5g
  - Lemon juice - 10ml (2 teaspoon)
  - Salt - as per taste
  - Cumin powder - as per taste
  - Red chilli powder - as per taste
- Tamarind Chatni --
  - Tamarind - 10g
  - Curry leaves - 5g
  - Five seasoning spices - small pinch
  - Oil - 5ml (1 teaspoon)

### **PROCEDURE**

At first, the soyabeans were grinded in a mixer grinder and onions, garlic and ginger were grated separately. On the other hand, rice was soaked for 10-15 mins in normal water (room temperature) with adding a pinch of salt. Now, the grinded soyabeans were taken in a bowl. The grated onion, ginger and garlic were added. Small amounts of salt, cumin powder, red chilli powder and lemon juice were also added and mixed all finely and made a dough like structure with adding some water. The dough now cutted into small pieces and small rounded balls were made. Rounded balls then coated with soaked rice and transferred to a pot for steam heat cooking for 15-20minutes. After 15 - 20 mins Soya-rice dumplings were ready and served in a plate with tamarind chatni and garnished with curry leaves



and cutted beans.

### Tamarindchatni -

At first, Curry leaves were fried in a pan with five seasoning spices and small amount of oil. Then all of these were transferred to a mixer grinder with soaked tamarind and grinded all together. Finally chatni was ready with garnished curry leaves and served with Soya-rice dumplings.

### NUTRITIONAL SIGNIFICANCE-

It is a protein riched food because of soyabean, which is full of protein but in low cost, is one of the main ingredient of this dish. When infant is in their growing phase of life, protein is extremely important nutrient for their body's growth, muscle growth and also for many other functions which are depended on protein. So, the dish is suitable for all infants specially malnourished children. As rice is also included as a main ingredient, it is also a carbohydrate rich food. Carbohydrate is a main component of our body which served several key functions including energy supply for daily tasks and other metabolic functions and is also a primary fuel source for our brain's high energy demands. Tamarind has a good immunity boosting property, improves blood circulation, maintains digestive health, improve eye health and also has anti-inflammatory property. The dish also includes many vitamins (B6, C etc.) and minerals (calcium, iron, magnesium etc.) which are important for infant's growth and development; and daily requirements.

Age of the baby for which the dish is prepared-2years



## **EGGETABLE OMELETTE**

**Sreyashi Saha.**  
**Hiralal Majumder Memorial College for Women**  
**UG student**  
**Food and Nutrition**

**COOKING TIME-**15 mins.

### **INGREDIENTS-**

- Egg - 1 piece(45 gms)
- Beans-5pcs.(20 gms)
- Carrot-1 small(50 gms)
- Onion-1 small(15 gms)
- Capsicum-1/2 Pcs.(40 gms)
- Oil-1 Tbsp(10ml.)
- Wheat Flour(atta)-2Tbsp(40 gms)
- Chilli-1 piece
- Salt-As required
- Turmeric Powder-As required
- Tomato Sauce-For Garnishment

### **PROCEDURE-**

1. At first, the grated carrots, chopped onion, chopped capsicum, chopped beans are taken in a big bowl.
2. Then added 2tbsp wheat flour(atta), some salt and turmeric powder as required.
3. Mixed well.
4. Next, 1 egg is mixed with the mixture and mix it very well.
5. Then, 1tbsp oil is taken in a frying pan.
6. Next, that mixture is poured in the frying pan and spread it well.
7. It is stayed for 5 mins. in the medium to low flame.
8. Next it reversed for frying the another part for 5 mins.
9. At last, it is ready for serve with tomato sauce.

## NUTRITIONAL SIGNIFICANCE-

Vegetable Omelets is a supplementary food for 2 years children. It is also nutritious and delicious and healthy food. It is mainly protein and energy rich dish. It is nutritious food because from this dish ,we get 10.034 gm protein and 282.03 kcal energy. Without these nutrients, vitamin A and vitamin C are available in this food.

Age of the baby for which the dish is prepared-2 years.





## **DAL PISHPASH**

Shelley Mondal  
Hiralal Majumdar Memorial College for women  
UG student  
Food and Nutrition

**COOKING TIME-** 15 minutes

### **INGREDIENTS-**

- 1.Dal(lentil)- 1 small bowl
- 2.Rice- 1 small bowl
- 3.Kalmi saag- 3 table spoon
- 4.Egg- 1 piece
- 5.Potato - 1 small piece
- 6.Onion- 1 small piece
- 7.Garlic - As required
- 8.Ginger- As required
- 9.Oil- As required
- 10.Salt- As required
- 11.Sugar- As required

### **PROCEDURE**

- 1.Wash dal and rice thoroughly and soak in water for 5 minutes .
- 2.Chop kalmi saag,onion,potato,garlic, ginger as well.
- 3.small amount of oil is heated in a cooker and all vegetables are fried.
- 4.Salt and sugar is added.
- 5.Dal and rice added to it and cooked for a while.
6. 2 cup of water added.
- 7.Removed from the heat after 3 whistles.
- 8.Open the lid after the press has reduced.
- 9.One omelette was prepared.
10. Dal Pishpash was served with egg pieces.



## NUTRITIONAL SIGNIFICANCE

1. This recipe is a good source of protein.
2. It is also a good source of carbohydrate.
3. It is also have Minerals and vitamin.

Age of the baby for which the dish is prepared-2 years



## Soya Veg Cutlet

Susmita Taran  
Ramkrishna Vivekananda Mission Sarada Ma Girls' College  
UG student  
Food & Nutrition

COOKING TIME-20 minutes

### INGREDIENTS-

Soyabean=10gm  
Potato=50gm  
Tomato=25gm  
Capsicum=25gm  
Beans=20gm  
Carrot=50gm  
Cheese=15gm  
Chenna=25gm  
Butter=10gm

### PROCEDURE-

1. At first potato and soyabean were boiled in different utensils.
2. All the vegetables (capsicum, beans, tomato, carrot) were chopped into small pieces.
3. A small amount of butter was taken in a pan and all vegetables were saute for 2-3 minutes.
4. Then the boiled potato, soyabean, fried vegetables, chenna( I used home made chenna), cheese, a small amount of salt and small amount of black pepper were added in a bowl and mixed it well and round shaped was given.
5. Then in a small bowl 2 tea's spoon cornflour was added and mixed it with water and bread crumbs was taken in other plate.
6. Then all the round shaped cutlet were first dip in cornflour then it further dip in breadcrumbs.
7. Then butter was taken in a pan and the cutlets were shallow fried and it was ready to serve.
8. I used cucumber, tomato, carrot and capsicum for garnishing and serve the cutlets with tomato sauce.

## NUTRITIONAL SIGNIFICANCE-

1. Potato is a good source of carbohydrate which is a main source of energy and it is beneficial for growth and development. 2. Soyabean has high biological value. It is high in protein and it also contain lots of fibre, calcium and magnesium. It helps in muscle development. 3. The vegetables which I used in this preparation are contain fibre which is help in bowl formation. It also contain vitamin and minerals. 4. The tomato and carrot are high in vita-A which is essential for children to prevent Vita-A deficiency and promote healthy vision. 5. Chenna and cheese which I used provide high quality protein and calcium which is needed for growth and development. 6. Butter is a fatty acids source,excellent for the immune system and gastrointestinal tract. It helps to rise HDL. 7. This preparation is appropriate for all children because it covers all requirements like carbohydrate, protein,fat,vitamin, menaral etc and it is easy to digest.

Age of the baby for which the dish is prepared-2 years



## Sabji Dosa with sabji soup

**Priti Saha**  
**Hiralal Mazumdar Memorial College for women**  
**UG student**  
**Food and Nutrition (hons)**

COOKING TIME-20 mins

### INGREDIENTS

#\_Dosa  
Rice ¼cup  
Dal ¼cup  
Salt to taste  
#\_soup  
Potato 15 gm  
Pumpkin 25 gm  
Cabbage 15 gm  
lentil 10gm  
Raw banana ½  
Papaya 25gm  
Black pepper  
Butter  
#\_Staffing  
Spinach 30g  
Potato 25g  
Salt oil to taste

### PROCEDURE-

Dosa

First rice and Dal were soaked in water for some hour. Then rice and Dal were mixed together in the mixture with some water and salt. Then hit the pan and brush the oil. And then some amount of mixture put in the pan. Stay there until the side was leaving staffing

At first Spinach and potato were boiled in water. Then the spinach was mixed in mixture. Potato and spinach were massed together with some salt.



soup Potato pumpkin cabbage raw banana papaya lentil was boiled in the water. Then some black pepper,salt and butter were added and the dish was finally ready.

### NUTRITIONAL SIGNIFICANCE-

White, long-grain rice: Raw, long-grain white rice is a relatively good source of energy, carbohydrates, calcium, iron, thiamin, pantothenic acid, folate and vitamin E, compared to maize, wheat and potatoes. It contains no vitamin C, vitamin A, beta-carotene, and is notably low in fiber Dal:pulses provide protein, complex carbohydrates, and several vitamins and minerals. Like other plant-based foods, they contain no cholesterol and little fat or sodium. Pulses also provide iron, magnesium, phosphorus, zinc and other minerals, which play a variety of roles in maintaining good health. Pumpkin : Rich in vitamins, minerals and antioxidants, pumpkin is incredibly healthy. What's more, its low calorie content makes it a weight-loss-friendly food. Its nutrients and antioxidants may boost your immune system, protect your eyesight, lower your risk of certain cancers and promote heart and skin health Potatoes: They are a good source of vitamins C and B6, manganese, phosphorus, niacin and pantothenic acid. Papaya : Papayas are an excellent source of Vitamin C, Vitamin A, Vitamin B, Vitamin E, and Vitamin K. Raw banana: raw bananas are specifically rich in Vitamin C and Vitamin B6. Vitamin C is an essential mineral for healthy skin and hair.They help in weight loss. Raw bananas are rich in fibre. Good for heart health. Raw bananas are a rich source of potassium. Gives a boost to beneficial starch. Cabbage: Cabbage is an exceptionally healthy food. It has an outstanding nutrient profile and is especially high in vitamins C and K. Spinach: Spinach is an excellent source of vitamin K, vitamin A (in the form of carotenoids), manganese, folate ,copper, vitamin B2, vitamin B6, vitamin E, calcium and vitamin C Lentils: lentils are low in calories, rich in iron and folate and an excellent source of protein. They pack health-promoting polyphenols and may reduce several heart disease risk factors.

Age of the baby for which the dish is prepared-2years



## Stuffed Sandwich

**Swagata Mukherjee**  
**Hiralal Mazumdar Memorial College For Women**  
**UG students**  
**Department Of Food & Nutrition**

COOKING TIME-10 minutes

### INGREDIENTS-

- ➡☐ Bread - 40 gm (2 pcs)
- ➡☐ Soyabean - 20 gm
- ➡☐ Capsicum - 10 gm
- ➡☐ Carrot - 10 gm
- ➡☐ Beans - 10 gm
- ➡☐ Butter - 5 gm
- ➡☐ Onion - 10 gm
- ➡☐ Salt - According to taste
- ➡☐ Black pepper - According to taste

### PROCEDURE

At first, all vegetables like capsicum, carrot, beans were chopped properly.

t☐

Then, soyabean and all vegetables were boiled for few minutes.

t☐

Next, some quantity of butter was added in a pan and chopped onion, boiled veggies were fried along with it and salt was added according to taste.

t☐

After that, some quantities of fried ingredients were staffed in a slice of bread and another slice of bread was imbricated on them.

t☐

Next, the sandwich was decorated and black pepper was added according to taste.

t☐

Finally, The Staffed Sandwich is ready to serve.



## NUTRITIONAL SIGNIFICANCE-

1. It is an healthy food for children. 2. Veggies contain fibre. 3. Soyabeans are high in protein and a decent source of both carbohydrate and fat. 4. Capsicums are an excellent source of Vitamin A and C. 5. Beans are rich source of vitamins and minerals.

Age of the baby for which the dish is prepared-2 years





## **Triple Delight Banana Kheer**

**Srijita Das**  
**Hiralal Mazumdar Memorial College For Women**  
**UG student**  
**Food and Nutrition**

COOKING TIME-10 minutes

### **INGREDIENTS**

Cow milk- 1 cup  
Sago-1tbsp  
Parboiled rice - 2 tbsp  
Chana sattu- 1tbsp  
Split and dehusked black gram lentil (urad dal) - 1 tbsp  
Peanut- 4 pieces  
Banana - 1/2  
Cardamom - 1 piece  
Water -1 cup

### **PROCEDURE-**

- ◆At first banana is mashed finely.
- ◆Then parboiled rice, sago and urad dal is roasted in a dry pan .
- ◆Then peanuts are also roasted in the same way.
- ◆Then the roasted rice, sago , urad dal, peanuts and cardamom are grinded well until it turns into fine powder. The powder becomes total 1 tbsp.
- ◆Next this powder is mixed with chanasattu . This mixture is added to 1cup water and mixed well.
- ◆Milk is boiled in a pan .
- ◆Above mixture is added to boiled milk and stirred well until it becomes a little thick .
- ◆When it becomes thick , mashed banana is added to it and mixed well for a couple of minutes.
- ◆Then it is served into a bowl and garnished with some banana slices.( It is advised that when someone is feeding the baby , he/she mash the sliced bananas and not give it directly to the baby)
- ◆ Triple Delight Banana Kheer is ready to eat.

## NUTRITIONAL SIGNIFICANCE-

1. Sago has calcium, which can help in bone development and prevent rickets. It also helps in weight gain and muscle development.
  2. Chana sattu is great for all round nourishment, it can regulate body temperature and it is easily digestible. So this is great for babies.
  3. Banana is rich in carbohydrate, fibre, potassium. It is an ideal food for babies as it can sustain energy. It's very good for a healthy digestive system. It can improve their vision.
  4. Cow milk is good source of calcium, protein and vitamin D which ultimately helps the baby to grow.
  5. Urad dal is rich in protein, carbohydrate and fat, making it the best food for weight gain for babies. It has high amount of calcium, magnesium and iron. It is easily digestible and boosts energy in babies.
  6. Parboiled rice isn't precooked rice, this ensures that the rice retains its nutrients like calcium, potassium and vitamin B6 better than regular white rice. Parboiled rice also has better fiber, so it is a great choice for babies.
  7. Peanut is excellent for brain development and physical development as it is rich in vitamins, minerals and antioxidants.
- So we can come to the conclusion that as this dish contains all the above ingredients, it is an ideal food for a baby in every aspect. Also the above mentioned all ingredients are locally available and low cost. So it can be given to a baby easily.
- Age of the baby for which the dish is prepared-9 months



## Poha Polao

**Mohima Chakraborty**  
**Hiralal Mojumdar Memorial College For Women**  
**UG student**  
**Food and Nutrition**

COOKING TIME-15 mins

### INGREDIENTS

- Poha - 30 gm
- 1 medium sized chopped onion- 20gm
- 1 potato- 20 gm
- ½ carrot- 10 gm
- 1 tbsp roasted Peanuts
- 1 tsp Turmeric powder & Mustard seeds
- 2 tbsp oil
- Salt- According to taste
- Sugar- According to taste
- Curry leaves

### PROCEDURE-

- At first the poha is washed and let it soak.
- After that a saucepan is taken and is heated before adding oil.
- Mustard seeds, curry leaves are added.
- Onions, potato slices and carrot slices are fried for a few minutes in the same pan.
- Then poha is added and mix well.
- Peanuts, salt, sugar and turmeric powder are added to it
- Then it is Cooked properly and serve hot.

### NUTRITIONAL SIGNIFICANCE-

Poha is packed with loads of nutrients, making it a healthy and tasty snack for babies, toddlers and growing children. These rice flakes for children are light on



the stomach and when served in small quantities, A medium dish of poha contains 119.26mg of protein 35.53mg of fat 10.35mg of carbohydrate and 163.14kcal of calories.It can provide the following health benefits:

1. Poha is Easily Digestible One of the best benefits of giving poha to your child is that it can be easily digested by their little tummies. Quick and easy digestion means that your baby doesn't get a bloated feeling and remains energetic too.

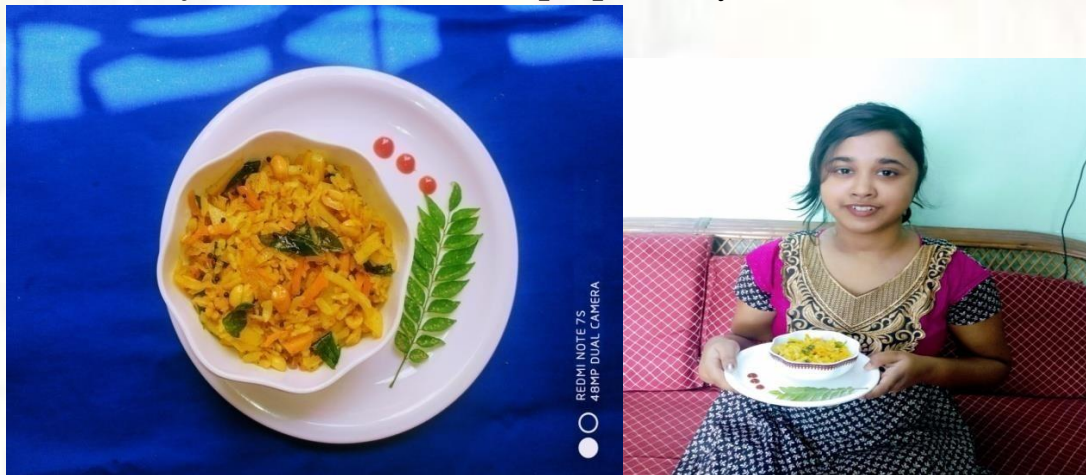
2.Poha is Iron-Rich Poha is full of iron and when given to your baby regularly, it can keep iron deficiency or anaemia at bay. It helps in maintaining the right haemoglobin levels in the body too.

3. Poha is Rich in Carbohydrates You can make poha your child's primary source of carbohydrates by including it in your child's diet. It proves to be a tasty and healthier snack option than others and is fibre-rich too. Mothers can depend on it as a wholesome meal option for babies.

4. Poha is Nutrient-Rich While poha has many nutrients in it, when it is garnished with peanuts and sprouts, it becomes a tasty snack your child will relish. It can be a great breakfast or after-school snack.

5. Poha is Low on Gluten Since poha has low quantities of gluten, your child is less likely to develop any kind of food allergy.

**Age of the baby for which the dish is prepared-2year**





## Nutritious Soup

**Simu Das**

**University of Calcutta, Department of Home Science, Viharilal College**

**Campus**

**UG student**

**Food and Nutrition**

COOKING TIME-20 minutes

### INGREDIENTS-

Rice=10 gm

Red Lentiles (Masoor dal)=10 gm

Potato=25 gm

Papaya=10 gm

Pumpkin=20 gm

Beans=10 gm

Carrot=20 gm

Oil= Little bit

Salt= According to test

Egg=Half boiled egg

Water= Half Cup (Medium size)

### PROCEDURE-

- \* At first washed all the vegetables, rice and dal.
- \* Then cut all the vegetables in a large Pisces.
- \* Then take a small size pressure cooker and add all the vegetables (chopped), washed rice, dal and water.
- \*Put the pressure cooker on a oven (High Temperature, cooked for 10 minutes).
- \* After that put the pressure cooker into an another place and open the pressure cooker few moments later for make the food more softer.
- \* After that place the food on a bowl and add the half boiled egg. Then mashed all the ingredients properly and make a soup.
- \* Then serve the dish on a serving plate and garnish with coriander.

## **NUTRITIONAL SIGNIFICANCE-**

The soup is nutritionally adequate for a six months baby. It is a proper supplementary food for a six months to one year child. Rice provide extra calorie and B vitamins required for a six months baby. Egg provides iron and protein which is essential for a six months baby. Masoor Dal also provideprotein. Vegetables provide vitamins (vit C, vit D etc)which is also essentially required during this time. Salt provide sodium and iodine. Oil provides essential amino acid which is mostly required for this time period.

**Age of the baby for which the dish is prepared-6 months to 1 year**



## Plain Lassi

**Sneha Mahish**  
**Hiralal Mazumdar Memorial College for Women**  
**UG student**  
**Food and Nutrition (Honors)**

COOKING TIME-5 minutes

### INGREDIENTS

1. Curd - 4table spoon
2. Water - Half cup
3. Lemon juice - 1slice
4. Sugar - 1table spoon
5. Salt - 1pinch
6. Roasted jeera powder - 1pinch (for garnishing).

### PROCEDURE-

1. In a bowl curd, sugar and salt are mixed well.
2. Blend the mixture with water, used a spoon or blender to a smooth mixture.

Blend it well.

3. Then added lemon juice , now lassi is ready to served in a glass/cup & garnishing with jeera powder.

### NUTRITIONAL SIGNIFICANCE-

1. Lassi contains lactic acid, which is great for keeping ang gastric trouble and stomach irritation.

2. Lassi helps in building better immunity in babies and thus better ability to fight with infection and disease.
3. Including lassi in baby's regular diet can help in keeping skin allergies.
4. Lassi is loaded with all the essential nutrients such as carbohydrate, protein, calcium, potassium etc.
5. Lassi is a great wholesome meal and also a calming and soothing of lassi help babies to sleep better.

Age of the baby for which the dish is prepared-One and half years (1year 6months)





## **Suji sattu laddu / Semolina sattu laddu**

**Brototi Chandra**  
**Hiralal mazumdar memorial College for women**  
**UG student**  
**Food and Nutrition**

COOKING TIME-10 - 15 minutes

### **INGREDIENTS-**

Semolina - 4 teaspoons (20gms)  
Sattu - 4 teaspoons (20 gms)  
Roasted groundnut - 1 tablespoons(10gms)  
Oil - 1 tablespoons (10ml)  
Jaggery - 4 teaspoons (20gms)  
Carrot - 1 teaspoons (5gms)

### **PROCEDURE-**

- At first the roasted groundnuts are finely crushed.
- Then heated 1 tablespoon oil in pan.
- Then semolina and sattu are added into the heated oil & cooked for few minutes
- Then jaggery and a little amount of water are added & mixed them all properly.
- Then the pan is removed from flame, when the consistency of the mixture became thicker.
- Then this mixture are shaped properly like a laddu and cooled down.
- At last decorated this laddus using some carrot, jaggery and sattu and served in a plate..

### **NUTRITIONAL SIGNIFICANCE**

This laddus are rich in calories, protein and fat, which helps to prevent PEM. This are also rich in calcium, iron & vitamin A..

Age of the baby for which the dish is prepared-2 years



## **PALAK CARROT PORRIDGE.**

**NabaKulsum**  
**Gokhale Memorial Girls College**  
**UG student**  
**Clinical Nutrition and dietetics**

COOKING TIME-25 - 30 minutes

### **INGREDIENTS-**

1. Wheat flour ( semolina) - 25 gms
2. Roasted green grams - 15 gms
3. Roasted groundnuts - 10 gms
4. Carrots - 25 gms
5. Spinach - 30gms
6. Banana - 1 whole.

### **PROCEDURE-**

1. Dry roast the semolina, green gram, and ground nuts separately for 2-3 minutes on medium flame until slight change in color. Set it aside and allow it to cool at room temperature.
  2. Grind the roasted ingredients together in a grinder to a powder form.
  3. Thoroughly wash the spinach, chop them and blanch them. Boil it for 10 -15 minutes until softens.
  4. Wash the carrots grate them and boil them for 5 minutes.
  5. Drain the spinach and carrots and grind them well, strain the mixture through a strainer or a clean cloth to obtain it's puree.
  6. In the puree add the roasted powdered ingredients and cook it for another 2 to 3 minutes until semi solid. ( at this stage you can add some water to avoid too dense consistency as it may cause choking to the baby)
  7. To this mixture add one mashed banana (instead of sugar to avoid empty calories) to sweeten the dish and mix it well.
- The Palak carrot porridge is ready to be fed to the baby. Feed the porridge slowly spoon by spoon.

### **NUTRITIONAL SIGNIFICANCE-**

This recipe serves 9.2grams, fibre 4.98gms, 304 calories 11.3 mg of iron which is an ideal supplementary food which fulfills the demand of micros and macronutrients. semolina rich in calcium, iron and good source of carb and fibre provides energy and boosts bone health. Green gram rich in protein and contains essential amino acids specially lysine which is required by infants. Groundnuts having MUFA & PUFA beneficial for infants. Spinach and Carrots being excellent source of vitamin A and vitamin K good for eyesight and avoids vitamin A deficiency diseases which are common in infants. Bananas not only provides carbs but regulates bowel movement because of fibre content and is good source of B vitamins beneficial for nervous system functioning.

Age of the baby for which the dish is prepared -7-8 months







## ***PLANTATION DRIVE FOR PROMOTION OF KITCHEN GARDEN***

## Plantation Drive By our faculties



Smt. Gopa Chatterjee



Smt. Soma Saha







Smt. Bhaswati Ghosh



Smt. Mousali Sinha



## Plantation Drive By our Departmental students



**Swagata Mukherjee, 3<sup>rd</sup> Sem**

**Harafin Mullick, 3<sup>rd</sup> Year H**



**AIRIKA DAS, 3<sup>RD</sup> YEAR H**

**RESHMI ROY SHARMA, 3<sup>RD</sup> YR H**



**SHEHA MAHISH, 3<sup>RD</sup> YEAR H**





**SREYA BHATTACHARYA**  
**3<sup>RD</sup> SEM H**



**ARDHITA KOLEY**  
**5<sup>TH</sup> SEM H**



**DEBANNITA**  
**KANGSHABANIK 3<sup>RD</sup> YR H**



**SREYASHI SAHA, 5<sup>TH</sup> SEM H**



**SREYA KANRAR, 3<sup>RD</sup> Y H**



**BISAKHA ADAK. 5<sup>TH</sup> SEM H**



**SUDITI MANNA, 5<sup>TH</sup> SEM H**





**Sudeshna Chowdhury, 3<sup>RD</sup> YR H PROMITA GHOSH, 3<sup>RD</sup> YR H**



**TANIYA DAS, 5<sup>TH</sup> SEM H SUMANA  
KHATUN, 5<sup>TH</sup> SEM H SOMA  
BHATTACHARJEE 5<sup>TH</sup> SEM H**



**SIBA AKHTARI 3<sup>RD</sup> SEM H**





**NABANITA RAKSHIT ,5<sup>TH</sup> SEM H PRAKRITI BISWAS , 5<sup>TH</sup> SEM H SRIJITA DAS, 5<sup>TH</sup> SEM H**



**RAKHI PAUL 5<sup>TH</sup> SEM MOHIMA CHAKRABORTY 3<sup>RD</sup> YR H**



**PRIYANKA GHOSH 5<sup>TH</sup> SEM H**



# ***NUTRITION AWARENESS DRIVE- ART FROM OUR DEPARTMENTAL STUDENTS***



priti



### লেটুস পাতা

- এতে প্রচুর পরিমাণে নিউট্রিয়েন্ট থাকলেও ক্যালোরিগুলো কম
- প্রচুর পরিমাণে ভিটামিন-কে আর ক্যারোটিনয়েডস(ভিটামিন-এ) থাকে। এছাড়া কিছু পরিমাণ ভিটামিন-সি, ফোলেট এবং ক্যালশিয়াম থাকে
- এতে খাদ্যতত্ত্ব এর পরিমাণ কম হলে এর জল ধারণ ক্ষমতা প্রচুর
- রক্তচাপ কমাতে সাহায্য করে এবং ওজন কমাতেও সাহায্য করে

priti



### গাজর

- গাজর স্বাস্থ্য ভালো রাখতে অত্যন্ত উপযোগী
- গাজরে আছে ভিটামিন এ যা দৃষ্টি-শক্তি ভালো রাখতে সহায়তা করে
- গাজরে আছে বিটা ক্যারোটিন
- গাজরে থাকা অ্যান্টি অক্সাইড ডুকের জন্য উপকারী। ডুকের বলিরেখা দূর করতে প্রতিদিন একটি গাজর পেস্ট করে ব্যবহার করতে পারেন। এছাড়াও গাজর দাঁত মজবুত করা সহ মুখের ভেতরের নানান সমস্যা মোকাবিলা করে

priti



### শশা

- শশাতে আছে ভিটামিন কে, সি, ফসফরাস, রাইবোফ্ল্যাভিন, বি৬, ফলেট, প্যান্টোথেনিক অ্যাসিড, আয়রন, সিলিকা, ক্যালশিয়াম এবং জিঙ্ক
- শশা শরীরে জল ধরে রাখতে সাহায্য করে
- শশায় উপস্থিত ম্যাগনেসিয়াম, পটাসিয়াম, সিলিকন ডুকের সৌন্দর্য বৃদ্ধিতে সাহায্য করে।
- শশায় উপস্থিত ফাইবার শরীরের ভিতরে বর্জ্যের পরিমাণ বাড়িয়ে কোষ্ঠকাঠিন্যের প্রকোপ কমায়

priti



### পেঁয়াজ

- প্রচুর পরিমাণে ভিটামিন সি সমৃদ্ধ
- খাদ্য তত্ত্ব এবং ফোলিক অ্যাসিডের উল্লেখযোগ্য উৎস
- ফ্যাট জাতীয় কোনো পদার্থ উপস্থিত থাকে না
- প্রচুর পরিমাণে অ্যান্টিঅক্সিডেন্ট থাকে তার মধ্যে "কৌরোসটিন" নামক ফ্ল্যাভোনয়েডটি উল্লেখযোগ্য

priti



### টমেটো

- টমেটোয় উপস্থিত অ্যান্টিঅক্সিডেন্ট ক্যান্সার, ডায়াবেটিস এবং হার্টের যেকোনো রোগ দূর করতে সাহায্য করে
- টমেটোয় উপস্থিত ভিটামিন এ চোখের জন্য দারুণ উপকারী
- টমেটো কোলেস্টেরল মাত্রা নিয়ন্ত্রণ করে। টমেটোতে থাকা লাইকোপেন উচ্চ রক্তচাপ কমাতে সাহায্য

priti



### লেবু

- প্রচুর পরিমাণে ভিটামিন-সি সমৃদ্ধ, মা দেহে লৌহ শোষণ ক্ষমতা বৃদ্ধি করে অ্যানিমিয়া(রক্তাল্পতা)-এর হাত থেকে রক্ষা করে
- প্রচুর পরিমাণে দ্রবণীয় খাদ্যতত্ত্ব বর্তমান
- ওজন কমাতে, বৃক্কের পাথর প্রতিরোধে, ক্যান্সারের সম্ভাবনা কমাতে সাহায্য করে
- হজম ক্ষমতা বৃদ্ধি করতে সহায়তা করে

priti



প্রতিদিন কয়েক টুকরো গাজর, টমেটো, বীট, শশা, পেঁয়াজ, লঙ্কা, পালংশাক সহযোগে তৈরি গ্রীন স্যালাড শরীরের পক্ষে খুব উপকারী। এই পুষ্টিকর স্যালাডগুলি শরীরকে সতেজ রাখতে সাহায্য করে। স্যালাড তৈরীতে ব্যবহৃত সবুজ শাকসবজি শরীরের বিভিন্ন উপকারে লাগে যেমন-

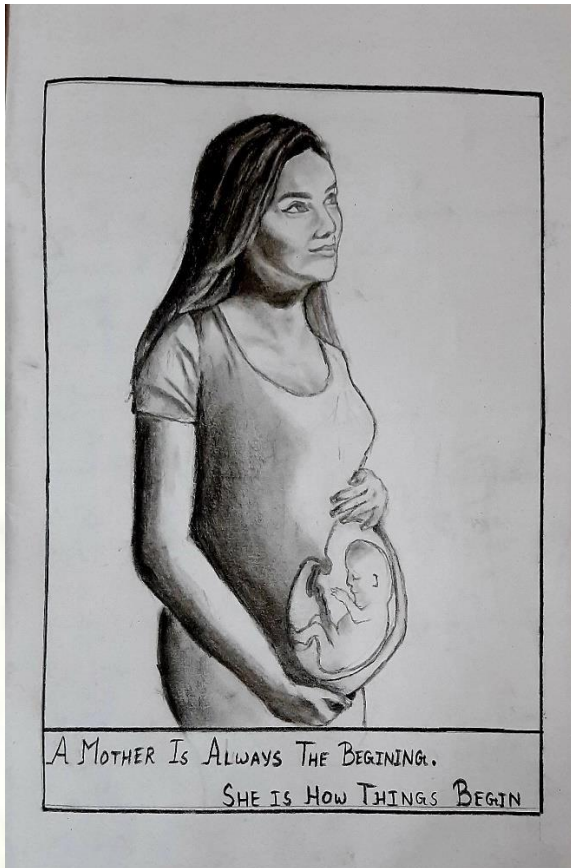
- ফাইবারের ঘাটতি মেটায়
- হাড় শক্ত করে
- হার্ট এর সমস্যার সমাধান করে
- দৃষ্টিশক্তির উন্নতি করে
- হজমশক্তি বৃদ্ধি করে

**Priti Saha**

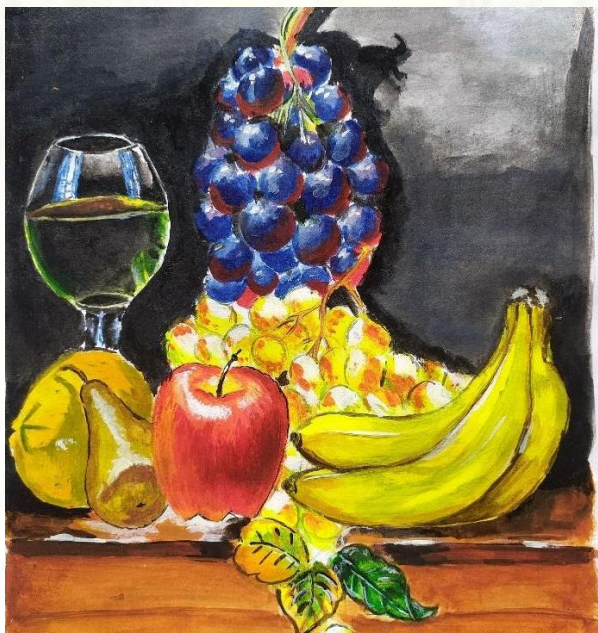
**3<sup>rd</sup> Semester Honours**

**Department of Food and Nutrition**

**Hiralal Mazumdar Memorial College For Women**

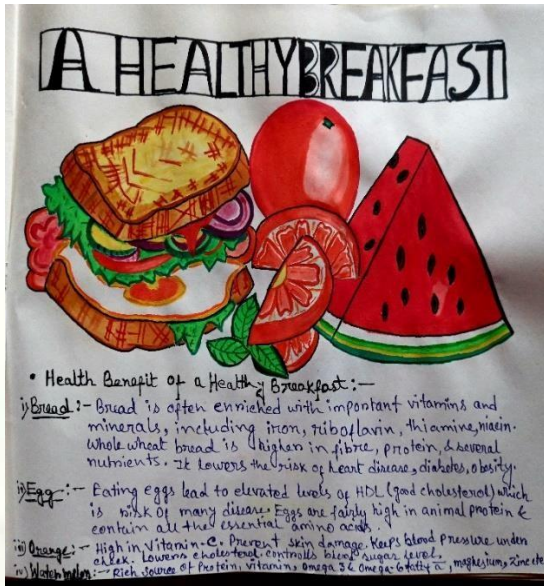


MEDHASREE NASKAR, 3<sup>RD</sup> SEM H



PRITI SAHA, 3<sup>RD</sup> SEM H





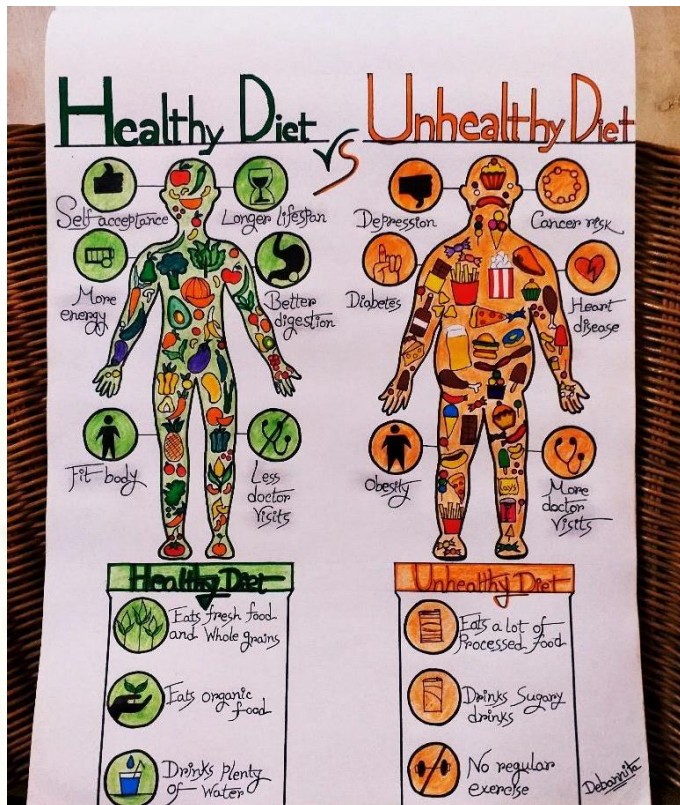
TORSA MAZUMDAR, 5<sup>TH</sup> SEM

ARAFIN MULLICK, 3<sup>RD</sup> YR H



MANASHI DAS 3<sup>RD</sup> YR H

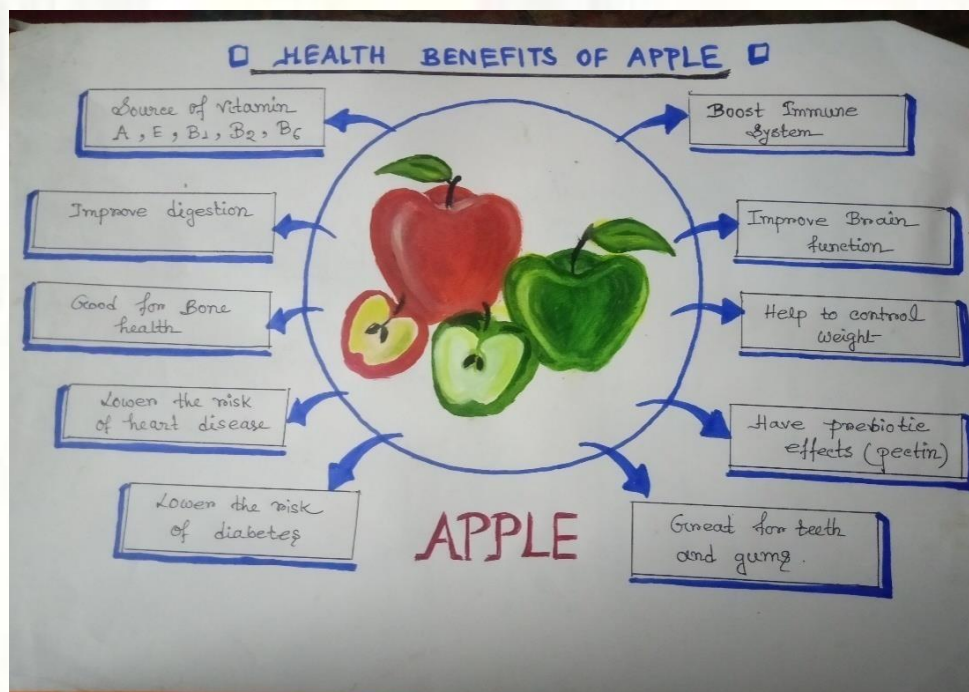
AIRIKA DAS 3<sup>RD</sup> YR H



DEBANNITA KANGSABANIK, 3<sup>RD</sup> YR H



SIMA SHARMA, 3<sup>RD</sup> SEM H



ARDHITA KOLEY, 5<sup>TH</sup> SEM H



# VITAMINS TO HELP BOOST IMMUNITY

**Vitamin A**  
Critical for vision & proper functioning of Heart, lungs, kidneys & other organs.

**Vitamin C**  
Aids in healing wounds; Repairing cartilage, bones & teeth, Absorbing Iron.



**Vitamin D**  
Helps Absorb calcium and Associated with Increased Autoimmunity.

**Vitamin E**  
An Antioxidant that helps Control and Maintain a Healthy Immune System.

Dept: FNTA | Poulami Ganguly.  
Sem: 2nd | R-55

POULAMI GANGULY, 3RD SEM H



## PHOTO GALLERY

### *Our Food and Nutrition Department*



## WALL MAGAZINE BOARD



## CHARTS AND POSTERS PREPARED BY OUR STUDENTS



## Our Departmental laboratories and instruments



## ❖ Departmental Laboratory I, II & III



## COOKERY LABORATORY







**Initiation of Health Unit on 3<sup>rd</sup> November, 2015 with active participation of the Dept.**

## INAUGURATION OF FREE DIET COUNSELING CENTRE



**Health Camp on 9<sup>th</sup> & 11<sup>th</sup> August, 2016 at Nivedita Colony with active participation of the Dept of Food & Nutrition**



## SLUM AREA VISIT AND NUTRITIONAL STATUS ASSESSMENT



## WORLD DIABETES DAY CELEBRATIONS



## NUTRITION AWARENESS PROGRAMME



## CHILDRENS DAY CELEBRATIONS





## VISIT TOURS



## EXTENSION LECTURES



## NATIONAL NUTRITION WEEK CELEBRATIONS 2017



## NATIONAL NUTRITION WEEK CELEBRATIONS 2018



## NATIONAL NUTRITION MONTH CELEBRATIONS 2019

