

# Child India

April  
2022



Monthly e-Newsletter



of Indian Academy of Pediatrics

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## Editor's Note

Dear colleagues,

The April issue of *Child India* focuses on Childhood Nutrition.

Good nutrition is the bedrock of child survival and development. Well-nourished children grow, learn, play and participate in their communities better than those with some form of malnutrition. Their ability to withstand stress improves.



Many children, especially the poor, marginalised and vulnerable children, are not getting the nutrition they need to survive and thrive. At least one in three children under 5 is affected by malnutrition in its most visible forms: stunting, wasting and overweight.

Today, many countries are facing a quadruple burden of malnutrition – global estimates of stunting (144 million under-fives), wasting (47 million children), micronutrient deficiencies (340 million under-fives), and overweight (38 million under-fives).

These children may never develop to their full cognitive potential and will not be able to contribute fully to their societies; have weakened immune systems, and face an increased risk of death; and increase the burden of life style diseases as adult.

Our IAP President 2022, Dr Remesh Kumar, IAP HSG Dr Vineet Saxena, IAP OB and Executive Board 2022 and myself thank all contributors for sharing their thoughts on this topic through well researched articles.

Jai IAP!

**Dr Jeelson C Unni**

**Editor-in-Chief**

## President's Address

Dear friends,

Despite decades of investment to tackle this malaise, India's child malnutrition rates are still one of the most alarming in the world. The Global Hunger Index (2020) — which is calculated on the basis of total undernourishment of the population, child stunting, wasting and child mortality — places India at the 94th spot among 107 countries. Countries such as Sri Lanka, Nepal, Bangladesh, Myanmar and Pakistan with similar rates of poverty, inequality, food shortage and comparable per capita income have fared much better.



The NFHS 4 (2015-2016), found that the prevalence of underweight, stunted and wasted children under five was at 35.7, 38.4 and 21.0 per cent, respectively. Though in NFHS5 (2019-2021) from the 22 states surveyed so far, 9 showed a decline in the number of stunted children, 10 in wasted and 6 in underweight children, the percentage of stunted, wasted and underweight children increased or remained unchanged in the remaining states.

Research suggests that \$1 (Rs 76.28) spent on nutritional interventions in India could generate \$34.1 to \$38.6 in public economic returns — three times more than the global average. Studies reveal that India loses up to 4 per cent of its gross domestic product (GDP) and up to 8 per cent of its productivity due to child malnutrition.

Child malnutrition in India is a complex problem that requires a systemic overhaul of the public administration and service delivery systems, as well as engagement from the community. Our members could use their immense knowledge and expertise to reach out to Anganwadi Centres, ICDS and help improve the functioning of extremely good government initiatives of POSHAN Abhiyaan and Mission POSHAN 2.0.

I am certain that the deliberations of this issue of *Child India* will give the grassroots IAPian enough armamentarium in this movement towards a healthy India.

Yours in academic service,

Jai IAP!

**Dr Remesh Kumar**

National President, IAP 2022

## Secretary's Message

Dear Friends,

Thanks for making the National Pedicon 2022 at Noida resounding success. Post Covid, it was the biggest, grandest and the most spectacular physical Conference across the country.

With the responsibilities of it's Flag ship event over, IAP is now geared up for a plethora of Physical meetings all across the country in the next 8 months. Besides already running NTEP & ECD, 9 or more Presidential Action Plans like UMP, POINT, Caring both ends of cord, DAD, Ped Gastro, Breathe Easy, APME, PECART, Ped Endocrinology, Chaos & Calm etc are ready for roll out.

Our President Dr Remesh Kumar & his team have made extensive arrangements for this Mega Mega Academic Bonanza targeted to reach the maximum number of Pediatrician's by conducting several TOTs and arranging funds.

Vice Presidents of their respective Zones are coordinating with the EB Members of their States, the State Presidents and State Hony Secretaries to reach out to the District Branch OBs. Nearly 700 workshops by various small, medium or big District Branches are on the cards. All this is definitely going to help bring uniformity and protocol based practice among our Members.

IAP seeks cooperation of all its Members and also their invaluable feedback so that we can do best what we are supposed to do.

Warm Regards

**Dr Vineet Saxena**

Hon. Secretary General 2022 & 23



## President's Engagements

Programmes on April 24th at Bangalore



Inauguration of National ToT of Use of Medications in Pediatrics (UMP) module



ARAMBH - Faculty training for Newborn Resuscitation for interns at Bangalore Medical College



ECD workshop at Vani Vilas Hospital Bangalore

## President's Engagements



Dr Ramesh Kumar felicitated by the Hon Union Minister for Health, Dr Mansukh Mandaviya at National Academy of Medical Sciences ( NAMS) Foundation Day Celebrations at Delhi on 21st April and took part in an extended plenary on “strengthening academics and research in medical specialties” as a panellist.

## President's Engagements



Summer Conference of Pediatric Infectious Diseases Chapter at ITC Royal Bengal, Kolkata



Vaccicon@ ITC Sonar, Kolkata- 3rd April



## President's Engagements



Chief Guest and Installation Officer at the Installation of Team 22-23 of IAP Cochin @IMA House , Cochin on 6th April 2022

## BREASTFEEDING AND MBFHI

**DR. KRISTIN INDUMATHI**

**DNB (Paediatrics), MD (Community Medicine)  
Head, Department of Pediatrics and Neonatology  
State Co-ordinator for MBFHI Program  
SUT Hospitals, Pattom, Trivandrum, Kerala, India**



Breastfeeding is the cornerstone of child survival, nutrition and development and maternal health. The benefits of human milk and the risks of not receiving it have been well studied and are universally recognized.

The World Health Organization (WHO) recommends exclusive breastfeeding for the first 6 months of life, followed by continued breastfeeding with appropriate complementary foods for up to 2 years or beyond. Only 44% of infants globally initiate breastfeeding within the first hour after birth and 40% of all infants under 6 months of age are exclusively breastfed. At 2 years of age, 45% of children are still breastfeeding.

The first few hours and days of a newborn's life are a critical window for establishing lactation and for providing mothers with the support they need to breastfeed successfully.



### EVOLUTION OF BFHI

In order to support women and optimize the chances of breastfeeding in line with WHO's recommendations, WHO and the United Nations Children's Fund (UNICEF) published a joint statement in 1989 which listed Ten Steps to Successful Breastfeeding.

The Ten Steps were re-emphasized in the Innocenti Declaration on the protection, promotion and support of breastfeeding, adopted in Florence, Italy in 1990, and in 2005 on infant and young child feeding. They became part of the Baby-friendly Hospital Initiative, published in 1991 and was launched by UNICEF and WHO in 1991-1992. The updated version of BFHI came up in 2009 and recently revised for the first time in 2018.

The Baby-friendly Hospital Initiative provides guidance on the implementation, training, monitoring, assessment, and re-assessment of the Ten Steps to Successful Breastfeeding and the International Code of Marketing of Breastmilk Substitutes, - a set of recommendations to regulate the marketing of breast-milk substitutes, feeding bottles and teats adopted by the 34th World Health Assembly

(WHA) in 1981, and its subsequent related WHA resolutions.

The Baby-friendly Hospital Initiative has since been shown to positively impact breastfeeding outcomes.

In 2012, the World Health Assembly Resolution 65.6 endorsed a Comprehensive implementation plan on maternal, infant, and young child nutrition specifying six global nutrition targets for 2025, one of which is to increase breastfeeding rates in the first 6 months up to at least 50%.

The 2018 BFHI Implementation Guidance encourages the integration of the BFHI with other programmes focusing on improving the quality of care for women and children, and with other standards of care, including mother friendly practices, quality antenatal care, Kangaroo Mother Care, and Early Essential Newborn Actions.

## Highlights of the Recommendations- 2018 revised guidelines of BFHI

- Comply fully with the International Code of marketing of Infant Milk Substitutes. Have a written policy that is routinely communicated to all staff and parents. Establish ongoing monitoring and data management systems.
- Parents should be offered antenatal breastfeeding education to prepare them to address challenges they may face.
- Early and uninterrupted skin-to-skin contact between mothers and infants should be facilitated and encouraged as soon as possible after birth.
- All mothers should be supported to initiate breastfeeding as soon as possible after birth, within the first hour after delivery by staff who are trained to support breastfeeding.
- Mothers should receive practical support by staff to enable them to initiate and

establish breastfeeding and manage common breastfeeding difficulties

- Mothers should be coached on how to express breast milk as a means of maintaining lactation in the event of their being separated temporarily from their infants
- Facilities providing maternity and newborn services should enable mothers and their infants to remain together and to practise rooming-in throughout the day and night.
- Mothers should be supported to practise responsive feeding as part of nurturing care. Mothers should be supported to recognize their infants' cues for feeding, closeness, and comfort, and enabled to respond accordingly to these cues
- Mothers of infants admitted to the neonatal intensive care unit should be sensitively supported to enable them to have skin-to-skin contact /KMC with their infants, recognize their infants' behaviour cues, and effectively express breast milk.
- Additional foods and fluids apart from breast milk should only be given when medically acceptable reasons exist.
- Mothers should be prepared for discharge by ensuring that they can feed and care for their infants and have access to continuing breastfeeding support in the succeeding days and weeks after discharge. This will be crucial in identifying and addressing early breastfeeding challenges that occur.

## MOTHER AND BABY FRIENDLY HOSPITAL INITIATIVE - in Kerala

Kerala was declared the first 'Baby friendly state' in the world in August 2002 and selected for this rare honour under the WHO-UNICEF sponsored 'Baby Friendly Hospital Initiative' (BFHI) for "promoting, protecting and supporting "exclusive breast feeding. The rate of breast-

feeding initiation on day 1 was 92% in Kerala by 2002.

But as the years passed, there was complacency among the health workers regarding motivation of mothers about the benefits of breast feeding and teaching them about the correct feeding techniques. No follow up training programs available for the health workers or inspections for renewal of the certificates. As a result, the breast-feeding status gradually dropped and now the percentage of mothers giving breast feeding is just above 50%

according to the NFHS Survey- 50.3% in urban and 59.5% in rural areas. New-borns breastfed within one hour of birth has also decreased to 66.7% in the state.

Breast feeding promotion has been considered as the most cost-effective intervention for infant and child mortality reduction. There was an urgent need to revamp BFHI by training the doctors and nurses in Breast feeding practices and a call for Certification of all maternity hospitals in the State of Kerala.



## MOTHER AND BABY FRIENDLY HOSPITAL INITIATIVE

### Ten steps to successful breastfeeding

#### Critical management procedures

- 1a. Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions.
- 1b. Have a written infant feeding policy that is routinely communicated to staff and parents.
- 1c. Establish ongoing monitoring and data-management systems.
2. Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.

#### Key clinical practices

3. Discuss the importance and management of breastfeeding with pregnant women and their families.
4. Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.
5. Support mothers to initiate and maintain breastfeeding and manage common difficulties.
6. Do not provide breastfed newborns any food or fluids other than breast milk, unless medically indicated.
7. Enable mothers and their infants to remain together and to practise rooming-in 24 hours a day.
8. Support mothers to recognize and respond to their infants' cues for feeding.
9. Counsel mothers on the use and risks of feeding bottles, teats and pacifiers.
10. Coordinate discharge so that parents and their infants have timely access to ongoing support and care.



**BBC NEWS** WORLD EDITION

You are in: South Asia  
Thursday, 1 August, 2002, 17:08 GMT 18:08 UK

## Indian state wins 'baby-friendly' award

Kerala began its own baby-friendly initiative in 1993

By Venkitesh Ramakrishnan  
BBC reporter in Kochi

The southern Indian state of Kerala has won international praise for its efforts to persuade women to return to breastfeeding.

The United Nations Children's Fund (Unicef) and the World Health Organisation (WHO) have given Kerala the title of "the world's first baby-friendly state".

The award refers to Kerala's success in reducing infant death and disease by encouraging natural methods and by regulating baby foods,

## MBFHI IMPLEMENTATION IN KERALA

Breastfeeding week celebrations was organized as a joint venture of IAP and Kerala University of Health Sciences where in a Workshop for doctors and nurses was conducted in a state level interest group meeting in August 2019 and it was decided to go for revamping of the BFHI

Term MBFHI was coined- Mother and Baby Friendly Initiative -mother services were included and given importance.

As per the President's action plan Indian Academy of Paediatrics started work and formed various task groups for implementation of MBFHI revamping. The school of public health, Kerala university of Health Sciences along with IAP and Kerala Federation of Obstetrics and Gynaecology had identified breast feeding promotion as a key policy area and started interventions like lactation management training program and training for doctors and nurses in the hospitals with maternal and child health services. The school has already trained 500 nurses as lactation counsellors and ready to continue that in the coming years. During 2020 training continued online because of the COVID pandemic

MBFHI was highlighted again in July 2021 under IAP State President's action plan. Collaborative partnership consortium was developed with Official representatives of KFOG, NNF and TNAI. The MBFHI program was officially launched in the State of Kerala during the Breastfeeding week Celebrations 2021 by the Health Minister.

Teaching sessions were conducted as 4 state level TOTs. These topics in slide sets were distributed among the Paediatricians & Obstetricians who had undergone the training. These trainers are to be conducting the awareness programs in their respective hospitals for doctors and nurses and other staff.

The MBFHI program was discussed with the

UNICEF and also the NHM, Kerala to be a partner and conduct the assessment and certification of MBFHI.

## CERTIFICATION PROCEDURE

- As part of the initiative, clear guidelines had been formulated for the certification of hospitals. Apart from the 10-point quality indicators of the UNICEF and WHO, a quality standard certification with 130 check points had been drawn up by the NHM Quality Team for certifying hospitals as Mother and baby-friendly,
- A state level advisory board was formed to get the activities done so far formally reviewed and duly endorsed. State level certification committee was formed, and approval of draft guidelines was done. At the State level training, selection and due designation of external assessors was done
- There was a District level MBFHI Certification Committee for implementation at District level and a Core Committee for monitoring and implementation of MBFHI by IAP Officials. An Academic support committee was formed to support the program.
- IEC for operationalization of the program and Formal communications for certification and delivery of self-appraisal form were given to maternity hospitals
- The hospitals would have to form a Hospital Committee and do a Self-Appraisal. They would have to close the gaps and after satisfying the checklist could apply. Collection of filled self-appraisal forms and screening of the selected institutions is based on self-appraisal form. All self-certified health facilities through Institutional Committees formed in this regard as per established certification standards are eligible to apply for the MBFHI Certification.
- Visit of the institution and external evaluation was by qualified external assessors through

the Interviewing of Mothers, Hospital superintendent, Nurses, Doctors and conducting a tour of the facility.

- Certification of the facility was finalized based on the score obtained in the checklist. The facility will be MBFHI certified if the facility meets all the criteria and validated by the State Level Certification Committee. Declaration of the certification will be done by State level official dignitary. Those who do not qualify are given a time frame to reapply after Corrective steps have been taken.
- External assessment systems to regularly evaluate adherence to the Ten Steps in hospitals. Certificate is valid for two years. Development of a feasible and agreed on timeline of Certification of all Maternal and Child Hospitals in the State to declare the entire state as Mother and baby friendly.
- The MBFHI Certification process is going on and hospitals have been inspected and certified with much credit and enthusiasm. Kerala once again has been a trendsetter in MBFHI. This will go a long way in improving Exclusive breastfeeding rates in Kerala.

## THE ROLE OF LACTATION MANAGEMENT CENTRES AND MOTHER IN NICU- IN IMPROVING BREASTFEEDING RATES

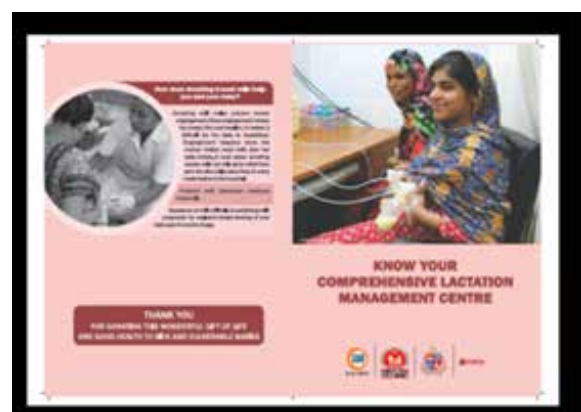
About 75% of premature infants can be saved with feasible and cost-effective interventions. These include kangaroo mother care; adequate neonatal resuscitation; prevention, detection, and treatment of neonatal infections; and breastfeeding. Of these, breastfeeding has been identified as the single most powerful intervention, with the potential to prevent 0.16 million under-5 deaths in India. Many studies demonstrate the positive effect of donor human milk on vulnerable infants as compared with formula, such as reduced risk of sepsis and necrotizing enterocolitis, greater

feeding tolerance, reduced length of stay in NICUs, and substantial cost savings for resource limited public health systems.

The government of India has acknowledged the role that human milk banking can play in reducing neonatal mortality and morbidity and launched the “National Guidelines on Lactation Management Centres in Public Health Facilities” in July 2017. These guidelines are part of a program focusing on breastfeeding launched by the government of India called Mother’s Absolute Affection (MAA).

The vision of the government is to make breast milk universally available for all infants by establishing Comprehensive lactation management centres (CLMC), lactation management units (LMUs) and lactation support units (LSUs) at the facility level. The CLMC model is based on the MBFI+ model. LMCs are seen as an effort to promote the natural act of breastfeeding and ensure availability of safe donor human milk for sick infants when MOM is not available.

CLMC has been started in some States by both government and private agencies.



## Opportunities for Improved Newborn Care in Mother NICU

Every year, 30 million newborns require inpatient care. These include 15 million preterm, low-birthweight and sick infants. The presence of mother with her baby 24×7 in MNCU

(Zero Separation of Mother) provided several opportunities to improve newborn care. She is able to provide prolonged, Continuous, Effective KMC. Skin-to-skin care, which involves placing the unclothed infant directly on the parent's bare chest, is related to decreased acute pain responses, improved weight gain, improved infant growth and development, reduced hypothermia, earlier discharge, better cognitive outcomes in childhood, and enhanced nurturing and parent-child interactions. Additionally, high maternal involvement in the NICU has been related to superior cognitive and language outcomes in early childhood.



### Higher Breast milk Feeding Rates

A very important opportunity that MNCU provides is early exclusive breast milk feeding and breast-feeding. Since mother is with her baby in MNCU, expressed breast milk (EBM) is readily available as first feed for initiation soon after birth. Skin-to-skin contact with baby results in better lactation, and it is easier to maintain babies on exclusive breast milk feeding. Babies can be put to the breast earlier for non-nutritive sucking (NNS), which helps babies to develop reflexes faster and improves milk output of the mother by stimulating prolactin reflex.

### Mother as Caregiver and Not a Mere Visitor

Mothers in MNCU substantially contribute to care of babies including feeding, changing diapers, and monitoring babies for danger signs.

MNCU provides opportunity for mother to be the primary caregiver in MNCU, thus providing family-centred developmentally supportive care to newborns and good quality care. Last but not the least, MNCU resulted in mother-newborn couplet care by paediatrician and obstetrician with better co-ordination of neonatal and maternal care.

### CONCLUSION

Nearly 50% of diarrhoea episodes and one third of respiratory infections are due to inadequate breastfeeding practices. Longer breastfeeding is associated with a 13% reduction in the likelihood of overweight and/or prevalence of obesity and a 35% reduction in the incidence of type 2 diabetes. Breastfeeding is a non-polluting, non-resource intensive, sustainable and natural source of nutrition and sustenance. . Improving breastfeeding rates worldwide is a fundamental driver to achieve Sustainable Development Goals by 2030. Protecting, promoting and sustaining breastfeeding practices is the need of the hour and Mother and Baby Friendly Initiative will pave the way to achieve this.

### Further Reading:

1. Roberta Pineda, -Parent Participation in the Neonatal Intensive Care Unit: Predictors and Relationships to Neurobehavior and Developmental Outcomes.
2. Harish Chellani- Mother-Newborn Care Unit (MNCU) Experience in India: A Paradigm Shift in Care of Small and Sick Newborns
3. Protecting, promoting, and supporting Breastfeeding in facilities providing maternity and newborn services: the revised BABY-FRIENDLY HOSPITAL INITIATIVE 2018- WHO-UNICEF
4. National Guidelines on Lactation Management Centres in Public Health Facilities Child Health Division, Ministry of Health and Family Welfare. Government of India, NATIONAL HEALTH MISSION. June 2017
5. Hospitals in Kerala to be made Mother and Baby-friendly -THE HINDU August 05/2021

## Early Childhood Nutrition (ECN) – Facts & Figures

### “Survive, Thrive and Reach Full Potential”

**DR. ELIZABETH K E**

Ph D, MD, DCH, FIAP, FRCPCH (Lon.)

UNICEF Consultant, Kerala

Former Prof. & HOD, Pediatrics, SATH, Govt. Medical College, Thiruvananthapuram

Prof. Hod, Pediatrics, Sree Mookambika Institute of Medical Sciences

Kulasekharam, Kanyakumari



Nutrition is the key factor towards survival and quality of survival. Early Childhood Nutrition is rated as the panacea, that can enable a baby to survive, thrive, and reach the full potential. Optimizing infant and young child nutrition (IYCN) has an important role in early child development. Early childhood covers the ‘extended window of opportunity’ from preconception to three years of age. The first 1000 days includes pregnancy to second birthday. By the second birthday, the baby attains 20% of his adult weight, 50% of his adult height and 75% of brain growth. Macro or micronutrient deficiencies occurring in this age group will have long lasting effects on the growth and development of the child. Optimum Nutrition and Growth is to be ensured and monitored through 11 Well baby visits as follows:

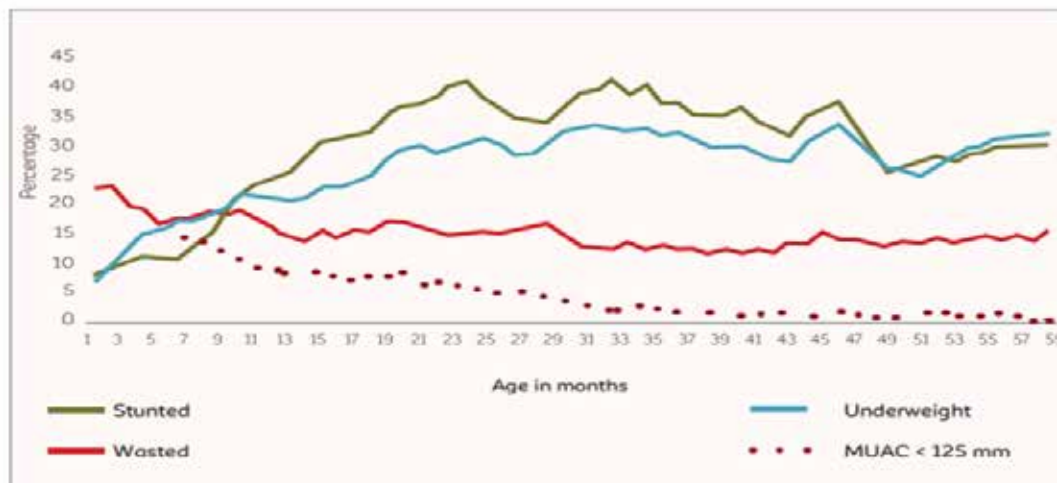
- 1). within the 1 st week of life •2). 6 weeks
- 3.) 10 weeks •4). 14 weeks •5). 6 months •6) 9 months •7). 12 months •8) 18 months •9) 24 months •10). 30 months and •11). 36 months.

**The Comprehensive National Nutrition Survey (CNNS- 2016-18) results was an eye opener regarding the various macro and micronutrient deficiencies.**

Over the past several years, India has failed to witness any remarkable progress in infant feeding practices. Only 58% of 0-6 months old babies are exclusive breastfed. Complementary feeding is introduced in only 53% infants between 6–8 months. Among 6- 23-month-old, breastfed babies, only 39.6% received minimum meal frequency, 17.8% had minimum dietary diversity, 5.9% received minimum acceptable diet. Only 8% of 6–23-month-old, breastfed babies and 11.2% of non-breastfed babies consumed iron rich food. The survey also found that 35% of children under 5 years were stunted and 17% of children under 5 years were wasted. 33% of children under 5 years were underweight and 11% of 6–59-month-old children were acutely malnourished as measured by MUAC for age <2 SD. Over the years, there is not much improvement in the nutritional status of under 5 children, which indicates the failure of IYCN practices in our country. The fact that all these growth faltering starts during the window period of opportunity is of great concern.



**Percentage of stunting, wasting, underweight and MUAC<125 mm among children under five, by age in months, India, CNNS 2016-18**



**Key findings about the Infant and young child diet in CNNS 2016 - 18**

**Initiation of breastfeeding**

- Fifty-seven percent of children aged 0–24 months were breastfed within one hour of birth

**Exclusive breastfeeding**

- Fifty-eight percent of infants under age six months were exclusively breastfed

**Continued breastfeeding at age one year**

- Eighty-three percent of children aged 12 to 15 months continued breastfeeding at one year of age

**Complementary feeding**

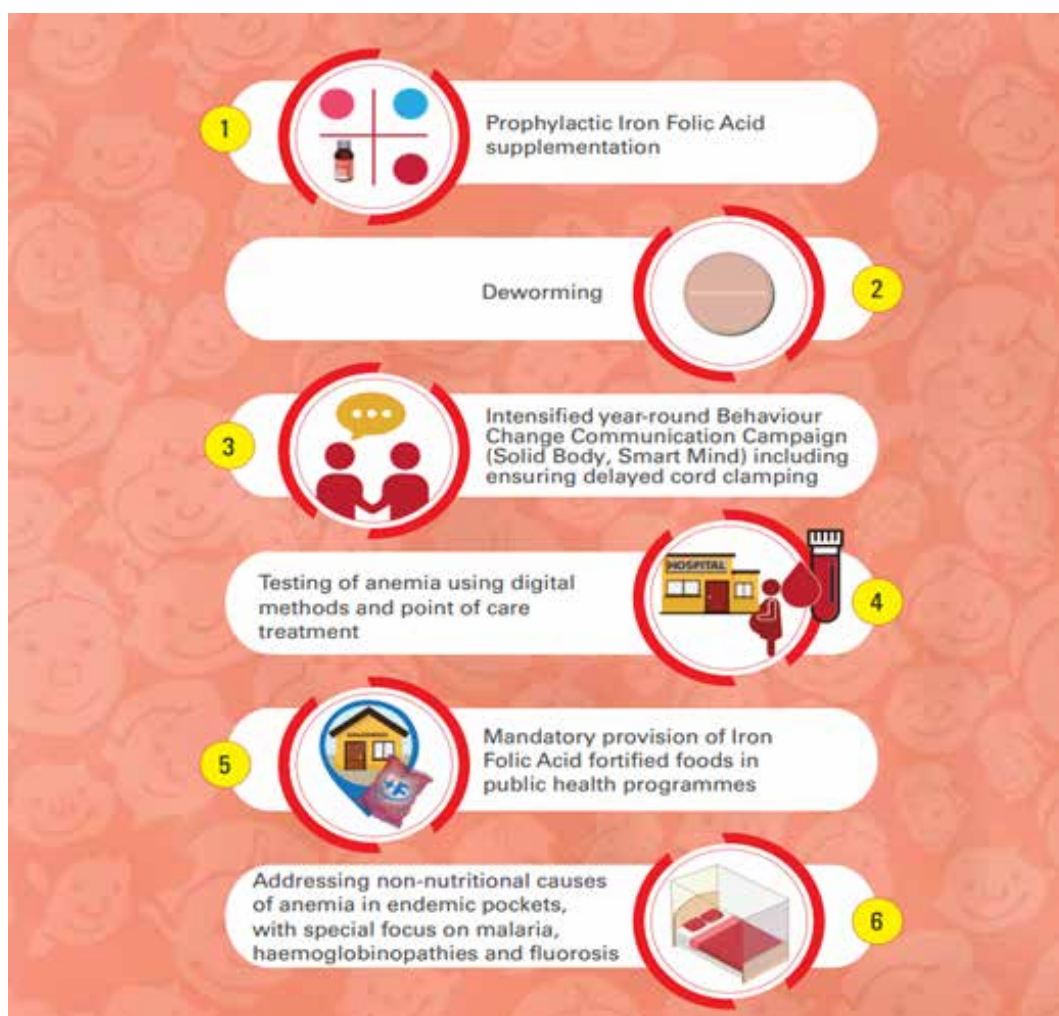
- Timely complementary feeding was initiated for 53% of infants aged 6 to 8 months

**Minimum dietary diversity, meal frequency and acceptable diet**

- While 42% of children aged 6 to 23 months were fed the minimum number of times per day for their age, 21% were fed an adequately diverse diet and 6% received a minimum acceptable diet

## (CNNS – 2016-18)

INDICATORS	CHILDREN AGED 1-4 YEARS	CHILDREN AGED 5-9 YEARS	ADOLESCENTS AGED 10-19 YEARS
	Total (95% Confidence Interval)	Total (95% Confidence Interval)	Total (95% Confidence Interval)
Prevalence of anaemia <sup>LA</sup> (%)	40.6 (38.6-42.6)	23.5 (21.8-25.2)	28.4 (26.8-30.0)
Prevalence of anaemia – males <sup>LA</sup> (%)	40.6 (37.9-43.3)	22.2 (20.2-24.4)	17.6 (15.9-19.4)
Prevalence of anaemia – females <sup>LA</sup> (%)	40.5 (37.7-43.3)	24.7 (22.4-27.2)	39.5 (36.9-42.2)
Prevalence of low serum ferritin <sup>LA</sup> (%)	32.1 (29.6-34.7)	17.0 (15.5-18.6)	21.5 (19.8-23.3)
Prevalence of folate deficiency <sup>LA</sup> (%)	23.4 (20.8-26.2)	28.2 (25.6-31.0)	36.7 (33.5-40.0)
Prevalence of vitamin B12 deficiency <sup>LA</sup> (%)	13.8 (11.7-16.2)	17.2 (15.3-19.3)	30.9 (28.4-33.5)
Prevalence of serum 25-hydroxy vitamin D <12ng/ml <sup>2</sup> (%)	13.7 (12.0-15.6)	18.2 (16.5-20.1)	23.9 (21.9-26.0)
Prevalence of vitamin A deficiency <sup>LA</sup> (%)	17.5 (15.3-20.0)	21.5 (18.7-24.6)	15.6 (13.1-18.4)
Prevalence of zinc deficiency <sup>LA</sup> (%)	19.0 (17.0-21.2)	16.8 (15.3-18.3)	31.7 (29.4-34.1)
Median urinary iodine concentration(µg/l) <sup>2</sup>	212	176	173



Age group	Dose and regime
Children 6–59 months of age	Biweekly, 1 ml Iron and Folic Acid syrup Each ml of Iron and Folic Acid syrup containing 20 mg elemental Iron + 100 mcg of Folic Acid Bottle (50ml) to have an 'auto-dispenser' and information leaflet as per MoHFW guidelines in the mono-carton (See Note 1)
Children 5–9 years of age	Weekly, 1 Iron and Folic Acid tablet Each tablet containing 45 mg elemental Iron + 400 mcg Folic Acid, sugar-coated, pink colour
School-going adolescent girls and boys, 10–19 years of age Out-of-school adolescent girls, 10–19 years of age	Weekly, 1 Iron and Folic Acid tablet Each tablet containing 60 mg elemental iron + 500 mcg Folic Acid, sugar-coated, blue colour (See Note 2)
Women of reproductive age (non-pregnant, non-lactating) 20–49 years	Weekly, 1 Iron and Folic Acid tablet Each tablet containing 60 mg elemental Iron + 500 mcg Folic Acid, sugar-coated, red colour (See Note 2)
Pregnant women and lactating mothers (of 0–6 months child)	Daily, 1 Iron and Folic Acid tablet starting from the fourth month of pregnancy (that is from the second trimester), continued throughout pregnancy (minimum 180 days during pregnancy) and to be continued for 180 days, post-partum Each tablet containing 60 mg elemental Iron + 500 mcg Folic Acid, sugar-coated, red colour

**Supplementary Nutrition Programs** like the ICDS are expected to bridge the gap of energy and protein at individual level.

Children below 6 years and pregnant and lactating mothers are the beneficiaries of the supplementary nutrition program under ICDS. Children below 6 years are given at least 500 calories and 12-15 g of protein daily for 300 working days per year (i.e. 1/3rd the calorie requirement and ½ the protein needs) so that the nutrition gap is bridged. For severely malnourished children 800 calories and 20-25 g protein is supplemented daily. Pregnant and lactating mothers are provided 600 calories and 18- 20 gm protein daily.

## Micronutrient Sufficiency & Special Nutrition Programmes

1. Nutritional Anemia- As per CNNS, >50% of nutritional anemia is due to iron deficiency, followed by folic acid. Hence, the revised IFA guidelines as per Anemia - Mukth - Bharath (Intensified National Iron Plus Initiative: I-NIPI) is very comprehensive and addresses a life cycle approach. Anemia Mukth Bharath aims to reduce prevalence of anemia among children, adolescents and women in the reproductive age group (15–49 years), using the following 6 interventions. Ensuring Vitamin B 12 sufficiency is important, while giving folate supplementation.

## 2. National Vitamin A Prophylaxis Program

**Objective: Prevention of vitamin A deficiency**

**A. Promoting consumption of Vitamin A rich food** – promotion of regular dietary intake of Vitamin A rich foods by all pregnant and lactating women and by children under 5 years of age by increasing local production and consumption of green leafy vegetables and other plant foods those are rich sources of carotenoids.

**B. Creating awareness about the importance of preventing Vitamin A deficiency** – among the women's attending Antenatal clinics, immunization session, as well as women and children registered under ICDS programme.

**C. Prophylactic Vitamin A as per the following dosage schedule:**

100000 IU at 9 months with measles immunization

200000 IU at 16-18 months, with DPT booster,  
Age > 1 year & Weight > 8 Kg

200000 IU every 6 months, up to the age of 5 years.

Thus, a total of 9 mega doses are to be given from 9 months of age up to 5 years.

### Treatment of Vitamin A deficient children

- A. All children with xerophthalmia are to be treated at health facilities.
- B. All children having measles are given 1 dose of Vitamin A if they have not received it in the previous month.
- C. All cases of severe malnutrition are given one additional dose of Vitamin A.

## 3. Vitamin D:

All newborn babies, both term and preterm are recommended to take 400 IU/day till one year of age. Older children are advised exposure

to sunshine and vitamin D rich and fortified food.

## 3. Zinc

All infants and children > 2 months old are recommended to get zinc for 14 days, during diarrheal episodes.

## 4. Iodine

Universal iodization of salt is practised in India.

Providing Macro and micronutrients at the desired level of quantity and quality ensuring hygiene is a great challenge. **The ICMR 2020 Revised guidelines give an account of this.**

### Growth Monitoring

Height, weight, and head circumference should be measured during the 11 well child visits. These measurements should be plotted in the growth charts. WHO growth charts are the recommended growth charts in children less than 5 years, which is incorporated into the Revised IAP Growth Charts, 2017. By plotting the measurements in the growth charts, growth faltering can be identified early. Down crossing of the centiles should be flagged and a detailed estimation of nutritional intake should be done.

Simple interventions like the above are expected to ensure optimum early childhood nutrition and surveillance.

Recommended Dietary Allowances of Energy and Nutrients								
	<b>Energy (kcal)</b> <b>(EAR)</b>	<b>Protein (g)</b>	<b>Dietary fiber (g)</b>	<b>Calcium (mg)</b>	<b>Magnesium (mg)</b>	<b>Iron (mg)</b>	<b>Zinc (mg)</b>	<b>Iodine (mcg)</b>
Infants 0–6 mon. (Adequate Intake)	530	5.8	-	300	30	-	-	100
Infants 6–12 months	660	8.5	-	300	75	3	2.5	130
Children 1–3 yrs	1110	12.5	15	500	90	8	3.3	90
Children 4–6 yrs	1360	16	20	550	125	11	4.5	120
Children 7–9 yrs	1700	23	26	650	175	15	5.9	120
Boys 10–12 yrs	2220	32	33	850	240	16	8.5	150
Girls 10–12 yrs	2060	33	31	850	250	28	8.5	150
Boys 13–15 yrs	2860	45	43	1000	345	22	14.3	150
Girls 13–15 yrs	2400	43	36	1000	340	30	12.8	150
Boys 16–18 yrs	3320	55	50	1050	440	26	17.6	150
Girls 16–18 yrs	2500	46	38	1050	380	32	14.2	150

*There is no RDA for energy, EAR for energy is equivalent to Estimated Energy Requirement.*

*Source: Indian Council of Medical Research (ICMR), National Institute of Nutrition (NIN); 2020.*

Recommended Dietary Allowances of Vitamins									
	Thiamine (mg)	Riboflavin (mg)	Niacin (mg)	Vit B6 (mg)	Folate (mcg)	Vit B12 (mcg)	Vit C (mg)	Vit A (mcg)	Vit D (IU)
Infants 0–6 months	0.2	0.4	2	0.1	25	1.2	20	350	400
<b>Infants 6–12 months</b>	0.4	0.6	5	0.6	85	1.2	30	350	400
<b>Children 1–3 years</b>	0.7	1.1	7	0.9	120	1.2	30	390	600
<b>Children 4–6 years</b>	0.9	1.3	9	1.2	135	1.2	35	510	600
<b>Children 7–9 years</b>	1.1	1.6	11	1.5	170	2.2	45	630	600
<b>Boys 10–12 years</b>	1.5	2.1	15	2.0	220	2.2	55	770	600
<b>Girls 10–12 years</b>	1.4	1.9	14	1.9	225	2.2	50	790	600
<b>Boys 13–15 years</b>	1.9	2.7	19	2.6	285	2.2	70	930	600
<b>Girls 13–15 years</b>	1.6	2.2	16	2.2	245	2.2	65	890	600
<b>Boys 16–18 years</b>	2.2	3.1	22	3.0	340	2.2	85	1000	600
<b>Girls 16–18 years</b>	1.7	2.3	17	2.3	270	2.2	70	860	600

*Source: Indian Council of Medical Research (ICMR), National Institute of Nutrition (NIN); 2020.*

### Further Reading

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## 'The Nutrition Transition & Juncs'



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### Introduction

The rapid economic growth, urbanization, and globalization have resulted in dietary transformation world over. The shift of source of food from home kitchen to food industries whether due to increasing working women force, more convenience, being cheaper yet hyperpalatable, with long shelf life and easy availability, fast foods especially the modern ultraprocessed foods reinforced with irresponsible / misleading advertising have brought about an immense change in the eating habits of all age groups globally. As a result food choices and consumption are now virtually dictated by the food industry and form an important current determinant of health and nutrition of the population. Our food choices have turned us blind to our own health needs and provided a facilitative environment for food industry which is growing by 40 %/ year and India now ranks among top ten consumers of fast foods in the world!

Pediatric population is further more vulnerable as children often have long screentime, are more exposed to luring loud food adverts and their developing minds easily fall prey to the "cradle to grave tactics" of food industry.

As rest of the developing world, the average Indian household diets have also diversified slowly & steadily since the 90s and many reports have revealed similar trends in food consumption from our country. Such trends are now being held responsible for double burden of malnutrition within the same environment due to already pre-existing high prevalence of undernutrition which is now coupled with alarming rise of obesity and widespread micronutrient deficiencies. Though sections of Indian households do consume reasonably balanced diets, but large percentages do not, and the ongoing pandemic has further aggravated the scenario.

We are striving to attain universal exclusive breastfeeding till 6 months (still 64%) coupled with home based complementary feeding from 6 months onwards, however parents often feed their

infants with readymade marketed foods labeled as so called 'healthy'. This opens the gateway to JUNCs-the sugar loaded health supplements/beverages and fat/sugar/salt loaded snacks & restaurant foods later on. Poor food choices with concomitant increasing inactivity in our youngest population, has resulted in rising obesity & evidence for NCD markers in as young as less than 5 years of age. The CNNS Survey findings suggest, our country needs urgent awakening on all fronts!

Some of the reports in relation to this transition in our country are summarized as under:

HFSS foods replacing Balanced Diet The report (2015) of the Working Group on Addressing Consumption of Foods High in Fat, Salt, Sugar (HFSS) Constituted by Ministry of Women and Child Development revealed Dietary patterns were contributing to a clear change in the trends of chronic diseases in India.

NNMB report, 2012 revealed median intake of all nutrients except protein and thiamine were less than the RDA in the age group of 4-9 years. However in 10-15 year old boys and girls, the median intakes of all nutrients were less than the RDA and higher deficit in case of micronutrients such as vitamin A, riboflavin, vitamin C, dietary folate, calcium and iron in all the above age groups.

Data from NSSO surveys for moderately active Indians indicated 5 - 10 per cent deficiency in cereal consumption and 8 - 25 per cent deficiency in pulse consumption while, there is 23 per cent excess consumption of oils and fats in rural areas and 58 per cent excess in urban areas<sup>4</sup>. The trends indicate that increasingly, people are replacing traditional energy sources (also a source of fibre), such as coarse grains, millets and other cereals, with calorie-dense (otherwise nutritionally poor) foods, such as oils and dairy products. Factors driving such consumption patterns among all sections of

Indian society include globalization, rising per capita incomes, rapidly changing lifestyles and changing agriculture patterns.

Per capita consumption of sugar has risen from 22 g/day in 2000 to 55.3 g/day in 2010; salt intake ranged between 9 and 12 g/per capita/day; and total fat consumption increased from 21.2 g/day in 2000 to 54 g/day in 2010.

Sale of packaged food is highest in northern India (38 per cent), followed by west (36 per cent), south (28 per cent) and east & northeast (21 per cent).

NIPCCD conducted a study to find out the eating pattern of school going children in 43 schools of Delhi revealed that advertisements affect their food choices. Although 84.6 per cent of children did carry tiffin/lunch from home, out of them 55.1 per cent still bought snacks from school canteen regularly. The items popular among children included pizzas and burgers, beverages, biscuits/chips, chocolates and toffees. Another study on the Junk Foods eating habits of school children in Delhi found that 60-70 per cent of children in different age groups consumed chips at least two to three times a week. Findings from a study by Centre for Science and Environment (CSE) highlighted serious food labeling issues too.

CNNS (2016-2018) survey studied food consumption pattern & dietary diversity among children aged 2-9 years and adolescents aged 10-19 years. Among children aged 2 to 4 years, 96% consumed grains, roots and tubers, 62% consumed dairy products, and 5% consumed vitamin A-rich fruits and vegetables the previous day while eggs (16%) and flesh foods (1%) were the least commonly consumed. Child food consumption patterns varied by the mother's schooling status and household wealth. The proportion of children aged 2 to 4 years consuming dairy products, eggs, and other fruits and vegetables the previous day increased with the mother's education level and household wealth status.



Almost all adolescents have “unhealthy” diets. Only 1 out of 5 adolescents (~20%) take pulses and green leafy vegetables. Less than 1 out of 5 adolescents & Six out of 10 adolescents reported no consumption of fruits. Every fourth adolescent reported zero consumption of green leafy vegetables. At the same time, at least once a week consumption of fried foods was reported by 30% adolescents and sweets by 15% and aerated drinks by 2% adolescents. Two percent adolescents reported at least thrice a week consumption of junk foods. Adolescent girls and boys who are short, thin, or anemic most often do not eat fruits, egg, fish/chicken, dark green leafy vegetables and pulses. Pulses and dark green leafy vegetable consumption increases around ages 12 to 14 years but these gains are lost in later years. Intake of all avoidable foods peaks at 17 years among boys.

Thus diets in India need to be transformed sufficiently to overcome major gaps in intakes of micronutrient-rich foods, educating the population to choose right, choose natural locally available foods and learn to interpret the food labels. The large regional heterogeneities in diets call for regionally differentiated strategies to improve diets.

## IAP GUIDELINES & RECOMMENDATIONS : A SUMMARY

**THE JUNCS: A NEW TERMINOLOGY** J- Junk foods (foods high in fats, especially saturated & trans-fats, sugars, salts, foods lacking in micronutrients/minerals) U- Ultra processed foods (as defined in the fourth category of NOVA classification) N- Nutritionally inappropriate foods. Home-made foods can also qualify to be nutritionally inappropriate if prepared in recycled oil, or contain high amount of sugar, fat or salt. C- Caffeinated/colored/carbonated beverages- Sugar sweetened beverages. The main concern of current times is Ultra processed foods, which though begin with formulations of substances derived from food, are exposed to a

series of chemical & industrial processes, addition of excessive sugar, & its substitutes, salt & fats, chemicals, additives colors and flavors, making it hyper palatable and thus more obesogenic.

### IAP Guidelines for Children & Families:

1. Avoid consumption of the JUNCS foods and beverages by all children and adolescents, as far as possible.
  - Alternatively, limit consumption of the JUNCS foods at home/outside and suggest to have not more than one serving per week; serving not exceeding 50% of total daily energy intake for that age.
  - Do not consume foods while watching television/screen.
  - Eliminate trans-fat and reduce free sugars to <5% of total energy intake.
  - Freshly cooked home foods with minimal addition of sugar and no trans-fats should be preferred over restaurant/packaged foods.
  - Traditional and acceptable home-made snacks with long shelf-life can be offered to children as alternative to the JUNCS foods.
  - Lunch boxes packed only with healthy food should be carried to school if school does not have provision of providing healthy mid-day meal.
  - The JUNCS food should not be offered as reward/gift to any child.
2. Fruit juices; Encourage intake of regional and seasonal whole fruits over fruit juices in children and adolescents.
  - Fruit juices/fruit drinks/SSBs should not be offered to infants and young children aged below 2 years.
  - For children and adolescents (2-18 years) fruit juices, fruit drinks and SSBs should be avoided as far as possible. Water should be encouraged

as the best drink and should be promoted over fruit juices/drinks at home and school.

- Fruit juices/drinks, if given, should be limited to 125 mL per day for children aged between 2-5 years, and 250 mL per day for age >5 years; and these should preferably be given as fresh juices.
3. Caffeinated energy drinks should not be consumed by children and adolescents. Intake of carbonated drinks, tea and coffee is to be completely avoided <5 years.
    - In school going children and adolescents, tea/coffee intake should be limited to maximum of half cup/day (100 mL) in 5-9 y, and one cup/day (200 mL) in adolescents (10-18 y), provided no other caffeinated products (cola, chocolates) are being consumed.

## Labeling, Advertising, and Marketing:

### 1. Guidelines for Schools

- IAP supports Ministry of Women and Child Development recommendations of ban on sale of HFSS foods in school canteens & in near vicinity of 200 mt (LOE 5).
- Efforts to regulate availability of JUNCS foods in schools must be coupled with ensuring availability and affordability of a variety of healthy snacks, foods in mid-day meals or school canteens (LOE 1b).
- Ensure availability of safe and potable drinking water in schools to reduce consumption of SSBs (LOE 2a).
- Ensuring ongoing support, provision of resources, monitoring, feedback and recognition will help to increase the compliance of schools to provide healthy food (LOE 1b).

### 2. Guidelines for Labeling

- Supports/ advocate traffic light coding of all packaged food as suggested by FSSAI. Labeling

of nutritional content of packaged foods should be further strengthened.

### 3. Guidelines for Advertisements

Advertisement of JUNCS foods may lead to unhealthy food choices (LOE 1a) and is likely to be associated with increasing obesity (LOE 2a).

- Recommends legal ban of screen/print/digital advertisements of all JUNCS foods for channels/magazines/websites/social media catering to children and adolescents through legislative measures.
- Recommends ban of branding and use of licensed characters for promoting fast foods/SSBs.
- Advertisements ridiculing healthy foods need to be legally banned.
- Recommends screen/print/digital advertisements promoting healthy foods for channels catering to children and adolescents and use of licensed characters for branding and promoting healthy foods.

## WHAT CAN WE DO AS PEDIATRICIANS ?

Pediatricians can change the future of health of a nation by ensuring

- Strict adoption of IYCF guidelines from birth onwards.
- The age appropriate basic message for healthy Lifestyle should be imparted in all visits. We must not miss any opportunity to enforce and reinforce the age appropriate basic principles of healthy lifestyle.
- Recording Wt for Ht < 2 years on all vaccination visits & regular annual BMI with centile plotting later; screening for BP beginning at 3 yrs. of age & annually; universal Lipid Screening by non-fasting non-HDL-C at 9-11 and 17-21 yrs.

Timely screening and prompt management of the environment around the child as soon as any centile is crossed, even if BMI is still within the normal range.

- The child learns his lifestyle habits, which include the eating behaviours too from 3 environments Home, School & Community. The unhealthy eating includes three aspects, not only abnormal quantity or poor quality of food but unhealthy eating behaviours too (eg. Skipping breakfast, eating while watching TV etc). Unhealthy food can also be prepared at home due to incorrect techniques due to lack of knowledge and prevalent myths. Hence encouraging families to cook food using locally available, culturally acceptable, seasonal & different coloured vegetables & fruits and whole grain cereals is the goal, provided the sugar, salt and fats are not more than the suggested age-based cut offs.
- Children irrespective of gender be involved in buying grocery, growing vegetables, choosing menu & helping in cooking. The home loaded with fruits & vegetables will encourage to consume them and vice versa. The meal time should be a happy family time without screens, where parents & grandparents serve as role models for children thereby providing their offsprings a learning by practicing. Thus creating a nutrition sensitive and enabling environment with long term goal of healthy adulthood.
- NIN recommends dividing equal portion of calorie intake of the three main meals that is breakfast, lunch and dinner & 10-12% per 2 snacks morning and evening. Limiting consumption of the JUNCs foods at home/ outside and suggest to have not >1 serving/ week, its serving not exceeding 50% of energy requirement is recommended by IAP. This should not be construed to be mandatory weekly intake of JUNCs, the goal could preferably rather be nil or up to maximum of 30% according to distribution of calories in a single meal of total daily energy intake for that age.
- Media influences food choices and community gets carried away by false misleading claims in advertisements. Young children being exposed to media for long hours are the clients who easily fall victim to the “cradle to grave” tactics of food industry. We need to strive for the stringent regulations so that all food/ health products to be launched for children be evaluated for scientific facts by a team of experts before launching in market and also before launching of their advertisements in market
- Food labelling all around the world is done according to average adolescents and adult requirements of 2000 kcal/day. Consumer needs to be literate enough to be aware of his and his child’s requirements & maximum permissible limits. However, this is often not so, rather if any pack is labelled healthy, it is generally extrapolated as healthy for a toddler or infant too, when the same has not been calculated for energy requirements of infants and children below ten years of age. Thus the community needs extensive awareness on reading and interpreting labels along with the fact that labelling is not applicable for <10 years, while Govt needs to apply simple, easily understood warning food labels which can be interpreted by easily by an illiterate too, surpasses language barriers and assists anyone inside the shop in making a quick decision regarding the food purchase.
- Further, children are fond of caffeine containing products in energy drinks, chocolates, coffee etc. and can cross the toxic levels easily A global beginning need be made to include caffeine content labelling too in these products as IAP has included caffeine under the banner of JUNCs.

- FINALLY, A MOVEMENT NEEDS TO BE STARTED TO TREAT JUNCs ADVERTISEMENT LEGALLY AS EQUIVALENT TO TOBACCO

### FURTHER READING

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## CBSE Directive for all schools

Email: [directoracad.cbse@gmail.com](mailto:directoracad.cbse@gmail.com)  
 Website: [www.cbseacademic.nic.in](http://www.cbseacademic.nic.in)

Tel: 011-23212603  
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 Tele Fax: 011-23234324



केन्द्रीय माध्यमिक शिक्षा बोर्ड



मानव संसाधन विकास मंत्रालय, भारत सरकार, के अधीन एक स्वायत्त संगठन  
 शिक्षा सदन, 17, इन्स्टिट्यूशनल क्षेत्र, राउज एवेन्यू, दिल्ली-110002.

**CENTRAL BOARD OF SECONDARY EDUCATION**

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CBSE/JD (AHA)/Cir/2016

January 06, 2016  
 Circular No. Acad-02/2016

To

All Heads of Schools affiliated to CBSE

**Sub: Promotion of Healthy Snacks in Schools affiliated to CBSE**

Dear Principal,

This is in continuation of circulars nos. 49 dt. 6.11.2008, No. 27 dt. 24.6.2008, No. 33 dt. 1.9.2008, No. 29 dt. 20.6.2007 and No. 09 dt. 31.5.06 regarding replacement of junk food with healthy snacks in schools. It is once again brought to the notice of all the schools affiliated to CBSE that the consumption of food high in fat, salt and sugar (HFSS) has been found to be associated with many diseases including type 2 diabetes, hypertension, dyslipidemia, chronic inflammation and hyperinsulinemia with a risk of cardiovascular diseases in later life. These diseases and childhood obesity have been reportedly found to affect the cognitive and physical development of children adversely, causing an irreparable loss to the society.

In this context the Ministry of Women and Child Development (MWCD) constituted a Working Group which submitted its report on **Addressing Consumption of Foods High in Fat, Salt and Sugar (HFSS) and Promotion of Healthy Snacks in Schools of India**. The report comprehensively covers the issue and provides invaluable insights on how to control the endemic problem of consumption of junk food available especially in and around schools. The detailed report is available at

<http://wcd.nic.in/sites/default/files/Final%20Report%20of%20Working%20Group%20on%20HFSS-merged.pdf>

Many of the recommendations of the above report have direct bearing on schools and therefore it is advised to all the schools affiliated to CBSE to implement the recommendations of the report especially with reference to the following points:

- (i) Schools are required to ensure that there is no HFSS foods (such as chips, fried foods, carbonated beverages, ready-to-eat noodles, pizzas, burgers, potato fries and confectionery items, chocolates, candies, samosas, bread pakora etc.) available in the school canteens. In so far as possible in their capacity, schools are also urged to take the possible necessary steps to ensure non-availability of HFSS around 200 meters of the school.
- (ii) Schools need to constitute the School Canteen Management Committee having about 7 to 10 members including teacher, parent(s), student(s) and school canteen operator(s). The Committee will coordinate, implement and monitor the guidelines to make safe food available to students in the school. The following are the major functions of the School Canteen Management Committee:
  - To decide the type of food to be prepared in the school kitchen / canteen and, as and when possible, to check the quality of raw materials and ingredients required for the

## Complementary feeding and Toddler nutrition

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All the nutritional needs of a young infant less than 6 months of age can be met by breastmilk alone. But after six months of age, breast milk alone will not be sufficient to meet the macronutrient and micronutrient needs of the growing infants. Most infants are physiologically and developmentally ready to accept complementary food at about six months of age. Tongue thrust seen in very young babies disappear by 6 months and infants can receive and hold semisolid food in their mouths more efficiently beyond this age. The digestive system of the babies become mature enough to digest the starch, protein, and fat in a non-milk diet.

The second half of infancy, where the baby transits from exclusive breast feeding to family pot feeding, is the period when babies are at high risk of under nutrition. Proper introduction of complementary feeding of right consistency, nutrient value and amount at the right time will protect the infant from going in to malnutrition during this vulnerable period. Often, complementary food offered are inadequate in nutritional quality, or they are given in too small amounts or too infrequently. Premature cessation of breastfeeding or decreasing the number of daily breastfeeds also contributes to insufficient nutrient and energy intake in infants beyond six months of age. The guiding principles for complementary feeding (see Box 1) provide direction on desired feeding behaviors on the nutrient content, consistency, frequency, amount, and energy density of the complementary food.

Complementary foods are introduced to complement the nutrition that the baby gets from breastfeeding and not as a replacement of the breastmilk. Breastmilk can provide one half or more of a child's energy needs between 6 and 12 months of age and one-third of energy needs and other high-quality nutrients between 12 and 24 months. It is the key source of good quality proteins and essential fatty acids in the infant's diet. It provides 90% RDA of Vitamin C, 45 % of Vitamin A and 40% of calcium and riboflavin. Breast milk is a critical source for energy and nutrients during illness.

The complementary food offered should meet the energy and nutrient gap in the baby's diet, which is not met by breastfeeding. The energy needed in addition to breast milk is about 200 kcal per day in infants of 6–8 months, 300 kcal per day in infants 9–11 months, and 550 kcal per day in children 12–23 months of age. Table 1 summarizes the amount of food needed at different ages, the average number of kilocalories that a breastfed infant or young child needs from complementary foods at different ages, and the approximate quantity of food that will provide this amount of energy per day. The quantity of food that the baby needs increases gradually month by month as the child grows. The actual amount (weight or volume) of food required depends on the energy density of the food offered i.e., the number of kilocalories per ml or gram.

### **Box 1: Guiding Principles for Complementary Feeding**

1. *Exclusive breast feeding till 6 months of age. While continuing breastfeeding, introduce complementary foods at 6 months of age*
2. *Continue frequent on demand breastfeeds till 2 years of age or beyond*
3. *Practice responsive feeding applying the principles of psychosocial care*
4. *Practice good hygiene and proper food handling*
5. *Start at six months of age with small amounts of food and increase the quantity, while maintaining frequent breastfeeding.*
6. *Gradually increase food consistency and variety as the infant grows older, adapting to the infant's requirements and abilities.*
7. *Increase the number of times that the child is fed complementary foods as the child gets older*
8. *Feed a variety of nutrient-rich foods to ensure that all nutrient needs are met*
9. *Use fortified complementary foods or vitamin-mineral supplements for the infant as needed.*
10. *Increase fluid intake during illness, including more frequent breastfeeding. Encourage the child to eat soft, favorite foods. After illness, give food more often than usual and encourage the child to eat more.*

The ideal complementary food should have a higher energy density than breast milk, that is 0.8 -1.0 kcal per gram. In order to have this energy density, the complementary food should be in the form of a thick gruel. Complementary food should be thick enough so that it stays on a spoon and does not drip off. The quantities of food recommended in Table 1 assume that complementary food will contain 0.8–1.0 kcal per gram.

The consistency of the food introduced to the infant and young child depends on the age and neuromuscular development. Beginning at six months, an infant can eat pureed, mashed, or

semisolid foods. The first food of the infant should be the staple cereal of the family. Low-cost food can be prepared at home from commonly used ingredients such as ground rice, suji (semolina), ragi, broken wheat. It is better to start with a single cereal and then change to mix of cereals. A portion of the new food should be given for two weeks ideally or a minimum of one week before introducing another food item. Pulses, nuts and oilseeds should be introduced next. Such foods are easily digested by all infants, including those with severe malnutrition. Water or milk can be used to prepare porridge. Fruits like a ripe banana, papaya, sapota, mango could be given at this age in a mashed form.

Table 1: Practical Guidance on the calorie requirement, the texture of foods, frequency of feeding and amount of food to offer children 6-23 months of age who are breastfed on demand

Age	Energy needed/day in addition to breast milk	Texture of the complementary food	Frequency of meals	Amount of food an average child will usually eat at each meal
6 - 8 months	200 Kcal per day	Start with thick porridge, well mashed foods	2-3 meals per day; Depending on the child's appetite, 1 - 2 snacks may be offered	Start with 2-3 tablespoons per feed, increasing gradually to ½ of a 250 ml cup
9 -11 months	300 Kcal per day	Finely chopped or mashed foods, and foods that baby can pick up	3-4 meals per day; Depending on the child's appetite, 1 - 2 snacks may be offered	½ of a 250 ml cup/bowl
12-23 months	550 Kcal per day	Family foods chopped or mashed if necessary	3-4 meals per day Depending on the child's appetite, 1 - 2 snacks may be offered	¾ to full of a 250 ml cup/bowl

Source: World Health Organization, 2009. *Infant and young child feeding*

Traditional food items can be modified and offered to the baby. Popular mixed foods containing cereals and pulses are idli, wheat upma, suji payasam, kanji (well-cooked broken rice) and green gram preparation. Traditional foods are given after a little modification to make the food more suitable for the child. For instance, mashed idli with a bit of oil and sugar is an excellent complementary food for the infant. Modifying a family's food (before adding spices to it) is one of the most effective way of ensuring the complementary feeding of infants. Oil can be added to the mixed food and could be mashed well and fed to the infant.

Infant food mixes can be prepared at home from food grains available in the household. These mixes can be stored at least for a month and can be used as a quick remedy for feeding the infants. One can take two parts of any cereal (rice/wheat) or millet (ragi), one part of any pulse (Green gram/Bengal Gram), and half portion of groundnuts. These ingredients are roasted separately, ground, mixed and stored in airtight containers. To prepare the feed, two tablespoons of this infant food mix is mixed with boiled water

or milk, jaggery, and oil/ghee is added and fed to the infant. An excellent example is the SAT mix (Sri Avittam Thirunal Hospital mix), which contains roasted and powdered wheat, rice, black gram, and sugar in the ratio 1:1:1:1. SAT mix 30 g will provide 110 calories and 3.2 g proteins.

By eight months, most infants enjoy holding and eating finger foods. There is evidence of a critical window for introducing 'lumpy' foods; if these are delayed beyond ten months of age, it may increase the risk of feeding difficulties later in life. By 12 months, most children can eat the same types of foods as consumed by the rest of the family. However, they need nutrient-rich food. Foods that can cause choking, such as whole peanuts, should be avoided.

As a child gets older and needs a larger total quantity of food each day, the food needs to be divided into a larger number of meals. The number of meals that an infant or young child needs in a day depends on the energy requirement of the baby, the amount of food that the baby can eat at one meal and the energy density of the food offered.



In order to meet the requirements of both macro nutrients and micro nutrients, it is essential that dietary diversity is ensured in the complementary food. The eight food groups recommended to be included in a 6 - 24 months old baby's diet include 1. breastmilk, 2. Grains, roots, tubers and plantains, 3. Pulses, nuts and seeds, 4. egg, 5. flesh foods, 6. dairy products, 7. vitamin A rich fruits and vegetables and 8. other fruits and vegetables. Among this eight food groups, the baby's daily diet should include at least five food groups. Box 2 describes the critical indicators to assess the IYCF practices relating to complementary feeding.

Unfortified complementary foods that are predominantly plant-based generally provide insufficient amounts of certain vital nutrients (particularly iron, zinc, and vitamin B6) to meet recommended nutrient intakes during complementary feeding. Inclusion of animal-source foods can meet the gap in some cases, but this increases cost and may not be practical for the lowest-income groups. Furthermore, the amounts of animal-source foods that can feasibly be consumed by infants (e.g., at 6–12 months) are generally insufficient to meet the gap in iron. To fill the gap for the families where no animal source foods are used, iron-fortified complementary foods or foods fortified at the point of consumption with a multi-nutrient powder or lipid-based nutrient supplement may be necessary.

Sugar is a concentrated source of energy, but it has no other nutrients. It can damage children's teeth and lead to overweight and obesity. Hence it is better not to add sugar in complementary food. Fruit juices and carbonated drinks should be avoided.

Practicing responsive feeding is important in establishing a successful feeding pattern. The babies produce cues that suggest acceptance or resentment towards the food offered. The caregiver has to identify both the hunger cues

and satiety cues from the baby and give feeding accordingly. The care giver has to maintain eye to eye contact while feeding the child and reciprocate to each cue positively. Avoid media and other distractions during the meal times. The child's age-appropriate utensil should be used for feeding.

Safe preparation and storage of complementary foods can prevent contamination and reduce the risk of diarrhea. Thoroughly wash all utensils used for preparing and giving the infant's food. Both the caregiver's and the child's hands need to be washed thoroughly before eating. The cooked food should be consumed within 2 hours or should be refrigerated.

**Feeding during illness:** Breast feeding should be continued during illness, and the child should be encouraged to take more fluids. The appetite of the child normally decreases while the tendency to breast feed increases and so breast milk becomes the primary source of both fluid and nutrients. A child should also be encouraged to eat some complementary food to maintain nutrient intake and enhance recovery. Intake is usually better if the child is offered his or her favorite foods, and if the foods are soft and appetizing. The amount eaten at any one time is likely to be less than usual, so small meals at frequent intervals should be given. When the infant or young child is recovering from illness, and his or her appetite improves, then they should be fed an extra portion at each meal or add an extra meal or snack each day to compensate for their earlier deficits.

### Feeding of toddlers

Young children between 1 year and 3 years should be given food items, which are rich in energy and protein and low in bulk. Young children will consume more calories if small frequent feeds are given. The energy gap could be corrected by adding vegetable oil, ghee, or

**Box 2:**  
**Critical Indicators for assessing IYCF practices relating  
to Complementary feeding**

1. Introduction of solid, semi-solid or soft foods 6-8 months (ISSSF): Percentage of infants 6-8 months of age who consumed solid, semisolid or soft foods during the previous day
2. Minimum dietary diversity 6-23 months (MDD): Percentage of children 6-23 months of age who consumed foods and beverages from at least five out of eight defined food groups during the previous day.
3. Minimum meal frequency 6-23 months (MMF): Percentage of children 6-23 months of age who consumed solid, semi-solid or soft foods at least the minimum number of times during the previous day. The minimum number of times is defined as: 2 feedings of solid, semi-solid or soft foods for breastfed infants aged 6-8 months; 3 feedings for breastfed children aged 9-23 months; and 4 feedings of solid, semi-solid or soft foods or milk feeds for non-breastfed children aged 6-23 months whereby at least one of the four feeds must be a solid, semi-solid or soft feed
4. Minimum milk feeding frequency for non-breastfed children 6-23 months (MMFF): Percentage of non-breastfed children 6-23 months of age who consumed at least two milk feeds during the previous day.
5. Minimum acceptable diet 6-23 months (MAD): Percentage of children 6-23 months of age who consumed a minimum acceptable diet during the previous day. The minimum acceptable diet is defined as: a) for breastfed children: receiving at least the minimum dietary diversity and minimum meal frequency for their age during the previous day; b) for non-breastfed children: receiving at least the minimum dietary diversity and minimum meal frequency for their age during the previous day as well as at least two milk feeds.
6. Egg and/or flesh food consumption 6-23 months (EFF): Percentage of children 6-23 months of age who consumed egg and/or flesh food during the previous day.
7. Sweet beverage consumption 6-23 months (SwB): Percentage of children 6-23 months of age who consumed a sweet beverage during the previous day. Sweet beverages include commercially produced and packaged, sweetened beverages such as soda pop, fruit-flavored drinks, sports drinks, chocolate and other flavored milk drinks, malt drinks, etc. Sweet beverages include 100% fruit juice as well as fruit-flavored drinks (both home-made and packaged) and home-made drinks of any kind to which sweeteners have been added.
8. Unhealthy food consumption 6-23 months (UFC): Percentage of children 6-23 months of age who consumed selected sentinel unhealthy foods during the previous day. Selected sentinel unhealthy foods are a) Candies, chocolate and other sugar confections b) Frozen treats like ice cream, gelato, sherbet, sorbet, popsicles or similar confections. c) Cakes, pastries, sweet biscuits and other baked or fried confections which have at least a partial base of a refined d) Chips, crisps, cheese puffs, French fries, fried dough, instant noodles and similar items which contain mainly fat and carbohydrate and have at least a partial base of a refined grain or tuber.
9. Zero vegetable or fruit consumption 6-23 months (ZVF): Percentage of children 6-23 months of age who did not consume any vegetables or fruits during the previous day. Plantains, starchy roots and tubers (such as white potatoes, yams and cassava) are not counted for this indicator.

jaggery to the food. Food items, which do not swell much on cooking like potato and banana, are also energy dense. Vegetables including green-leafy vegetables and locally available seasonal fruits should be part of their daily menu. Toddlers need 5 - 6 meals per day. Snacks make a useful contribution to the nutrient requirements. Snacks should be carefully chosen so that they are nutrient rich. Care should be taken to include all the food groups in the child's diet. Frequent changes in the menu are often liked by children. No special cooking is advisable. Encourage self-feeding. Breastfeeding has to be continued for up to 2 years of age or beyond.

## For Further reading

1. Indicators for assessing infant and young child feeding practices: definitions and measurement methods. ISBN (WHO) 978-92-4-001838-9 (electronic version), ISBN (WHO) 978-92-4-001839-6 (print version) © World Health Organization and the United Nations Children's Fund (UNICEF), 2021
2. Infant and Young Child Feeding Guidelines, 2016 Satish Tiwari, Ketan Bharadva, Balraj Yadav et al. for the IYCF chapter of IAP. Indian Pediatrics Volume 53, August 15, 2016. 703- 713.
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4. Infant and young child feeding: model chapter for textbooks for medical students and allied health professionals. ISBN 978 92 4 159749 4. WHO.
5. Elizabeth KE. Nutrition and Child Development. 6th ed. Hyderabad: Paras; 2022.

## Congratulations Pedicon 2022 Organising Committee



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# 59th Annual National Conference of Indian Academy of Pediatrics

## PEDICON 2022, Noida, Uttar Pradesh

### March 19-23

The most awaited and first physical conference post third wave of pandemic took place at India Expo Mart, Greater Noida between 19th to 23rd March 2022. The Conference was organised by Academy of Pediatrics (AOP) Noida, under the aegis of Indian Academy of Pediatrics (IAP). The conference saw a participation of over 4500 delegates from across India. Concurrent trade exhibition saw a participation of 68 companies who showcased their products and services to their target audience of pediatricians and were very happy with the business leads generated.

#### ORGANISING TEAM PEDICON 2022

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Dr. S P Sharma, Co - Organising Chairperson  
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Dr. Shalabh Agarwal, Organising Secretary  
Dr. Vivek Saxena, Organising Secretary  
Dr. Vivek Goswami, Organising Secretary  
Dr. Ajit Saxena, Organising Secretary  
Dr. Subhash Gupta, Co-Treasurer

#### WORKSHOPS

The first day on 19th March saw 19 parallel hands on workshops on developing vital; clinical skills. In each workshop, the participants learned clinical skills under the supervision of eminent national experts.

Three workshops administered hands-on skills to the participants on the various aspects of pediatric artificial ventilation, including non-invasive ventilation, advanced mechanical ventilation and neonatal ventilation. In addition 3 workshops blended the skill needs in the sub-specialities of pediatric emergencies and critical care, such as simulation-based management of neonatal emergencies, shades of fluid and electrolyte management and a nursing skill lab for pediatric and neonatal emergencies. The two workshops on cardiology skills and point-of-care testing advanced the diagnostics skills of the participants on the evidence-based assessment and diagnosis of cardiovascular disorders and those affecting other systems using several imaging techniques, including ultrasonography and echocardiography. This was complemented by a therapeutic workshop on pediatric cardiac intensive care under the guidance of distinguished nationwide faculty.

The three key workshops on neuro-developmental areas, including a workshop each on autism, epilepsy and global developmental delay, received huge support from the

participants. In particular, the work stations of the autistic spectrum disorders workshop were widely appreciated. The workshop on pediatric procedures gained exceptional support from the youngest members of the fraternity. The specialities of dermatology and endocrinology had a fair share of representation too. The hemato-oncology and the IYCF workshops were one of their kind and were graced by the presence of highly celebrated faculties. The breakout sessions of the nephrology workshop left most of the participants wanting for more. Lastly, the brief workshop on self-defense received particular attention from all sections of the fraternity.

### CME

The 11 CME sessions on 20th March offered a memorable experience to the attendees. The CME sessions as well as the post-session discussions gave critical and deep insights of essential and emerging pediatric science and practice. Some of the highlight sessions included role play session in the Adolescent Health Hall. The session on the role of artificial intelligence in PICU was much appreciated in the Advanced Critical Care Hall. Several eminent speakers discussed the nuances of neonatology in the International Hall. The audience in the Allergy and Environment Hall revered the session on approach to chronic cough. The hot debates in the Medical Education Hall were admired by one and all. The refresher session in the basic immunology received a big round of applause in the Vaccination Hall.

The younger participants greatly benefited from attending in the YUVA Hall, which would eventually help them in establishing their practices. Similarly, the session on stabilization of pediatric emergencies in the periphery in the Emergency Hall was also deemed as very helpful by them, whereas, the session on development assessment made easy was loved by the younger and older paediatricians alike.

### CREDIT HOURS

The workshops had 3 credit hours and so did the CME. Conference for 3 days also had 3 credit hours per day thus totalling of 15 credit hours for the whole conference including workshop and CME.

### INAUGURAL SESSION

Happening right after Holi, the advent of PEDICON 2022 was no less colourful. The most awaited pediatric event of the year was inaugurated at the India Expo Mart Ltd. on the 20th March evening by Hon'ble Minister of Women and Child Development and Member of Parliament, Mrs. Smriti Irani. Her recognition of the efforts of Indian Pediatricians and the IAP to the cause of child health in India infused the audience with delight. Dr. Mahesh Sharma, respected Member of Parliament was the guest of honour. In addition, several dignitaries from the field of paediatrics graced the dais including :

- Dr. Remesh Kumar, President IAP
- Dr. Purna A. Kurkure, Jt. Secretary Admin IAP
- Dr. Samir Hasan Dalwai, Treasurer, IAP
- Dr. Alok Bhandari, Jt. Secretary Liaison IAP
- Dr. Piyush Gupta, Immediate Past President IAP
- Dr. Ruchira Gupta, Chief Organising Secretary  
PEDICON 2022
- Dr. Vineet Saxena, Secretary General and  
Organising Chairperson PEDICON 2022
- Dr. Upendra Kinjawadekar,  
President Elect IAP
- Dr. Arvind Garg, Organising Chairperson  
PEDICON 2022
- Dr. K. Radhakrishna, Sr. Vice President  
Central Zone IAP
- Dr. Chetan Shah, Vice President West Zone IAP
- Dr. Sudhir Mishra, Vice President East Zone IAP
- Dr. Harinder Singh, Vice President  
North Zone IAP

## CONFERENCE

The scientific program of PEDICON 2022 was driven by its theme – Genes to Teens: Mission & Dreams. Continuing the rich scientific tradition of PEDICON's, Dr. T.U. Sukamaran delivered the Shanti Lal Seth Oration titled 'Breathe Easy !! Air Pollution and Airway Allergy', which was chaired by Dr. Remesh Kumar and Dr. Vineet Saxena. Additionally, the Dr. James Flett Endowment Awards and Dr. V. Balagopal Raju Endowment Awards were also announced on Day 1 of the conference.

A special mention to the Shanti Lal Seth Oration on the theme 'U5MR 25 by 25: The Hope and The Glory', had speakers from the WHO, UNICEF and MoHFW and was chaired by Dr. Remesh Kumar. Additionally, many cheerful moments were recorded during announcements of Dr. S.T. Achar Endowment Awards and Dr. S.S. Manchanda Neonatology Research Awards.

Several sessions particularly enthralled the participants, such as the one chaired by Dr. Badri Lal Meghwal and moderated by Dr. Jagdish Chinappa on the controversies surrounding the vaccines. Another session by Lt. Gen. Prof. Dr. Maduri Kanitkar also had good participation. She delivered a keynote address on the topic 'Medical Education in India - The Past, Present and the Future'.

Amidst the series of wonderful lectures, the lecture on the subject of atopic dermatitis was delivered by Prof. V. Anandan at the Dermatology Subspecialty Chapter Symposium. The outstanding lecture was presented in the Hibiscus Hall (Hall 6). In this lecture, Dr. Anandan meticulously reviewed the recent advances in the management of atopic dermatitis.

Dr. Ranjan Kumar Pejaver also delivered a brilliant lecture in the Rose Hall (Hall 4) on optimal use of antenatal antibiotics. The lecture was chaired by Dr. Gita Prasad Kaushal and Dr. Anju Kanmani. Dr. Dinesh Kaul from Sir Gangaram

Hospital focused on the rational use of antibiotics in his excellent lecture 'Antibiotic Switch – When ? Making it Rational'. Dr. Indu Sanjeev Khosla continue to further raise the scientific standards in her comprehensive lecture on Pulmonology 'Lung in Systemic Disorders'.

There were several panel discussions of interest during the conference and one of these took place in the Respiratory Subspecialty Chapter Symposium. The discussion was moderated by Dr. Jagdish Chinnapa. The panellists in this discussion were – Dr. Partha Pratim, Dr. Shishir Modak, Dr. B.S. Sharma and Dr. Vineet Sehgal. The topic for this discussion was aerodigestive disorders, which are complex breathing and swallowing disorders of the aerodigestive tract, including the nose, mouth, throat, lungs, esophagus and stomach. There were other important panel discussions chiefly 'Exploring the Role of Nebulized Mucolytics in Mucus Hypertension Management' and 'Role of Efficient Cold Chain in Vaccine Management'.

The academic lectures and panel discussions covered a variety of subjects including a session on the living drugs in oncology by Dr. Vinod Chowdhry, a marathon discussion on NCD prevention chaired by Dr. Jagdish Chinnapa and also by Dr. G.V. Basavaraja on Infectious Diseases Spotlight: Unusual Challenges in Usual Infection. Other than the numerous thought provoking academic sessions, there were several lively Chai pe Charcha sessions, which discussed burning issues related to children's education and innovations in paediatrics practice.

There were several industry sponsored sessions such as Made in India Ventilator and the ZyCovD vaccine, the first and indigenous DNA platform vaccine.

## TRADE EXHIBITION

The concurrent exhibition on pediatric products and services saw good participation of pharmaceutical companies. 68 companies

showcased their products and services by way of pavilions and octonorm stalls. The exhibiting companies were happy to network with the doctors esp, after a hiatus of 2 years due to the pandemic. They were more than happy with the leads generated.

## EVENTS

PEDICON 2022 was also not short on entertainment. The participants enjoyed an electrifying Sonu Nigam Musical Night sponsored by Bharat Biotech and also musical extravaganza by the maverick Sukhvinder Singh sponsored by Micro Labs. There were plenty of

opportunities to meet and greet each other, be it the Presidential Dinner, Welcome Dinner or Gala Dinner. Besides the grand musical nights, there were many entertaining activities for social cause, like on the 19th and 20th March there was good participation at the NPPL Cricket matches followed by Cyclothon on the 21st, Run for PEDICON on 22nd March and Yoga on the 23rd March. Accompany persons also had plenty of

## VALEDICTORY

A vote of thanks was given appreciating the contribution made by all involved with the conference.



## IAP Maharashtra

**IAP RAIGAD & MAHAJAP**  
Invited by  
**JOURNAL JOURNEY**  
1st March 2022  
09:00 pm

**FEATURES**  
Dr. Madhu Bhargava  
Dr. Anand Bhatnagar  
Dr. Anand Bhatnagar  
Dr. Anand Bhatnagar

**Strengths of the Study:**

**Study Design:**

सुखी मातः परत मातंग बरे वरस तिघां...

Dr. [Name]  
Dr. [Name]  
Dr. [Name]  
Dr. [Name]  
Dr. [Name]

**Maha Sub Speciality Connect**

Dr. [Name]  
Dr. [Name]  
Dr. [Name]  
Dr. [Name]  
Dr. [Name]  
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Dr. [Name]  
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Dr. [Name]  
Dr. [Name]

2022  
**MAHA SUB SPECIALITY CONNECT**  
PEDIATRIC XRAY CHEST

**PRESENTATIONIST**  
**DR. RAVI RAMAKANTAN**

**REASONS FOR CHILDHOOD OBESITY**

**REASONS FOR CHILDHOOD OBESITY**

**What parents can do**

- Assurance
- Spend quality time
- Reading stories
- Make them feel loved
- Look for signs of emotional disturbance
- Don't make them feel irritated by scolding them

**Maha Sub Speciality Connect**

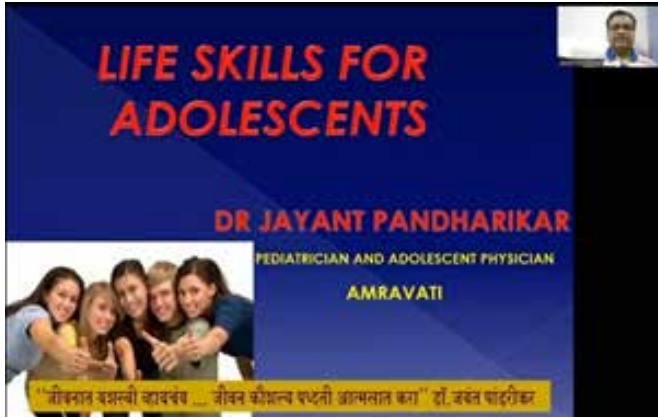
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Dr. [Name]

## IAP Maharashtra





## IAP Maharashtra



## IAP Maharashtra

Maharashtra Academy of Pediatrics & MAHA IAP Women Committee

### International Adolescents Health Week (IAP Child & Adolescents Health Care Week)

**2022 MARCH 21**  
Video Release  
Daughter's Day  
By EBs MAHA IAP

**MARCH 22**  
Video Release  
Teenage Day  
Behind the Wheels  
Dr Neha Singh

**MARCH 23**  
Video Release  
Video about COVID-19, when  
where you'll always feel  
Dr Jayant Randhankar

**MARCH 23**  
Program for Parents  
4 to 5 pm  
Specialty chapter from IAP strings  
Speakers:  
Dr Deoghare, Nagpur  
Dr Ratnaparkhi, Yavatmal  
Dr Preeti Chawhan, Chandrapur

**MARCH 24**  
Video Release  
Acute ear infection  
Dr Abhinav Darwale

**MARCH 24**  
Video Release  
Head Pressure  
Dr Shubhada Khoswadkar

**MARCH 25**  
Video Release  
Anxiety in depression  
Dr. Suchit Tamboli

**MARCH 25**  
Program for Teachers  
3 to 4 pm  
Specialty chapter on health stress  
Speakers:  
Dr Kashmiri, Kolhapur  
Dr Sunil Godbole, Pune

**MARCH 26**  
For Pediatricians  
4pm to 5 pm  
Adolescent Issues in OPD Practices  
(Case based approach)  
Speakers:  
Dr Jaya Shrivastav, Nagpur  
Dr Manoj Chitambar, Nagpur

**MARCH 26**  
Video Release  
Joint Star with web  
Dr. Pooj Phatale

**MARCH 26**  
Video Release  
On the road to...  
Dr. Sucheta Pophale

**MARCH 27**  
Video Release  
The hand that rocks the cradle  
Dr Shilpa Aroskar

**MARCH 27**  
Video Release  
It still I die - Strenuously young  
Dr Shilpa Aroskar

*Transition*



## IAP Maharashtra

### WORK OF LIFE SKILLS FOR A

Training Skills:  
Self-awareness  
Social skills  
Resilience  
Problem Solving  
Creative Thinking  
Decision Making  
Learning to Live with Failure

Social Skills:  
• Interpersonal  
• Intrapersonal  
• Intrafamilial  
• Intrasexual  
• Intersexual  
• Intraethnic  
• Interethnic  
• Intra-cultural  
• Inter-cultural

### Dopamine Reward Path

### International Adolescents Health Week

10th Global & Adolescent Health Care Week  
Mumbai Theme: **Self-Dignity and Self-Respect**

Creating a supportive and caring learning environment  
Offering emotional support to students  
Being honest to students about the reality, providing them with the tools to deal with it  
Teacher should establish discipline, enforce rules and create order for learning

### Dysgraphia

Characteristics:  
• Poor handwriting  
• Poor spelling  
• Poor organization of written work  
• Poor punctuation and grammar

### Parent vs Teen!

### Adolescent Issues in the pandemic

10th Global & Adolescent Health Care Week  
Mumbai Theme: **Self-Dignity and Self-Respect**

AMBOLI

Pawar Secretar

### Preventive Measure

- Regular monitoring, screening, diagnosis
- Avoidance of exposure to drug, alcohol, tobacco, and other substances
- Avoidance of high-risk sexual behavior, including unprotected sex
- Avoidance of high-risk or unsafe injection drug use
- Avoidance of high-risk or unsafe injection drug use
- Avoidance of high-risk or unsafe injection drug use

### Metabolic Syndrome

Metabolic syndrome is a cluster of a group of risk factors that occur together and increase the risk for cardiovascular disease, stroke, and type 2 diabetes

- Hypertension
- Fasting glucose
- Fasting triglyceride
- Fasting HDL cholesterol
- Fasting waist circumference

### Treatment for MetS

- Lifestyle changes
- Medication
- Regular exercise
- Regular medical checkups
- Regular medical checkups
- Regular medical checkups

### REMEMBER

- CHILD IS BROUGHT BY ADULT
- BEHAVIOURAL PROBLEMS CAN BE DUE TO DISTURBANCES IN FAMILY MEMBER
- STAGE AND ASSESSMENT OF DEVELOPMENTAL STATUS IS IMF

Renu Boralkar

### T/T APPROACHES

- BEHAVIOURAL / PLAY THERAPY
- CBT / REBT
- FAMILY THERAPY
- EDUCATIONAL / VOCATIONAL SUPPORT
- IQ SKILLS / LIFE SKILLS
- SOCIAL SKILLS AND REHABILITATION

### PRESENTATION

- PHYSICAL SYMPTOMS
- SLEEP DISTURBANCES
- EATING DISTURBANCES
- SOCIAL WITHDRAWN
- POOR SCHOOL PERFORMANCE
- INATTENTION
- EXCESSIVE NEED OF REASSURANCE

## IAP Maharashtra

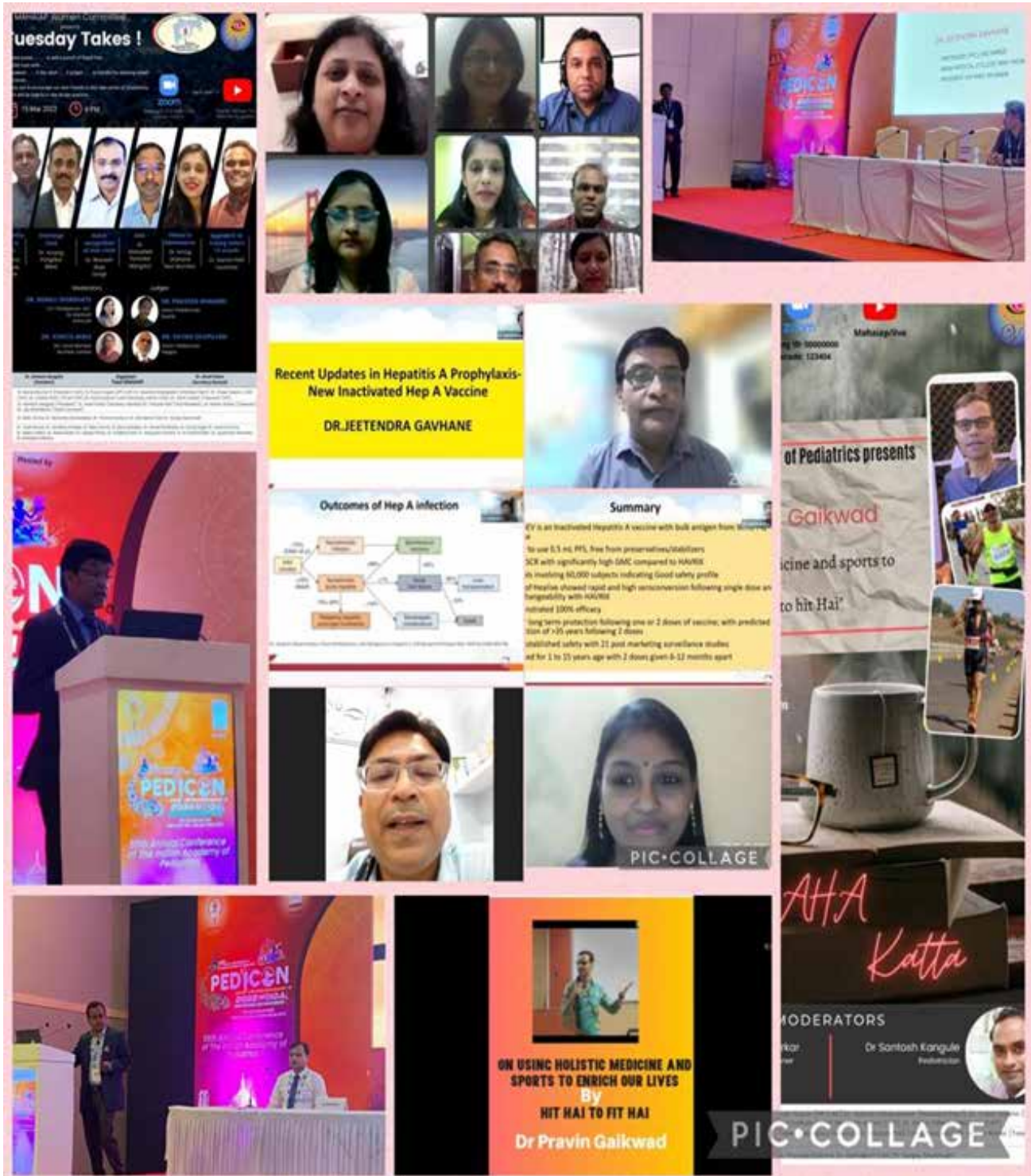


## IAP Navi Mumbai





## IAP Navi Mumbai



## IAP Navi Mumbai



## IAP Navi Mumbai



## IAP Navi Mumbai

Dr. Gaikwad's Child Health Centre

Sl. No.	Topic	Dr. Vinay Kumar	Dr. Anand Kumar
1	Adolescent Health	Dr. Vinay Kumar	Dr. Anand Kumar
2	Adolescent Health	Dr. Vinay Kumar	Dr. Anand Kumar
3	Adolescent Health	Dr. Vinay Kumar	Dr. Anand Kumar
4	Adolescent Health	Dr. Vinay Kumar	Dr. Anand Kumar
5	Adolescent Health	Dr. Vinay Kumar	Dr. Anand Kumar
6	Adolescent Health	Dr. Vinay Kumar	Dr. Anand Kumar
7	Adolescent Health	Dr. Vinay Kumar	Dr. Anand Kumar
8	Adolescent Health	Dr. Vinay Kumar	Dr. Anand Kumar

INTERNATIONAL ADOLESCENT HEALTH WEEK 2022  
TEENYOPPER MAGIC  
Celebrating the Transition

TALK FOR ADOLESCENTS

Dr. Newton Lutz

Official YouTube Channel of IAP Navi Mumbai

Exercise in children and adolescents

NAVIMURAI

Dr. Kiran Vernekar (President), Dr. Chitra Kulkarni (Vice-President), Dr. Kalyani Patra (Secretary General), Dr. Shruti Kulkarni (Treasurer)

INTERNATIONAL ADOLESCENT HEALTH WEEK 2022

Dr. Amog Shahane  
Adolescent paediatrician

FITNESS FOR TEENAGERS, THE REAL GIFT OF TODAY!

EXAM ANXIETY

1. WHAT IS EXAM ANXIETY ?
2. HOW CAN IT AFFECT YOU ?
3. WHAT CAN YOU DO ABOUT IT ?

HEALTHY MIND TEENYOPPER GO HOME

PIC COLLAGE

Talk on Physical Health

Dr. Kalyan Gade

## IAP Navi Mumbai



Player	Time	Score
1 Asmita	02:59	62
2 drthivyanarasimhan	01:53	61
3 Vaishnavi Agrawal	02:07	60
4 Mangal	03:58	60
5 pailavi.wadhawan	01:34	56

**PIC-COLLAGE**

## IAP Kerala



IAP Kottayam  
in collaboration with  
KGMQA Kottayam

**CME :**  
**World TB Day 2022**

**29<sup>th</sup> March 7:00pm**  
970 447 4286  
IAPKTM

Presidential Address: **Dr Joseph Pattani** President, IAP Kottayam  
 Felicitations: **Dr C Jayakumar** MEM 2020-21  
**Dr Binukuttan S S** Co-ordinator, CPE IAP  
**Dr Subarinoth D** President, KGMQA Kottayam

APPROACH TO PEDIATRIC TB	LATENT TB INFECTION
 <b>Prof Dr TU SUKUMARAN</b> National President CIAP 2011	 <b>Dr BALACHANDRAS D</b> Senior Consultant GH Pathanamthitta
 Moderator <b>Dr GAYATHRI AV</b> WHO Consultant, NTEP	 Moderator <b>Dr TWINKLE D</b> DTO Kottayam

**Dr M Vijayakumar** President, IAP Kerala  
**Dr Joseph Pattani** President, IAP Kottayam  
**Dr Subarinoth D** President, KGMQA Kottayam



**Maintenance of ASM**

- Maintain correct history
- Plan for drug related adverse events during follow up
- Give patients to experts, better to avoid unnecessary re-referral
- Reporting RTR at regular intervals usually not required except in TACE, CRISIS, etc.
- RTR better than CT to know structural pathology



Menstrual disorders and polycystic ovary syndrome

## IAP Kerala



## IAP Kerala



**IAP KOLLAM CME**

STATE PRESIDENT'S ACTION PLAN  
**DOWN SYNDROME DIAGNOSIS & FOLLOW UP**  
22.03.2022 Wednesday 1:30pm

**Dr Lekshmi S Nair**  
Consultant Geneticist  
Kollam Children's Hospital  
Kollam

DM dr manoj mony (Host)  
GG Geo George (Co-host)  
IK iap kollam (Co-host)  
LS Lekshmi S Nair  
AS Aarav s biju  
Abhinav A

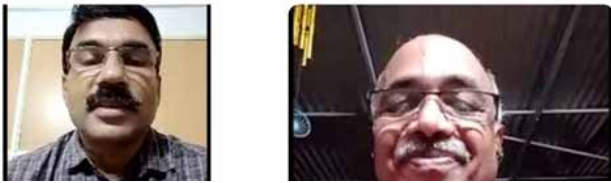




## IAP Kerala



## IAP Kerala



**SOUHRIDA CLUB**  
GNSS VATAKARA PUTHUR  
& IAP VATAKARA

Health Awareness Classes  
**REPRODUCTIVE HEALTH**

DATE: 14th & 15th March 2022  
VENUE: GNSS School Auditorium

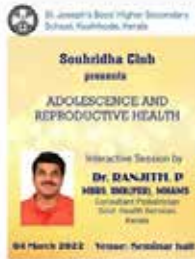
**Dr. Naushad Aze**  
Consultant - Pediatrics & Neonatology  
Pace Hospital, Vatakara



## IAP Kerala



## IAP Kerala



**Traffic light**

**IAP THALASSERY District Child Protection ORC, Kannur**

**World Obesity Day**

**52+10 Healthy Military Children**

**EVERYBODY NEEDS TO ACT**

**Topic: Health & Healthy lifestyle**

**Speaker: Dr. Vijayakumar, M State President, IAP Kerala**

