



**16TH ANNUAL CONFERENCE OF
INFANT AND YOUNG CHILD FEEDING CHAPTER OF IAP**

IYCNCNCON 2026

“ Nourishing Little Lives, Fueling Big Dreams. ”

Hosted by
National IYCF

Dept. of Pediatrics, KAHER's J N Medical College, Belagavi.
IYCF, Karnataka | Belagavi Association of Pediatrics

E-SOUVENIR



4TH, 5TH & 6TH SEPTEMBER 2026

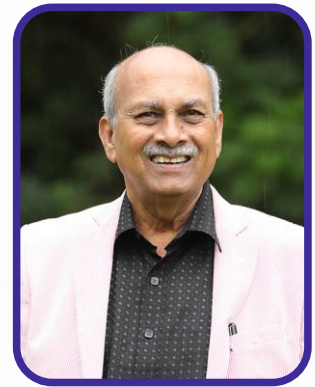


KLE CENTENARY CONVENTION CENTRE

J.N. MEDICAL COLLEGE CAMPUS,
BELAGAVI, KARNATAKA



CHANCELLOR'S MESSAGE



I am happy to note that the department of pediatrics of KAHER's Jawaharlal Nehru Medical College Belagavi is hosting the 16th National Conference of the Infant and Young Child Feeding (IYCF) Subspeciality Chapter of the Indian Academy of Pediatrics from 4th to 6th September 2026. The department of pediatrics of J N M C has always been on the forefront in academic activities concerning the children's welfare. Good and appropriate Nutrition is the most important need for child's proper growth. Nutrition has the added importance in the child's life. It not only helps physical growth but also helps the growth of brain. The appropriate nutrition is very crucial in first 1000 days that is from conception to the child's 2nd birth day. Since any impairment in nutrition along this period will affect the child's not only physical growth but also it may affect the brain development and future well-being including impaired immunity. The practice of infant feeding during this crucial period is affected by the ignorance of mother about feeding practices and the harmful beliefs that are prevalent in the community. The general population especially the mothers should be aware of the healthy infant feeding practices including exclusive breast feeding in the first 6 months of life.

I am told that many national luminaries are deliberating in this meet which underscores the importance of the theme of the conference. I am sure these discussions will be taken up by the people attending conference in true spirit and will pass on the benefits to the little infant population and their mothers.

The KAHER campus of KLE is a place where you can enjoy the ambience and hospitality and will carry with you the unforgettable memories back home. I wish the conference a great success

Padmasree. Dr. Prabhakar Kore

Honorable Chancellor
K L E Academy of Higher Education & Research,
Belagavi

VICE-CHANCELLOR'S MESSAGE



It gives me immense pleasure to extend my warm greetings and best wishes to the 16th Annual Conference of the Infant and Young Child Feeding (IYCF) Chapter, being hosted by Dept. Of Paediatrics, JNMC, KAHER.

The health and well-being of a child begin long before the child enters a classroom or a hospital. The first 1,000 days of life represent a critical window that shapes lifelong growth, development, immunity and health. In this context, appropriate infant and young child feeding is not merely a nutritional intervention—it is an investment in human capital and in the future of our society.

India has made significant progress in improving maternal and child health; yet challenges related to optimal breastfeeding, complementary feeding, maternal nutrition, food security and equitable access to evidence-based care continue to demand our collective attention. The theme of IYCF therefore resonates deeply with our commitment to preventive, promotive and evidence-based healthcare.

As an institution dedicated to education, healthcare, research and community engagement, KAHER is honoured to provide a platform where clinicians, academicians, researchers, policymakers and practitioners can come together to exchange knowledge, share innovations and translate evidence into meaningful action. I am confident that the deliberations during this conference will strengthen interdisciplinary collaboration and generate practical solutions for improving child nutrition and health outcomes.

I particularly appreciate the efforts of the organisers and the IYCF Chapter for bringing together experts and young professionals on a common platform. I hope the conference will inspire our students and healthcare professionals to look beyond treatment and recognise nutrition, breastfeeding and early-life care as fundamental pillars of lifelong health.

I welcome all the delegates, faculty, researchers and participants to KAHER, Belagavi, and wish the 16th Annual Conference every success.

May our collective efforts ensure that every child receives the right nutrition, the right care and the right start in life.

With my best wishes,

Prof. Sandeep Shrivastava

Vice-Chancellor, KAHER, Belagavi.

REGISTRAR'S MESSAGE



Dear Colleagues,

It gives me immense pleasure to extend my warm greetings and best wishes on the occasion of the 16th Annual Conference of the Infant and Young Child Feeding (IYCF) Chapter of the Indian Academy of Paediatrics (IAP) – IYCNCON 2026, held from 4th to 6th September, 2026.

Infant and young child feeding is one of the most important determinants of child survival, healthy growth, development and lifelong well-being. The early years of life provide a unique window of opportunity to establish healthy nutritional practices and prevent malnutrition and other nutrition-related disorders.

The IYCF Chapter of IAP has played a significant role in promoting evidence-based feeding practices, strengthening the capacity of healthcare professionals and creating awareness among parents, caregivers and communities. The annual conference provides a valuable platform for paediatricians, neonatologists, nutritionists, nurses, dietitians, researchers and other professionals to share knowledge, experiences and innovations in the field of infant and young child nutrition.

IYCNCON 2026 brings together experts and delegates with a shared commitment to improving the nutritional care of infants and young children. The scientific deliberations, interactive sessions, workshops and exchange of ideas during the conference will undoubtedly contribute to better clinical practices and improved child health outcomes.

I am confident that the conference will be a memorable and enriching academic event and will further strengthen our collective efforts towards ensuring that every child receives optimal nutrition during the critical early years of life.

I congratulate the organizing committee, office bearers of the IYCF Chapter of IAP, faculty members, delegates and all those who have contributed to the successful conduct of this conference. I also wish the souvenir every success in preserving the valuable memories and academic contributions of this important event.

With my best wishes for a fruitful, inspiring, and memorable conference.

With warm regards,

Prof. Dr. V. M. Pattanshetti

Registrar
KAHER, Belagavi

PRINCIPAL'S MESSAGE



It gives me immense pleasure to convey my warm greetings and best wishes to the Organizing Committee of **IYCNCON –2026**, the **16th National Conference of the Infant and Young Child Feeding (IYCF) Chapter** of the **Indian Academy of Pediatrics** being held from **4th to 6th September 2026** at **Jawaharlal Nehru Medical College, Belagavi**.

The theme, **"Nourishing Little Ones, Fueling Big Dreams"** aptly reflects the profound significance of optimal infant and young child feeding in shaping the health, growth, development, and future potential of every child. The first thousand days of life constitute a critical window of opportunity, during which appropriate nutrition, nurturing care and timely interventions lay the foundation for lifelong physical, cognitive, and emotional well-being.

IYCNCON - 2026 provides an excellent forum for Pediatricians, Neonatologists, Nutrition Expert, Academicians, Researchers, and Public Health Professionals to deliberate on emerging evidence, exchange best practices, and strengthen collaborative efforts aimed at improving Infant and Young Child Nutrition. I am confident that the scientific deliberations will inspire meaningful discussions and translate into improved clinical practice and community interventions.

I congratulate the **Department of Pediatrics, Jawaharlal Nehru Medical College, KAHER, Belagavi**, and the entire Organizing Committee for their dedicated efforts in hosting this prestigious national conference.

I extend my best wishes for the grand success of **IYCNCON –2026** and hope that the conference will contribute significantly to advancing the cause of Infant and Young Child Nutrition in our country.

Dr. Rajesh S. Powar ,

Principal

KLE Academy of Higher Education & Research's,
Jawaharlal Nehru Medical College, Belagavi

DIRECTOR'S MESSAGE



It is a momentous occasion for the department of pediatrics of KAHER's Jawaharlal Nehru Medical College Belagavi which is hosting the 16th National Conference of the Infant and Young Child Feeding (IYCF) Subspeciality Chapter of the Indian Academy of Pediatrics from 4th to 6th September 2026. The child's nutrition from conception to the maturity beyond adolescence is undoubtedly the most important not only for proper physical growth and also for mental & emotional development, more so the first 1000 days of life from conception to till 2nd birthday is very crucial for a good foundation of life. It is unfortunate to note that exclusive breast feeding is still not being practiced to the fullest extent and the complimentary feeds are also either delayed or not given properly. The ignorance on the part of the mothers, family members and community population including health care providers more so the practicing pediatricians is alarming. These draw backs ultimately leads to nutritional deficiency in the children. The Infant and Young Child Feeding (IYCF) Subspeciality Chapter of the Indian Academy of Pediatrics has been playing an important role in spreading the knowledge regarding the proper feeding practices in the first 1000 day's of life It is heartening to note that in this conference many of the stalwarts of pediatric nutrition are taking part in deliberations. I am sure the delegates attending this conference will be rich the knowledge about the feeding practices and they will not only give benefits to their child population but also spread the message of optimum infant feeding practices to stake holders. I wish this conference a great success.

Dr. V D Patil,

Director, Hospital Development & New Projects,
Former Principal, J N Medical College &
Former Registrar, KLE Academy of Higher Education & Research,
Belagavi

FORMER PRINCIPAL'S MESSAGE



A hearty welcome to all the delegates of **IYCNCON – 2026**, the **16th National Conference of the Infant and Young Child Feeding (IYCF) Chapter of the Indian Academy of Pediatrics**, scheduled from **4th – 6th September 2026** at **KAHERs Jawaharlal Nehru Medical College, Belagavi**.

The theme of the conference **“Nourishing Little Ones, Fueling Big Dreama”** aptly reflects the vital importance of optimal infant and young child feeding in shaping the **health, growth, development and future potential of every child**.

IYCNCON - 2026 provides an excellent platform for **Pediatricians, Neonatologists, Nutrition Experts, Academicians and Researchers** to deliberate on emerging evidence, exchange best practices and strengthen collaborative efforts towards improving **Infant and Young Child Nutrition**.

It gives me immense pleasure to welcome all the delegates and esteemed guest faculty to this important scientific gathering. I am confident that the conference will provide an enriching experience of **meaningful scientific deliberations, professional exchange and fruitful collaborations**, along with a warm and enjoyable stay at KAHERs Jawaharlal Nehru Medical College, Belagavi.

I extend my best wishes to the Organizing Committee and all the participants for a **highly enriching, successful and memorable conference**.

I wish the IYCNCON – 2026 a grand success.

Dr. (Mrs) N S Mahantashetti,
Former Principal & Professor of Pediatrics
Jawaharlal Nehru Medical College, Belagavi &
Vice President, Karnataka IYCF Chapter

MEDICAL DIRECTOR'S MESSAGE



It gives me immense pleasure to extend my warm greetings and best wishes on the occasion of the 16th Annual Conference of the Infant and Young Child Feeding (IYCF) Chapter of IAP - IYCNCON 2026, being held from 4th to 6th September 2026 at the KLE Centenary Convention Centre, J.N. Medical College Campus, Belagavi.

The theme of this convention, “NOURISHING LITTLE ONES, FUELING BIG DREAMS”, underscores a vital healthcare mandate. Ensuring appropriate nutrition during the formative years is not only essential for preventing malnutrition and disease, but also for building a healthier and stronger society.

This national forum provides a platform for medical professionals to evaluate evidence based practices and drive clinical advancements in pediatric care. I congratulate the organizers, faculty and delegates of Pediatrics at J.N. Medical College and KAHER for their leadership in hosting this significant academic assembly.

I wish IYCNCON 2026 every success and hope that the conference will be an enriching and memorable academic experience for all participants.

Dr. (Col) M. Dayananda

Medical Director

KLES Dr. Prabhakar Kore Hospital & MRC, Belagavi

IAP PRESIDENT'S MESSAGE



It gives me immense pleasure to extend my warmest greetings and heartfelt congratulations to the 16th Annual Conference of the Infant and Young Child Feeding (IYCF) Chapter of the Indian Academy of Pediatrics – IYCNCON 2026, being held in the historic and vibrant city of Belagavi from 4th Sept – 6th Sept, 2026.

Nutrition has always been very close to my heart, and I firmly believe that pediatricians have a pivotal role in shaping the nutritional health of children, not only during infancy and the first 1000 days, but across the entire journey from early childhood through adolescence. While infant and young child feeding remains the cornerstone of healthy growth and development, our responsibility must extend beyond breastfeeding and complementary feeding to encompass the broader spectrum of nutrition at every age. I am therefore particularly delighted to see the “A to Z Nutrition Module for Pediatricians” included in the programme. This is very much in keeping with the vision that nutrition must be approached holistically from breastfeeding and complementary feeding to nutrition in childhood, adolescence and special situations.

The scientific programme is truly comprehensive and thoughtfully designed. It moves beyond merely monitoring growth charts to addressing the practical realities of feeding children, including feeding behaviour, food diversity, screen exposure and the challenges of making children eat well. At the same time, it gives deserved emphasis to breastfeeding, with contemporary and thought-provoking themes such as the epigenetics of human milk, breast pumps, artificial intelligence in lactation, human milk banking, and the appropriate role and limitations of formula feeding in early infancy. The discussions on the gut microbiome, the first 1000 days, complementary feeding and precision nutrition further strengthen the holistic approach of the conference.

I would like to place on record my sincere appreciation to Dr. Roopa Bellad, Chairperson; Dr. Prashant Kumar Saboth, Secretary; Dr. R. Somasekhar, Vice-President; Dr. Shailaja Mane, Vice-President; and Dr. Rajinder Gulati, Joint Secretary, Dr. Tanmaya, Organising Secretary along with the entire organising team and the National IYCF leadership, for putting together such an enriching academic programme. The brochure reflects an impressive assembly of national faculty and a wide range of workshops, scientific sessions, panel discussions and practical learning opportunities.

What is especially heartening is the spirit of teamwork behind this meeting. From residents and young pediatricians who have been actively coordinating and connecting with faculty, to senior colleagues working tirelessly across various committees, the meticulous organisation is a testimony to what can be achieved when a team works with a shared purpose. As we gather in Belagavi for three days of learning, collaboration and reflection, I am confident that IYCNCON 2026 will further strengthen our collective commitment to nourishing little lives and enabling children to fulfil their biggest dreams.

My heartiest congratulations and best wishes to the entire team for a successful, inspiring and memorable conference.

Dr. Neelam Mohan

President, Indian Academy of Pediatrics

IAP SECRETARY GENERAL'S MESSAGE



Dear Colleagues,

It is a privilege to write for the souvenir of the 16th Annual Conference of the Infant and Young Child Feeding Chapter (IYCNCN 2026) of the Indian Academy of Pediatrics, held at the KLE Centenary Convention Centre, Jawaharlal Nehru Medical College Campus Belagavi, Karnataka, from 4th to 6th September 2026, on the theme “Nourishing Little Lives, Fuelling Big Dreams.”

The theme could not be more timely. The findings of NFHS-6 (2023-24), released in May 2026, place before us a picture of real progress alongside an unmistakable warning. On the credit side, early initiation of breastfeeding within one hour of birth rose from 41.8% to 50.1%, stunting in children under five declined from 35.5% to 29.3%, severe wasting fell from 7.7% to 5.2%, and complementary feeding at 6–8 months improved from 45.9% to 59.5%.

But the single indicator closest to our Chapter's heart has moved the wrong way. Exclusive breastfeeding under six months has fallen from 63.7% to 55.8% — the first clear reversal in over three decades, after a sustained climb from 46.4% in 2005-06 and 54.9% in 2015-16. Alongside this, underweight prevalence remains essentially unchanged at 31.8%, wasting persists at 19.0%, and only 15.3% of children aged 6-23 months receive an adequate diet.

The message is plain. India has learned to deliver babies safely; we have not yet learned to feed them well. Nearly half of our infants lose the protection of exclusive breastfeeding before six months, and five in six young children eat a diet inadequate for the brain and body they are building. To this must be added the burden of anaemia — the last national estimates, from NFHS-5, found anaemia in 67.1% of children aged 6-59 months, 57.0% of women aged 15-49 years and 52.2% of pregnant women. NFHS6 did not undertake haemoglobin testing, and anaemia estimates will now come from the ICMR Diet and Biomarkers Survey using venous sampling — but no clinician in this hall believes the problem has gone away.

This is precisely the mission of the IYCF Chapter: to convert good intent into correct practice at the bedside, in the labour room, in the immunisation clinic and in the home. Every

IAP SECRETARY GENERAL'S MESSAGE

counselling session that keeps a mother exclusively breastfeeding through the sixth month, every early initiation within the golden hour, every timely and adequate complementary feed is a measurable act of prevention. The reversal in exclusive breastfeeding is a challenge addressed to us, and it is reversible.

My warmest congratulations to the Chairperson of the IYCF Chapter, Dr Roopa Ballad, and the Secretary, Dr Prashant Sabot, whose stewardship has given the Chapter both its academic rigour and its reach into everyday practice. Under their leadership the Chapter has kept infant and young child feeding where it belongs — at the centre of Indian paediatrics — and IYCNCON 2026 is a fitting expression of that commitment.

My warm appreciation also to the National IYCF Chapter, the Department of Pediatrics, KAHER's J N Medical College, Belagavi, IYCF Karnataka and the Belagavi Association of Pediatrics; to the Chief Patrons, Patrons, Chief Advisors and National and State IYCF Officials; to Dr Jose Ouseph, Vice President, South Zone (2026); to CIAP Executive Board Members Dr Amaresh K Patil, Dr M Venkatachalapathy, Dr N K Kalappanavar, Dr Priya Shivalli and Dr Sahana Devadas; and to the Organizing Committee, advisors, convenors and every member of the IAP Karnataka and IAP Belagavi teams whose sustained effort made this conference possible.

May this souvenir stand as a record not only of an academic feast, but of a renewed national resolve to protect the first 1,000 days.

With warm regards,



Dr Ruchira Maheshwari

Secretary General – 2026 & 2027
Indian Academy of Pediatrics

IAP NATIONAL PRESIDENT ELECT 2026 MESSAGE



Greetings from Thanjavur, Tamil Nadu.

I am delighted to learn that the IYCN Conference is being organised at the prestigious institution in Belagavi. I sincerely appreciate the efforts of the organising team and the leadership of our IYCF President, Dr. Roopa Bellad Madam, who has been doing commendable work in the field of infant and young child nutrition. I am confident that the conference will be conducted successfully under her able guidance and leadership.

I extend my heartfelt wishes to the President, Secretary, Treasurer, members of the scientific committee, organising committee and all other team members involved in conducting this conference. Their dedication and collective efforts will undoubtedly contribute to making this academic event highly successful and meaningful.

The IYCF Chapter is one of the most important chapters of the Indian Academy of Pediatrics. It plays a significant role in reducing infant and under-five mortality through the promotion of appropriate nutrition and evidence-based feeding practices. The chapter continues to emphasise the importance of early initiation of breastfeeding, exclusive breastfeeding for the first six months of life and timely, appropriate complementary feeding thereafter.

Current recommendations encourage the initiation of breastfeeding as early as possible following birth. The integration of breastfeeding with appropriate complementary feeding is essential for ensuring optimal growth, development and overall health during infancy and early childhood. This conference will provide an excellent platform for discussing recent advances, emerging concepts and practical approaches related to breastfeeding, complementary feeding and early childhood nutrition.

I am certain that the scientific sessions, deliberations and workshops conducted during this conference will be highly informative and beneficial to paediatricians, healthcare professionals and other practitioners. The knowledge gained through this programme will help strengthen nutritional counselling and improve feeding practices at the community and institutional levels.

The Indian Academy of Pediatrics remains committed to building a healthier nation by promoting proper nutrition during the early years of life. Through breastfeeding and appropriate complementary feeding practices, we can contribute significantly towards achieving the Sustainable Development Goals and reducing preventable childhood morbidity and mortality. The IYCN Chapter has a major role to play in achieving these important national health objectives.

I convey my best wishes to all the delegates, participants, faculty members and organisers for a successful and academically enriching conference and workshops. May this conference inspire meaningful discussions, enhance professional knowledge and contribute towards improving the health and nutrition of children across the country.

Prof. Dr. M. Singaravelu
IAP National President-Elect 2026

IYCNCON 2026

NATIONAL IYCF CHAIRPERSON & IYCNCON 2026 ORGANIZING CHAIRPERSON'S MESSAGE



It gives me immense pleasure and deep sense of pride to welcome you all to IYCNCON 2026, the 16th National Conference of the Infant and Young Child Feeding (IYCF) subspecialty chapter of the Indian Academy of Pediatrics being held from 4th – 6th September 2026 at KAHERs Jawaharlal Nehru Medical College, Belagavi.

The theme of this year's conference, "Nourishing Little Ones, Fueling Big Dreams" beautifully captures the essence of our collective responsibility towards ensuring optimal nutrition, health and development during the most critical years of a child's life. The first thousand days offer an unparalleled opportunity to influence lifelong health, growth and well-being, and infant and young child feeding remains at the heart of this endeavor.

IYCNCON-2026 brings together Eminent Pediatricians, Neonatologists, Nutritionists, Researchers, Healthcare Professionals and Academicians from across the country. This conference provides a vibrant platform to exchange knowledge, share experiences, discuss emerging evidence and explore practical strategies for improving breastfeeding, complementary feeding and child nutrition. I am confident that the scientific deliberations, interactive sessions and collaborative discussions will inspire us to translate evidence into meaningful action.

As we gather in the historic and culturally rich city of Belagavi, I extend my heartfelt gratitude to the IYCF Chapter of the Indian Academy of Pediatrics, the organizing committee, scientific committee, faculty, delegates and all those who have contributed tirelessly to making this conference possible.

I warmly welcome each one of you to IYCNCON - 2026 and hope that your participation will be intellectually enriching, professionally rewarding and personally memorable. May this conference strengthen our shared commitment to nurturing healthier children and building a healthier future for our nation.

With warm regards and best wishes for a fruitful and memorable conference.

Dr. (Mrs) Roopa M Bellad,

Professor of Pediatrics, Jawaharlal Nehru Medical College, Belagavi,
National IYCF Chairperson,
Organizing Chairperson, IYCNCON 2026

NATIONAL IYCF SECRETARY'S MESSAGE



Respected Seniors & Dear Colleagues

It is my great pleasure and privilege to invite you all to **Indian Academy of Pediatrics - IYCNCON 2026 (16th Annual Conference of the Infant and Young Child Feeding Chapter)**, to be held from **4th to 6th September 2026** at the **KLE Centenary Convention Centre, Jawaharlal Nehru Medical College Campus, Belagavi, Karnataka**.

The conference carries the meaningful and inspiring theme: **“Nourishing Little Lives, Fuelling Big Dreams”**

This prestigious academic gathering is being organized by the **National IYCF, Department of Pediatrics, KAHER's J. N. Medical College, Belagavi, IYCF Karnataka, and the Belagavi Association of Pediatrics**.

IYCNCON 2026 will provide an excellent platform for eminent experts, pediatricians, academicians, researchers, and healthcare professionals to come together, share their experiences, review the latest evidence, discuss emerging challenges, and explore innovative approaches to improve infant and young child nutrition.

I take this opportunity to place on record my sincere appreciation and warm congratulations to all **Office Bearers of Central IAP, Patrons & Advisors, National and State IYCF Officials, Vice President – South Zone (2026) Dr. Jose Ouseph, CIAP Executive Board Members Dr. Amaresh K. Patil, Dr. M. Venkatachalapathy, Dr. N. K. Kalappanavar, Dr. Priya Shivalli and Dr. Sahana Devadas**, along with all members of the **IAP Karnataka State Executive Board**. Also special appreciation goes to entire **Organizing Committee Members**. I also convey my sincere thanks to the **IAP Karnataka State Branch Office Bearers & IAP Belagavi Branch Office Bearers** who has contributed to this landmark academic endeavour.

I am confident that the enthusiasm, experience, creativity, and commitment of the organizing team will make **IYCNCON 2026 a remarkable academic experience and set a new benchmark for future conferences**. The scientific programme, meaningful interactions, and exchange of ideas are sure to make this gathering both intellectually stimulating and memorable.

With warm regards,

Dr Prasant Kumar Saboth

Secretary 2026

National IYCF

Indian Academy of Pediatrics

IYCNCON 2026

IYCNCON 2026 ORGANIZING CO-CHAIRPERSON'S MESSAGE



It gives me immense pleasure to welcome you all to the **16th Annual Conference of the Infant and Young Child Feeding Chapter of IAP – IYCNCON 2026**, with the theme **“Nourishing Little Lives, Fueling Big Dreams.”**

This conference, being held from **4th to 6th September 2026** at the **KLE Convention Centre, JNMC, Belagavi**, brings together eminent experts and passionate professionals dedicated to improving infant and young child nutrition and health.

I hope this academic gathering provides an enriching platform for knowledge sharing, meaningful discussions, collaboration, and the exchange of innovative ideas.

I extend my warm wishes to all delegates and participants for a fruitful and memorable conference.

Dr. Veeresh F. Manvi
Organising Co-Chairman
IYCNCON 2026

IYCNCON 2026 ORGANIZING SECRETARY'S MESSAGE



It gives me immense pleasure to welcome you all to IYCNCON 2026 – the 16th Annual Conference of the Infant and Young Child Feeding Chapter of the Indian Academy of Pediatrics (IAP), being held from 4th to 6th September 2026 in Belagavi. The theme of this year's conference, “Nourishing Little Lives, Fueling Big Dreams,” reflects our commitment to promoting optimal nutrition, growth, health, and development during the crucial early years of life.

IYCNCON 2026 brings together eminent experts, paediatricians, nutritionists, researchers, and healthcare professionals from across the country to share knowledge, exchange experiences, and discuss the latest evidence and practices in infant and young child feeding.

I am confident that this conference will provide an enriching academic experience and foster meaningful collaborations, inspiring us to translate knowledge into better care and healthier futures for our children. I sincerely thank the IAP leadership, IYCF Chapter, esteemed faculty, delegates, organizing committee, and all those who have extended their valuable support in making this conference possible. I warmly welcome you all to Belagavi and wish you a fruitful, memorable, and enjoyable conference. Let us come together to “Nourish Little Lives and Fuel Big Dreams”.

With warm regards,

Dr. Tanmaya Metgud

Organising Secretary – IYCNCON 2026

NATIONAL IYCF IMMEDIATE PAST PRESIDENT'S MESSAGE



It is indeed a great pleasure and privilege to extend my heartfelt greetings and best wishes on the occasion of the upcoming conference on Infant and Young Child Feeding at Belagavi.

The early years of life represent a critical window of opportunity for shaping a child's growth, development, and lifelong health. Promoting optimal infant and young child feeding practices requires a collaborative effort from healthcare professionals, policymakers, researchers, and communities. Conferences such as this provide an invaluable platform to share evidence-based knowledge, discuss challenges, and develop strategies to improve the nutritional well-being of our youngest and most vulnerable population. We have been working on this for many years, but the statistics are not very encouraging. Although EBF rates are improving, we see the proper lactation technique with good milk transfer has not reached to the masses. Similarly our complementary foods are poor in protein. These issues need more churning.

I commend the organizing committee for bringing together experts and practitioners dedicated to advancing the cause of infant and young child nutrition. I am confident that the scientific deliberations, exchange of ideas, and shared experiences during this conference will inspire meaningful action and strengthen our collective commitment to ensuring every child receives the best possible start in life.

I wish the conference great success and hope that it becomes a memorable and enriching experience for all participants.

With my warm regards and best wishes,

Dr. Jayant Shah

Immediate Past President, IYCF Chapter of IAP

NATIONAL IYCF VICE PRESIDENT'S MESSAGE

“To succeed in your mission, you must have a single- minded devotion to your goal”

-Dr. A.P.J. Abdul Kalam

It is a pleasure & privilege for me to write the message for 16th ANNUAL CONFERENCE OF INFANT & YOUNG CHILD FEEDING CHAPTER OF IAP “IYCNCON-2026” with an being held on September 4th, 5th & 6th 2026 with an apt Theme “NOURISHING LITTLE LIVES, FUELLING BIG DREAMS”

I am amazed at the enthusiasm and motivation under the captaincy of Prof.Dr.ROOPA BELLARD, ably supported by Hon. Secretary my Beloved friend Dr.PRASHANT SABOT, Treasurer Dr.Tanmaya Metgud and IAP Karnataka State under the leadership of Dr Ravishankara Marpalli and his office bearers & the young and energetic team of brigadiers @ KLE ACADEMY ACADEMY OF HIGHER EDUCATION & RESEARCH(KAHER) and the Team IAP-IYCF Karnataka under the leadership of Dr.Adharsh Eregouda,

I wholeheartedly thank the whole TEAM IYCNCON-2026 for making it as our dream come true for their brilliant coordination with innovative ideas for making it as an ACADEMICS EXTRAVAGANZA which I am sure going to make the year 2026 memorable.

I thank Patrons Past President Dr.Santhosh Soans, Dr.GV.Basavaraja, Dr.CR.Banapurmath sir and their contributions to various milestones of IAP., I am inspired by the commitment of our Eminent Executive Board Members and their achievements in coordination with CIAP.

I place on record my sincere and heartfelt thanks to our Dyanamic National President Dr.NEELAM MOHAN, HSG Dr.Ruchira Maheswari, Ever Vibrant President 2027 Dr.M.SONGARAVELUr, , VICE PRESIDENT SZ Dr.JOSE OUSEPH, Treasurer Dr.ALOK BHANDARI for their wholehearted support, guidance and the innovative efforts and sustained commitment towards the Organization in making the 16th ANNUAL CONFERENCE OF INFANT & YOUNG CHILD FEEDING CHAPTER OF IAP “IYCNCON-2026’ A Grand Success,.

Thanking you one & all!

JAI HIND - JAI IAP

Best Regards

Am In Academy Services forever

Prof.Dr.R.Somasekar,MD,DCH,FIAP,.

Prof & HOD Dept of Paediatrics MMCRI

Vice President IAP-IYCF CHAPTER 2026

Hon. Secretary IYCF & HMBA2019-21

NATIONAL IYCF JOINT-SECRETARY'S MESSAGE



It gives me immense pleasure to welcome you to IYCNCON 2026, the 16th Annual Conference of the Infant and Young Child Feeding Chapter of the Indian Academy of Pediatrics (IAP), being held in Belagavi, Karnataka, with the inspiring theme ***“Nourishing Little Lives, Fueling Big Dreams.”***

I would like to extend my sincere appreciation to the organising team at Belagavi, the Department of Pediatrics, KAHER's J. N. Medical College, IYCF Karnataka and the Belagavi Association of Pediatrics for their meticulous efforts in bringing together this academic programme and for their warm hospitality.

The conference begins with two enriching pre-conference workshops—Assessment and Counselling of IYCF Practices and Nutritional Assessment and Growth Monitoring—designed to strengthen practical skills and enhance the capacity of paediatricians and healthcare professionals. The A to Z Nutrition Module for Pediatricians, being conducted under the IAP Presidential Action Plan 2026, adds another important dimension to this academic initiative.

The scientific programme on 5th and 6th September, featuring short lectures, symposia, panel discussions, debates and orations, promises stimulating discussions and meaningful exchange of knowledge and experience.

I am confident that IYCNCON 2026 will inspire us to translate evidence into practice and renew our commitment to nurturing healthier children and brighter futures.

I warmly welcome all delegates and wish the conference every success.

A handwritten signature in blue ink, reading 'Rajinder Gulati', written over a white rectangular background.

Dr. Rajinder Gulati
Joint Secretary
IYCF Subspecialty Chapter, IAP

KARNATAKA IYCF CHIEF PATRON'S MESSAGE



It is my great pleasure, privilege and happiness to pen down a few lines for this August National event happening in my birth place, Belagavi, Karnataka State. We had assembled in this very place and venue in 2018 for the 8th National IYCNCON.

The Infant and Young Child Feeding Chapter of IAP was founded as a subspeciality Chapter way back in 2008, with the main focus on infant and young child nutrition. The Chapter now has more than 1000 members and also has 6 State Chapters. It is indeed a matter of great pride that our IYCF- Chapter of IAP has been bagging either the first or second place annually over the last 2 decades.

The recently released NHFS-6 has given us a wake up call to our Country showing that there is lot of serious planning and implementation of appropriate nutrition interventions have to be taken up on war footing to improve the nutrition status of children. I am certain that this conference and its deliberations will go a long way for our Country.

This conference has been planned to address our current issues including state of the art presentations by renowned national faculties, Thee pre conference work shops are also planned to provide skill based learning for post graduates , practising paediatricians and nutrition counsellors. The topics for the main conference are a mixture of relevant and advanced nutrition issues.

I heartily congratulate Dr. Roopa Bellad ,who is not only our current Chairperson of IYCF_Chapter of IAP, but also for taking up the onerous responsibility of conducting the 18th IYCNCON for the second time at KAHER BELAGAVI.

I wish happy learning to all the participants.

Dr. C R Banapurmath,

MD,DCH,MNAMS.CN (NIN HYD),FIAP

Former Prof &HOD, Department of Pediatrics, J J M Medical College , DAVANAGERE.

Former Director , Bapuji Child Health Institute, DAVANAGERE

Chairperson, IYCF Chapter of IAP, 2018-2020

Founder Member, BPNI & BFHI.

KARNATAKA IYCF PRESIDENT'S MESSAGE



It gives me immense pleasure to contribute this message to the “Infant and In-Child” Souvenir being brought out on the occasion of the IVCF National Conference on 5th and 6th September 2026.

The conference provides an excellent platform for paediatricians and healthcare professionals to share knowledge, exchange experiences, and explore the latest advances in infant and child healthcare. Such academic gatherings strengthen our collective commitment towards providing comprehensive, evidence-based, and compassionate care to every child.

I congratulate the editorial team for their sincere efforts in bringing out this souvenir and the organising committee for their dedication in making this conference a meaningful academic endeavour.

I wish the IVCF National Conference grand success and hope this souvenir will remain a cherished record of the scientific excellence, collaboration, and memorable moments of the conference.

With warm regards,

Prof. Dr. Adarsh. E
Karnataka- IYCF. President

KARNATAKA IYCF SECRETARY'S MESSAGE



It gives me immense Pride & pleasure to be part of this 16th Annual Conference of the Infant and Young Child Feeding (IYCF) Chapter of IAP - IYCNCON 2026, to be held from 4th to 6th September 2026 at the KLE Centenary Convention Centre, JN Medical College Campus, Belagavi.

September begins the festive season which uplifts our moods, brings with it many national and international days to celebrate. Our salutations to all the teachers who have guided us as torches light a path and help us navigate through storms. A humble prayer to Lord Ganesha, the remover of obstacles, to enhance our wisdom in all walks of life.

Delegates' from all over the country are participating enthusiastically in this great academic feat of IYCNCON. The first 1000 days of life lay the foundation for lifelong health, growth and potential.

This National Conference on Infant & Young Child Feeding reaffirms our collective commitment to promote, protect and support optimal feeding practices - from exclusive breastfeeding to safe and responsive complementary feeding. May the deliberations here translate into stronger policies, better counseling, and healthier children across the nation.

Best wishes the team Belagavi association of pediatric & The organizing committee of this National IYCNCON 2026 conference for a successful academic feast and create a milestone in the records of IYCF chapter.

Prof. Mallikarjuna HB

MD, DCH, FIAP, IYCF

Founder secretary IYCF chapter Karnataka 2026

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SCIENTIFIC SCHEDULE

PRE-CONFERENCE WORKSHOP
WORKSHOP 1

Assessment and Counselling of IYCF Practices

Date: 4th September 2026

Time: 9:00 AM – 5:00 PM

Course Coordinator: Dr. Latha G S

Local Coordinator: Dr. Sonali Bijjargi, Dr Reena Priyadarshini

Venue: JNMC, Belgaum

Topic	Faculty
Pre-test	—
Introduction: Knowledge and Understanding of Breast Feeding	Dr. Latha G S
Getting Started: The Foundations of Breast Feeding (IYCF Practices, Advantages of Breast Feeding)	Dr. Bhavya S O
Journey of Breast Milk: Understanding Milk Transfer	Dr. Mruthyunjaya S
Watch, Assess and Support: Observing Breast Feeding, Assessing and Helping the mother with Breast Feeding	Dr. Dinkar More
Tea Break	—
“Is My Milk Enough?”: Understanding and Managing Perceived Low Milk Supply	Dr. Malavika P S
Beyond Six Months: The Art and Science of Complementary Feeding	Dr. Veeresh Babu D V
Lunch Break	—
Know the Breast: Learning with Breast Model	Dr. Spoorthi S M Dr. Sonali Bijjargi
Expressing Breast Milk: Skill, Technique, Confidence and Storage	Dr. Chaitali R
The Perfect Fit: Attachment and Positioning	Dr. Rajinder Gulati
Growing Well: Reading and Interpreting Growth Charts	Dr. Sharan Bulla
Counselling with Confidence: From Listening to Empowering – Building Competent Breastfeeding Counsellors	Dr. Latha G S
Post-Test followed by Queries	—

WORKSHOP 2 Nutritional Assessment and Growth Monitoring

Date: 04-09-2026

Time: 9:00 AM – 1:30 PM

Venue: Dome, JNMC, Belagavi

Local co-ordinator: Dr.Bhavana Koppad, Dr.Shaila Pachapure

Topic	Faculty
Registration	—
Introduction: Nutritional Assessment and Growth Monitoring	Dr. Shaila Pachapure
Normal Infant Growth and Nutrition – What Matters Most?	Dr. Santosh Nimbalkar
Growth Assessment	Dr. Meenakshi B R
Nutrition in Infant Development	Dr. Yashaswini C R
Tea Break	—
Workstation (40 minutes each): Linking Growth to Feeding – Case-based Discussion; Anthropometric Measurements, Calibration, Standardisation; Growth-Chart Plotting and Case-Based Interpretation	Dr. Santosh Nimbalkar Dr. Bhavana Koppad Dr. Shaila Pachapure Dr. Meenakshi B R
Post-Test	—
Lunch	—

WORKSHOP 3:

**Indian Academy of Paediatrics
IAP Presidential Action Plan 2026
Dr Neelam Mohan President 2026**

A to Z Nutrition Module (for Paediatricians)

Date: 04-09-2026

Time: 02:00 PM – 05:00 PM

Venue: Dome, JNMC, Belagavi

Local Co Ordinator: Dr Deepanjali G, Dr Mrunal K

Topic	Faculty
Registration	—
Breastfeeding	Dr. Somasekar Ramaswamy
Complementary Feeding	Dr. Raghunath K V
Nutrition in 3 – 10 years	Dr. Prasant Kumar Saboth
Nutrition in Adolescents	Dr. Geeta Patil
Nutrition in Special situations	Dr. Priyadarshani Kulkarni

SCIENTIFIC PROGRAMME SCHEDULE

DAY 1 – 05/09/2026 (Saturday)

Topics	Speakers	Chairpersons
Registration / Breakfast	—	
Infant Feeding in Special Situations: Infant Feeding in special situation: Congenital Anomalies - Cleft lip/ Cleft Palate	Dr. Latha G S	Dr. M S Kaddi Dr. Sharad Shreshti
Sick Infant	Dr. Devaraj Raichur	
Preterm / LBW Babies	Dr. S M Dhaded	
Panel Discussion: Artificial Intelligence in Breastfeeding – the Futuristic Way	Moderator: Dr. Somasekar Ramaswamy Panelists: Dr. Prasant Kumar Saboth Dr. Sambasivam Dr. Mahesh Kore	
Breastfeeding Friendly NICU: Feed the Baby and Not the Fear	Dr. K.E. Elizabeth	Dr. V D Patil Dr. Das Gupta
Poshan 2.0 & IYCF: Closing the Micronutrient Gap	Dr.Himabindu Singh	Dr. Rohit Joshi
Dr. Nirmala Kesaree Oration: The Human Milk Revolution: New Science, New Perspectives	Dr. Sushma Malik	Dr. Roopa Bellad Dr. Prasant Kumar Saboth
Year in Review: Breastfeeding & Growth: What the Latest Evidence Says	Dr. Sindhu T G	Dr. Praveen Hyatgol
Food Allergy in Infants Updates: Bench to Bedside	Dr. Geeta Patil	Dr. Sharan Angadi
Lunch		

SCIENTIFIC PROGRAMME SCHEDULE

DAY 1 – 05/09/2026 (Saturday)

Topics	Speakers	Chairpersons
Panel Discussion: Complementary Feeding: The Reality of Today and Consistent Gaps Important to be Bridged (UNICEF)	Moderator: Dr. Khyati Tiwari Panelists: Anil Goga Resha Desai Dr. Suneeta Chandorkar	
Optimizing 6-in-1 RTU Vaccine Responses in Preterm and Special-Population Infants: The Interplay of Timely Immunization, Infant Nutrition and Immune Maturation	Dr. Tanmaya Metgud	Dr. Gangamma Dr. Mandar Haval
Nutrition in the First 1000 Days	Dr. Asha Benakappa	Dr. Manisha Bhandankar Dr Koujalgi
Inauguration		
Panel Discussion: The Gut that Shapes a Lifetime: Gut Microbiome and Infant Nutrition	Moderator: Dr. N S Mahantshetti Panelists: Dr. Vijay Kulkarni Dr. Vinod Ratgeri Dr. Ravishankar Marpalli Dr. Somashekar A R	
Hyderabad Action Plan IYCN 2030: From Feeding Guidelines to Precision Nutrition, Gut Health and Digital	Dr. Aarti Kinikar	Dr. Rajendra Salagare Dr. Sowmya M
Symposium – on Complementary Feeding: From Milk to Solids: Navigating the Complementary Feeding Transition	Dr. Adarsh E	Dr. Sachin Miraj Dr. Sriharsha Dr. Gopal Hangal
Dietary Diversity in Complementary Feeding	Dr. K V Raghunath	
Indicators of Adequacy	Dr. Mallikarjun H B	
Timing and Consistency	Dr. Mallesh Gouda	
GBM followed by Banquet	—	

IYCNCON 2026

SCIENTIFIC PROGRAMME SCHEDULE

DAY 2 – 06/09/2026 (Sunday)

Topics	Speakers	Chairperson
Breakfast	—	
PATH'S : Newborn feeding and Malnutrition management efforts during first 1000 days of life	Dr. Jayendra Kasar	Dr. K V Raghunath Dr. Bhavana Koppad
Panel Discussion: Beyond the Growth Charts: A Paediatricians View on NFHS Nutrition Trends	Moderator: Dr. Balraj Singh Panelists: Dr. Ketan Bharadva Dr. M M Faridi Dr. Jai Singh Dr. Srinivasan	
Beyond Google, Grandmothers and Growth Powders: A Rural Paediatricians Guide to Practical Nutrition	Dr. Shivaraj Patil	Dr. Vijay Neelgund Dr. B S Baliga
Perioperative feeding and ERAS in Major Surgeries in Children	Dr. Santosh B Kurbet	
Panel Discussion: Human Milk Banking: Research, Innovations and Future Directions	Moderator: Dr. Vineeta Pande Panelists: Dr. Santosh Nimbalkar Dr. Durgappa Dr. M M Patil Dr. Meenakshi Sarvi	
Dr. C R Banapurmath Endowment Lecture: Infant and Young Feeding – Why Formula Feeding is Not a Benign Alternative	Dr. J P Dadhich	Dr. Sujata Jali Dr. Veeresh Manvi

SCIENTIFIC PROGRAMME SCHEDULE

DAY 2 – 06/09/2026 (Sunday)

Topics	Speakers	Chairperson
Legal Accountability for Health care Professionals under IMS Act	Dr. Dnyanesh Kamble	Dr. Vijaykumar B Murteli Dr. Shankar Torase
How to Make a Child Eat: Practitioner's Perspective – Art or Science	Dr. Shrinath Mugali	
Optimizing IYCF in Paediatricians Clinic	Dr. C R Banapurmath	Dr. Mahantesh Patil Dr. Preeti Vannur
Screen Exposure during feeding: From Reels to Real meals	Dr. Rajinder Gulati	
Epigenetics of Human Milk & its Role in Infant Development	Dr. Roopa Bellad	
DEBATE: Informal Feeding vs DHM	Dr. Sara Dhanawade / Dr Mrunal K	Moderator: Dr. Jai Singh
AI in Lactation: Friend, Not Foe, to Breastfeeding Counselling	Dr. Sonali Bijjargi / Dr. Bahubali Ingale	
Use of Breast Pumps: A Feasible Solution for Working Mothers	Dr. Ramesh Pol / Dr. Sharan Bulla	
Routine Bugs for Better Babies: Should All Infants Get Probiotics and Prebiotics for Better Growth?	Dr. Anita Nyamagoudar / Dr. Shailesh Patil	
Valedictory and Lunch	—	

ARTICLES

ARTICLE 1

WHERE WE NEED TO FOCUS ON BRINGING QUANTUM CHANGE IN IMPROVING INFANT AND YOUNG CHILD NUTRITION STATUS IN OUR COUNTRY ?.

Dr. C R BANAPURMATH,

MD,DCH,MNAMS,FIAP

FMR. PROFESSOR OF PEDIATRICS,

JJM MEDICAL COLLEGE, DAVANAGERE,577004



Helping mothers to breastfeed is god's work. It has to be approached with great humility and passion. The Country has witnessed sea change over the last FOUR DECADES IN THIS REGARD. Primarily, focus and attention on Human Lactation and its management received the much needed phillip by the pioneering efforts of stalwarts like Dr R K Anand, Dr N B Kumta, Dr Nirmala Kesaree and many more in the Indian Academy of Pediatrics along with Ministry of Health, Government of India, WHO and UNICEF including FOGSI and TNAI, who brought in International experts like Dr Felicity Savage and Helen Armstrong to conduct structured courses on HMLT in India, in early 90's.

Over the last four decades significant advocacy and training activities have been conducted all over the Country. However looking at the NFHS 5 figures, for our huge Country, the impact is far from satisfactory. There is a strong need to introspect on these programmes to achieve desired goals.

It is also well known that all attention revolves around preparing the expectant mothers mind to what is in store for her once she delivers her baby. Unfortunately, operative deliveries have alarmingly increased throughout the Country. A large percentage of babies are born too soon or too small. Neonatal care has also increased exponentially throughout the Nation. However there are large and staring gaps in implementation of much needed skilled support meted out to the parturient mothers.

Bottle feeding continues to remain a great challenge. The national figures have increased very surprisingly.

If we have to make quantum change and that too rapidly, we need to focus on how to restructure our training programmes to include postgraduate training curriculum for Pediatric and Obstetric and Anesthesiology Departments, not forgetting skill based training of nurses and nursing students along with all the front line workers. The labor rooms, labor OT's ,postnatal wards and much more importantly the mushrooming NICUs need to be targeted. Fellowship courses in Neonatology have to be heavily laced with much needed training and skill building opportunities .

There are huge gaps which need to be addressed quickly. Though more than 90% of mothers deliver in institutions, initiation of breast feeding within one hour of child birth is less than 50%. Quality counselling is not available for struggling mothers. Our exclusive breastfeeding rates for our Country is only 50%. Complementary feeding statistics are woefully low. Only about 15% of children receive adequate diet.

We need to plan and implement skill building of ASHA and AWW to bring in quality improvement in HBNC especially for the existing scheduled home visits. We will be needing an army of qualified IYCF counsellors for this vast Country.

Though human milk banks are on the rise, we need to have many more of these institutions all over our Country.

Dr C R Banapurmath,
Davanagere

IYCNCON 2026

ARTICLE 2

COMPLEMENTARY FEEDING: GET THE BASICS RIGHT



Author: Dr. Elizabeth K E, MD, DCH, PhD, FIAP, FRCPCH (UK) Professor of Pediatrics, Ananthapuri Hospital & Research Institute, Thiruvananthapuram
Former Prof. & HOD, Pediatrics, SAT Hospital, Govt. Medical College, Thiruvananthapuram & UNICEF Consultant.
drelizake@gmail.com

Introduction: The Strategic 1,000-Day Window

Complementary feeding refers to the introduction of nutritious, age-appropriate solid and semi-solid foods, in addition to continued breastfeeding, when breast milk alone can no longer satisfy an infant's expanding nutritional requirements. This transition occurs during the **"First 1,000 Days of Life"**—a critical biological window of development that heavily shapes long-term cognitive, immune, and physical growth.

To align with international Infant and Young Child Feeding (IYCF) guidelines, complementary feeding must be initiated precisely upon the completion of 6 months (180 days) of age, with continued breastfeeding maintained up to 2 years and beyond. To highlight the clinical and developmental importance of this transition, the Central Indian Academy of Pediatrics (IAP) observes **Complementary Feeding Day** annually on the 6th day of the 6th month (**June 6th**). In Kerala, the State IAP has advanced this effort by pairing infant half-birthdays with **Kujoonu**, the traditional **"Rice-Giving Ceremony"**. Executed monthly across state hospitals as a ceremonial event (complete with growth monitoring, recipe competitions, and dietary counseling), these ceremonies serve as a highly effective **Social Behavioral Change Communication (SBCC)** platform to educate pediatricians, parents, and community stakeholders alike.

1. Neuro-Developmental Readiness & Primitive Oral Reflexes

The successful introduction of solid food relies on the neuro-motor maturation of the infant's oral cavity. During the first six months of life, early feeding is supported by primitive oral reflexes:

- **Rooting Reflex:** Helps the infant turn the head and locate the nipple.
- **Snout Reflex:** A frontal release sign that protrudes the lips to facilitate a strong suck.
- **Purse-String Reflex:** Seals the lips securely around the breast to prevent leakage.

While these reflexes are vital for breastfeeding, their gradual integration and disappearance by **6 to 8 months of age** is biologically essential for transitioning to textured foods. If these reflexes persist, the physical entry of a spoon, cup, or hand into the mouth is actively blocked. Lip closure remains impaired, making it difficult for the infant to strip food off a spoon and swallow it safely.

Initiating complementary feeding earlier than 6 months or delaying it past this window are both clinically undesirable. Early introduction risks gastrointestinal infections from contamination, underfeeding, and a reduction in breastmilk intake. Conversely, delayed introduction leads to severe growth faltering and micronutrient deficiencies.

While the fancy term "Baby-Led Weaning" is popular in modern lay literature, pediatricians prefer guided, responsive feeding; an infant cannot intuitively know its specific micronutrient requirements, and the term "weaning" is best avoided in standard IYCF practices.

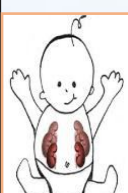
	Control tongue movements better to move food around in mouth		Head control fully achieved
	Better Up down munching movements		Mature GI tract Pancreatic amylase activity fully achieved "Leaky gut" for foreign protein stopped
	Kidneys ready to handle increased protein load		Show interest when others are eating food

Fig. 1. Developmental Readiness for Complementary Feeding.

2. Energy Density and Nutritional Requirements

At 6 months of age, breastmilk supplies roughly **70 kcal/100 ml**, which is sufficient to support growth prior to this milestone. After 6 months, nutrient requirements increase sharply, necessitating complementary foods with an energy density of **80 to 100 kcal/100 ml**. A frequent pediatric pitfall is feeding infants highly diluted watery gruels, which collapses the

energy density to **40 kcal/100 ml**. This causes volume-based undernutrition, as the infant's small stomach is filled with water rather than dense nutrients.

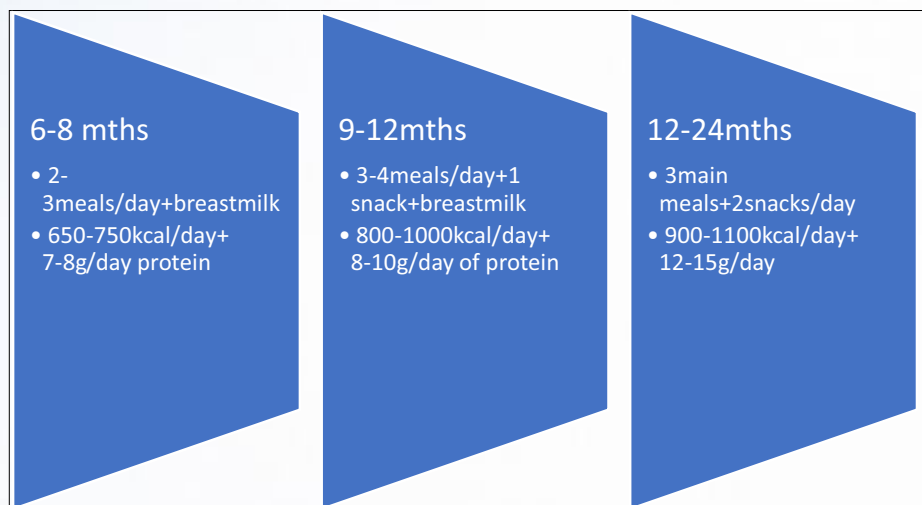
Age	Jaw movements	Consistency
0-6 months	Suck and swallow	Milk, Liquid
6-8 months	Up and down (munching)	Semi solid, fine cooked, puree
8-10 months	Early Biting and chewing	Cooked and well mashed, Lumpy
10-12 months	Biting and chewing	Textured foods, finger foods
12-23 months	Rotatory chewing	All food items, Family pot feeding

Daily energy and protein requirements scale progressively across three distinct pediatric stages:

1. **At 6–8 Months:** The infant requires a total of ~650 kcal/day and 7–8 g/day of protein. Dietary guidelines expect complementary foods to supply **200–250 kcal/day and 5 g/day of protein**, with breastmilk meeting the remaining balance.
2. **At 8–12 Months:** Metabolic demands rise to 720 kcal/day. Complementary foods must now supply approximately **300–385 kcal/day**, transitioning to thicker, lumpy, fork-mashed textures with soft pieces.
3. **At 1–3 Years (Toddlers):** Energy requirements reach **900–1,100 kcal/day** and 12–15 g/day of protein. Toddlers should transition to family foods (chopped and soft). Solid nuts must be avoided; they should be powdered, or soaked and ground. Toddlers require **5 feedings per day, incorporating 5 distinct food groups and 5 different colors**.
4. **Extra added sugars and salt:** These are not needed till starting of Family pot feeding, when the rule is everything in moderation. Sugar and salt craving and future chances for obesity and NCDs can be prevented by this. Only 5-10% of total energy should come from refined sugars.

3. Developmental Progression of Texture

Oral-motor skills must be systematically stimulated by advancing food consistency in accordance with the infant's jaw movements:



4. The Second-Year Breastfeeding Gap & Dietary Diversity

Breastfeeding continues to supply a substantial portion of energy, protein, and vital micronutrients during the second year of life. However, breastmilk alone cannot meet a toddler's full metabolic needs, creating a significant nutritional gap that must be bridged by nutrient-dense solid foods. For instance, breastmilk covers only about 5% of a toddler's daily iron requirement, leaving a massive 95% gap that must be met through iron-rich dietary sources.

Progress in infant feeding is measured globally using the **17 IYCF Indicators**. The primary indices include:

- **Minimum Dietary Diversity (MDD):** Consuming foods from at least **5 of the 8 recommended food groups** in a 24-hour window.
- **Minimum Meal Frequency (MMF):** Adequate daily feeding cycles.
- **Minimum Acceptable Diet (MAD):** A composite of MDD and MMF. For non-breastfed infants to achieve MAD, they must receive **at least 2 milk feeds daily**.

According to National Family Health Survey (NFHS-6) data, only **15% of children in India** meet the Minimum Acceptable Diet (MAD), and even in the health-advanced state of **Kerala**, **only 25%** meet this metric.

The Eight Recommended Food Groups:

To satisfy dietary diversity, meals must draw from these eight standard groups:

1. Breastmilk; 2. Grains, roots, and tubers; 3. Pulses, nuts, and seeds (as key protein sources rather than relying solely on starches); 4. Dairy products; 5. Flesh foods (meat, fish, poultry, liver); 6. Eggs (classified by the WHO as a standalone food group to highlight its nutritional value); 7. Vitamin A-rich fruits and vegetables; 8. Other fruits and vegetables.

Clinical Note: Pediatricians now advocate for the **early introduction of diverse food groups (including eggs, fish, and nuts) immediately after 6 months** to promote oral immunological tolerance and prevent childhood food allergies, overriding historical practices of delayed introduction.

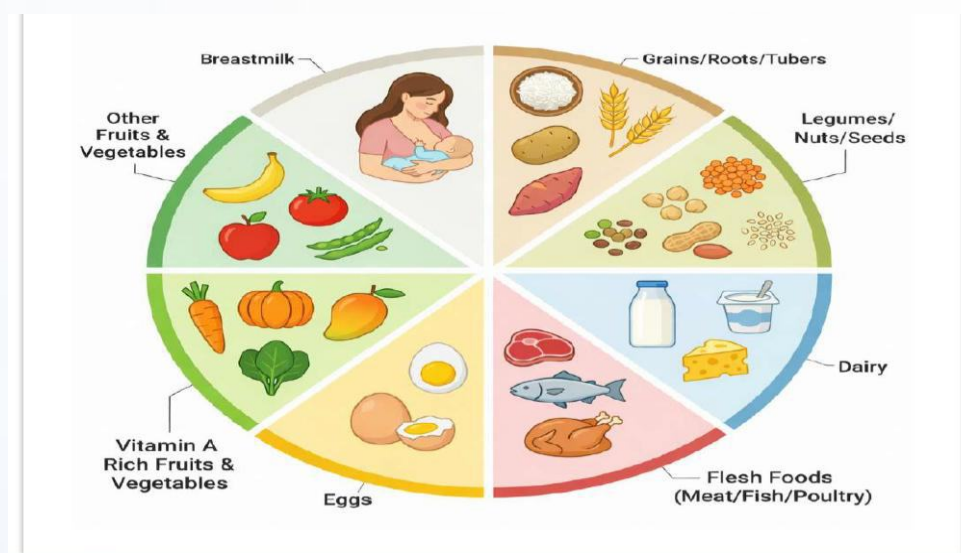


Fig. 2. Recommended Eight food groups during Complementary feeding

Courtesy: 360° Pediatrics- Nutrition Section

5. The "FATVAH" Mnemonic Counseling Framework

To maximize counseling efficiency at the critical 6-month pediatric visit, clinicians should practice the **FATVAH framework**: "Talk for 6 minutes on 6 attributes at 6 months of age".

- **F – Frequency (Minimum Meal Frequency):** Feed breastfed infants 2–3 times daily at 6–8 months, and 3–4 times daily at 9–11 months. Non-breastfed infants require at least 4 feeds. Post-1 year of age, all toddlers must receive a minimum of 5 feedings per day.
- **A – Amount (Quantity):** Start with 2–3 tablespoons per feeding, gradually scaling to 1/2 cup, and reaching 3/4 to 1 full cup (250 ml cup) by 12–23 months.
- **T – Taste & Texture:** Align textures with the developmental timeline (Table 1). Meticulously avoid added sugars to limit sugar cravings and prevent future obesity.

Infant purees should remain bland; salt and spices should be used in strict moderation once transitioning to family pot feeding. Electric blenders and mixers must be avoided; grinding deprives the infant of experiencing texture, and the mixer cannot adapt to the baby's growing developmental needs.

- **V – Variety (Minimum Dietary Diversity):** Ensure the infant receives at least 5 of the 8 food groups daily. Introduce new foods one at a time, allowing a 3-to-4-day gap to monitor for food allergies.
- **A – Active Responsive Feeding:** Feeding should be a positive, interactive experience rather than a battle. Establish a digital-free zone (no screens) and utilize a designated, comfortable feeding area where the baby is seated propped up, which is media free zone. Caregivers should sit facing the infant, making direct eye contact, and encouraging eating without force-feeding. Food should never be used as a reward or punishment, and meals should never drag past 30 minutes. Place food in the side of the cheek to assist munching, and overcome neophobia by involving the child in food sorting and preparation. Proper seating is very important; the baby's hip knee and ankle should be at 90 degrees.
- **H – Hygiene & Safety:** Caregivers and infants must wash hands with soap and water prior to food handling. Pediatricians must discuss prevention strategies across the **7 F's of disease transmission: Fingers, Flies, Fomites, Faeces, Food, Fluids, and Field**. Refrigerate prepared foods within 2 hours of preparation if saving for later. Begin infant dental hygiene immediately upon the eruption of the first tooth.



Indicator		Short name	Age group	Definition
Breastfeeding indicators				
1	Ever breastfed	EvBF	Children born in the last 24 months	Percentage of children born in the last 24 months who were ever breastfed
2	Early initiation of breastfeeding	EIBF	Children born in the last 24 months	Percentage of children born in the last 24 months who were put to the breast within one hour of birth
3	Exclusively breastfed for the first two days after birth	EBF2D	Children born in the last 24 months	Percentage of children born in the last 24 months who were fed exclusively with breast milk for the first two days after birth
4	Exclusive breastfeeding under six months	EBF	Infants 0–5 months of age	Percentage of infants 0–5 months of age who were fed exclusively with breast milk during the previous day
5	Mixed milk feeding under six months	MixMF	Infants 0–5 months of age	Percentage of infants 0–5 months of age who were fed formula and/or animal milk in addition to breast milk during the previous day
6	Continued breastfeeding 12–23 months	CBF	Children 12–23 months of age	Percentage of children 12–23 months of age who were fed breast milk during the previous day
Complementary feeding indicators				
7	Introduction of solid, semi-solid or soft foods 6–8 months	ISSSF	Infants 6–8 months of age	Percentage of infants 6–8 months of age who consumed solid, semi-solid or soft foods during the previous day
8	Minimum dietary diversity 6–23 months	MDD	Children 6–23 months of age	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
9	Minimum meal frequency 6–23 months	MMF	Children 6–23 months of age	Percentage of children 6–23 months of age who consumed solid, semi-solid or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more during the previous day
10	Minimum milk feeding frequency for non-breastfed children 6–23 months	MMFF	Children 6–23 months of age	Percentage of non-breastfed children 6–23 months of age who consumed at least two milk feeds during the previous day
11	Minimum acceptable diet 6–23 months	MAD	Children 6–23 months of age	Percentage of children 6–23 months of age who consumed a minimum acceptable diet during the previous day
12	Egg and/or flesh food consumption 6–23 months	EFF	Children 6–23 months of age	Percentage of children 6–23 months of age who consumed egg and/or flesh food during the previous day
13	Sweet beverage consumption 6–23 months	SwB	Children 6–23 months of age	Percentage of children 6–23 months of age who consumed a sweet beverage during the previous day
14	Unhealthy food consumption 6–23 months	UFC	Children 6–23 months of age	Percentage of children 6–23 months of age who consumed selected sentinel unhealthy foods during the previous day
15	Zero vegetable or fruit consumption 6–23 months	ZVF	Children 6–23 months of age	Percentage of children 6–23 months of age who did not consume any vegetables or fruits during the previous day
Other indicators				
16	Bottle feeding 0–23 months	BoF	Children 0–23 months of age	Percentage of children 0–23 months of age who were fed from a bottle with a nipple during the previous day
17	Infant feeding area graphs	AG	Infants 0–5 months of age	Percentage of infants 0–5 months of age who were fed exclusively with breast milk, breast milk and water only, breast milk and non-milk liquids, breast milk and animal milk/formula, breast milk and complementary foods, and not breastfed during the previous day

Table1. The Seventeen IYCF Indicators**Annexure: Complementary feeding Recipes * – Nutrients in 100 gm**

No	Recipe Name	Main Ingredients	Energy (kcal)	Protein (g)	Fat (g)
1	Sprout Nut Mix	Sprouted green gram, Roasted groundnut, Coconut milk, Dates pulp, Ghee	170	5	6
2	Vision Soup	Potato, Carrot, Pumpkin, Amaranth, Rice water, Coconut oil	90	1	4
3	Egg Flip	Egg, Coconut milk, Jaggery, Butter/Ghee, Cardamom	160	7	7
4	Papaya Sweet	Papaya, Moong dal, Jaggery/date pulp, Ghee	130	1–2	6
5	Egg Suji	Egg, Semolina, Ash gourd, Jaggery/date pulp, Oil	250	7–8	8
6	Healthy Mix (Homemade)	Wheat, Bengal gram, Ragi, Groundnut, Foxtail millet, Cardamom	190	4–9	7
7	Pumpkin Chicken Soup	Pumpkin, Chicken, Potato, Carrot, Ghee, Lemon juice	120	7	5
8	Rice Flakes Banana Blend	Rice flakes powder, Banana, Date pulp, Coconut milk, Ghee	170	2	6

***Courtesy: Jaziya S.** Sr. Dietitian, Ananthapuri Hospital & Research Institute, Thiruvananthapuram

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ARTICLE 3

Nutrition in the First 1000 Days: Building a Lifelong Foundation for India's Future

An Academic Article for the Souvenir of IYCNCON 2026

16th National Conference of the IYCF Subspecialty Chapter of the Indian Academy of Pediatrics

JNMC, Belagavi | 4–6 September 2026

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The **first 1,000 days of life**—spanning from conception through a child's second birthday—represent a critical, non-linear developmental window that **establishes the biological and metabolic foundations for lifelong health, cognitive potential, and physical growth**. During this narrow interval, the brain completes **80% of its adult size** and develops at an unprecedented rate of **one million neural connections per second**, underwritten by extreme biological plasticity. Consequently, nutritional disruptions during this period can cause permanent, irreversible deficits.

Maternal nutrition during the 270 days of gestation serves as the architectural blueprint for development. Inadequate prenatal nutrient density triggers fetal programming pathways that prioritize immediate survival and brain growth at the expense of metabolic organs like the kidneys and pancreas—a phenomenon described by the **Barker Hypothesis**. Under the **Developmental Origins of Health and Disease (DOHaD)** framework, these structural adaptations program a lifelong predisposition to adult hypertension, obesity, and cardiovascular disease.

Following birth, the infant's nutritional trajectory shifts to lactation. **Early initiation of breastfeeding within the "golden hour"** (the first 30–60 minutes) stabilizes newborn physiology, while colostrum serves as an **immunological "first vaccine"** rich in Immunoglobulin A. Human breastmilk functions as **dynamic, personalized medicine**. It contains **Human Milk Oligosaccharides (HMOs)** that feed *Bifidobacterium infantis*, alongside active immune components delivered via the **enteromammary axis** to fine-tune the infant microbiome and mucosal immunity. Scientifically, exclusive breastfeeding for the first six months **prevents over 823,000 child deaths annually** and boosts white matter brain development.

At six months, the **transition to complementary feeding** represents a high-risk juncture where growth faltering often begins. To prevent permanent stunting, toddlers require a **nutrient-dense, diverse diet** containing foods from **at least four of the seven recommended food groups** alongside continued breastfeeding up to two years. Crucially, feeding must be **responsive**, engaging the child's hunger and satiety cues.

In the Indian context, **National Family Health Survey (NFHS-6) data** highlights a vital opportunity: while multiple nutrition deprivations among children fell from **35.5% to 29.3%**, a stark **"nutrition paradox"** persists. Health service coverage is at scale—with **90% institutional births** and **95% antenatal care**—yet **only 15% of children aged 6–23 months receive an adequate diet**, and **only 60% of infants receive timely complementary feeding**. This gap is driven by **maternal "time poverty"** among the 30% of women in paid labor, and a **"processed food trap"** where household spending favors low-nutrient convenience foods over pulses and millets.

Overcoming these challenges requires **multi-sectoral convergence**—uniting health, agriculture, and sanitation—alongside priority actions like **strengthening Anganwadi (AWWs) and ASHA frontline workers**, expanding crèches, and establishing **nutrition governance within Gram Sabhas**. In conclusion, protecting nutrition during this golden interval is the most strategic lever for human capital development, yielding an estimated **35-fold return on investment**.

IYCNCON 2026

Key Take-Home Messages

1. **The Critical 1,000 Days Window:** The 1,000-day period from conception to two years of age is a narrow window of peak biological and brain plasticity. Because 80% of human brain development occurs by age two, nutritional insults during this golden interval cause irreversible structural and functional deficits.
2. **Early Initiation and Exclusive Breastfeeding:** Direct initiation of breastfeeding within the first hour of birth ("the golden hour") regulates neonatal physiology and delivers colostrum, nature's first vaccine. Exclusive breastfeeding for the first six months provides dynamic, personalized medicine and shields infants from infectious diseases, preventing over 823,000 pediatric deaths annually.
3. **The 6-Month Complementary Feeding Junction:** Introducing nutrient-dense complementary foods from at least four of the seven recommended food groups at exactly six months, alongside continued breastfeeding, is a vital juncture to prevent childhood stunting and growth faltering.
4. **The Indian Nutrition Paradox (NFHS-6):** Despite massive gains in maternal healthcare access (e.g., 90% institutional delivery and 95% antenatal care), only 15% of Indian children aged 6–23 months receive an adequate diet. Addressing immediate drivers like dietary diversity and maternal "time poverty" through multi-sectoral convergence is critical for progress.
5. **Economic and Lifelong Returns:** Investing in early childhood nutrition acts as a powerful lever for primordial prevention, reducing the lifetime burden of cardiovascular and metabolic diseases, and offering a massive 35-fold return on investment (\$35 return for every \$1 invested).

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ARTICLE 4

The Human Milk Revolution: New Science, New Perspectives

Dr. Sushma Malik,

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President, Breastfeeding Promotion Network of India (Maharashtra)

For decades, human milk was viewed primarily as the ideal source of nutrition for the growing infant. Recent advances in microbiology, immunology, metabolomics, epigenetics, neuroscience and systems biology have added a new dimension to our understanding of this liquid gold.

Human milk is now proved to a dynamic, living and biologically active system, that communicates with the infant, shapes development and influences health across the lifespan. The “Human Milk Revolution” is therefore not simply about discovering more components of milk; it is about understanding the complex biological messages that human milk delivers.

Human milk's composition changes with gestational age, stage of lactation, maternal physiology and even time of day. Proteins, lipids, hormones, immune mediators, extracellular vesicles, metabolites, microbes and human milk oligosaccharides (HMOs) interact to support maturation of the gut, immune system, metabolism and brain. Recent work emphasises how early-life nutrition and microbiota together participate in long-term health programming.

Epigenetics & infant microbiome has revolutionised our understanding of how early nutritional exposures can influence gene expression without altering the underlying DNA sequence & establishing an appropriate microbial ecosystem. Scientific studies have revealed how HMOs and microbial metabolites are involved in neuronal maturation, synaptic plasticity and neurodevelopment.

Breastfeeding is increasingly considered part of the early-life prevention strategy for non-communicable diseases (NCDs). It contributes to lowering the lifetime risk of obesity and metabolic disease by impacting appetite regulation, insulin sensitivity, immune programming, adiposity and the microbiome.

The Human Milk Revolution ultimately challenges pediatricians to look beyond calories, protein and micronutrients.

ARTICLE 5

From Davanagere Mix to Locally Developed RUTF: Can Karnataka's Nutrition Legacy Inform the Future of Severe Acute Malnutrition Care?

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Abstract

Childhood undernutrition remains a major public-health challenge in India, particularly severe acute malnutrition (SAM) among children living in vulnerable communities. Ready-to-use therapeutic food (RUTF) has become an important component of outpatient management of uncomplicated severe wasting, providing a standardized, energy-dense and micronutrient-fortified therapeutic food. However, cost, local availability, cultural acceptability and dependence on specialized ingredients continue to stimulate interest in locally adapted formulations.

Karnataka has a notable history of food-based nutritional innovation in the form of Davanagere Mix, associated with the Nutrition Rehabilitation Centre at JJM Medical College, Davanagere, and the work of paediatrician Dr. Nirmala Kesaree . The traditional formulation uses ragi, Bengal gram, groundnut and jaggery. A small pilot study published in 2022 reported significant improvement in weight and mid-upper-arm circumference among preschool children receiving Davanagere Mix, although the study was limited by its small sample size and short duration.

The question therefore arises whether the principles underlying Davanagere Mix could be used to develop a scientifically validated, locally sourced therapeutic food meeting contemporary RUTF requirements. Such an approach would require careful formulation, micronutrient fortification, food-safety assessment, stability testing, acceptability studies and ultimately clinical trials. The transition from a traditional nutritional supplement to a therapeutic food should be guided by evidence rather than assumption.

Keywords : severe acute malnutrition; RUTF ; Davanagere Mix; ragi; groundnut; Bengal gram; therapeutic nutrition; India; local foods; child nutrition

Introduction

Malnutrition is not merely a consequence of inadequate food intake; it is the result of an interaction between dietary insufficiency, infection, poverty, feeding practices and the broader social determinants of health. Severe wasting represents the most acute end of this spectrum and is associated with increased morbidity and mortality in young children.

The development of ready-to-use therapeutic food has substantially changed the practical management of uncomplicated SAM in community and outpatient settings. RUTF is a food for special medical purposes formulated to provide high energy density together with appropriate protein, fat, vitamins and minerals. The 2023 WHO guideline recommends RUTF for eligible children aged 6–59 months with severe wasting and/or nutritional oedema receiving outpatient care, with an initial provision of approximately 150–185 kcal/kg/day until anthropometric recovery and resolution of oedema, subject to the clinical and programme context.

Yet an important question remains:

Can therapeutic nutrition be made more locally relevant without compromising scientific standards?

Karnataka's experience with Davanagere Mix offers an intriguing starting point.

Davanagere Mix: A Karnataka nutrition innovation

Davanagere Mix emerged from the work of Dr. Nirmala Kesaree, a paediatrician associated with JJM Medical College and the Nutrition Rehabilitation Centre in Davanagere. Historical documentation describes the mixture

as containing ragi, Bengal gram, groundnuts and jaggery, developed as an inexpensive nutritional supplement for children.

The philosophy behind this formulation was simple but powerful: use foods that are locally available, affordable and culturally familiar.

Ragi provides carbohydrate, calcium and other nutrients; Bengal gram contributes plant protein; groundnut contributes energy, fat and protein; and jaggery provides readily available carbohydrate. Together, these ingredients create a substantially more nutrient-dense food than a cereal-based preparation alone.

This concept is particularly relevant in rural India, where household acceptance, affordability and ease of procurement can determine whether a nutritional intervention is actually sustained.

What does the scientific evidence show?

The published clinical evidence specifically evaluating Davanagere Mix remains limited.

Chilapur and Natekar conducted a pilot study among 19 children aged 3–6 years with mild or moderate malnutrition in Anganwadis in Aihole village, Bagalkot district. Ten children received Davanagere Mix and nine served as controls. The intervention was provided for one month, four days per week. Anthropometric assessment included weight, height and MUAC.

The investigators reported:

Significant improvement in weight: $t = 2.491$, $P < 0.05$

Significant improvement in MUAC: $t = 3.947$, $P < 0.01$

No statistically significant difference in height: $t = 0.540$, $P > 0.05$

These findings are encouraging and provide preliminary evidence that a locally prepared food mixture can contribute to nutritional rehabilitation.

However, the study must be interpreted cautiously. The sample size was only 19 children, the intervention lasted one month, and the participants had mild or moderate malnutrition rather than clearly defined uncomplicated SAM. Consequently, these findings cannot establish Davanagere Mix as an alternative to therapeutic RUTF for SAM.

The appropriate scientific interpretation is that Davanagere Mix has promising preliminary evidence as a nutritional supplement, warranting further investigation.

****RUTF : A different therapeutic category**

The distinction between a nutritional supplement and* RUTF is crucial.

UNICEF's published RUTF composition guidelines describe a ready-to-eat, energy-dense therapeutic food providing approximately 520–550 kcal/100 g, with lipids contributing 45–60% of energy and protein contributing 10–12% of energy. The specification also defines target ranges for numerous micronutrients and fatty acids.

Traditional RUTF formulations have commonly relied on ingredients such as peanut paste, milk products, sugar, vegetable oil and a vitamin-mineral premix. UNICEF also maintains specifications for alternative formulations, including soy- and chickpea-based RUTF, reflecting the continuing effort to identify nutritionally adequate, cost-effective and locally relevant alternatives.

This is important for countries such as India. The goal should not necessarily be to reproduce one international recipe, but rather to determine whether locally available ingredients can meet the same*therapeutic nutritional requirements.

From Davanagere Mix to local RUTF: a possible pathway

Davanagere Mix* could serve as a conceptual foundation for a locally developed therapeutic food, but substantial scientific modification would be required.

A research formulation might retain:

Ragi + Bengal gram + groundnut

while incorporating:

high-quality protein + vegetable oil + sugar/jaggery + a scientifically designed micronutrient premix

The purpose of adding oil would be to increase energy density, while additional high-quality protein could improve amino-acid adequacy. Micronutrient fortification would be essential because food-based ingredients alone cannot be assumed to meet the precise micronutrient requirements of therapeutic feeding.

The resulting product would need to be ready to eat, soft or easily crushable, low in moisture and microbiologically safe, consistent with the characteristics expected of RUTF.

Local ingredients and global standards need not be opposites

One of the most interesting developments in therapeutic nutrition is the increasing investigation of alternative RUTF formulations incorporating locally derived ingredients.

Therefore, the debate should not be framed as:

Traditional food versus modern RUTF.

A more constructive approach is:

Local food knowledge + modern food technology + micronutrient science + clinical validation.

Such a model could potentially produce a therapeutic food that is more affordable, culturally acceptable and locally sustainable while maintaining scientific standards.

A proposed research agenda for *Karnataka

A Karnataka-origin RUTF inspired by Davanagere Mix should progress through clearly defined scientific stages.*

Phase I — Formulation development

Develop several formulations using different proportions of ragi, Bengal gram, groundnut and selected protein and energy sources.

Phase II — Laboratory characterization

Each formulation should undergo analysis of energy, protein, fat, carbohydrate, moisture, fibre, amino-acid quality, essential fatty acids, vitamins and minerals.

Phase III — Safety and stability

Testing should include microbiological quality, aflatoxin contamination, oxidative rancidity, water activity, shelf-life stability and packaging compatibility.

Phase IV — Acceptability

Taste, texture, aroma, caregiver acceptance and actual consumption should be assessed in the target population.

Phase V — Pilot clinical evaluation

A carefully designed clinical study could evaluate weight gain, MUAC recovery, appetite, treatment adherence, tolerance and adverse events.

Phase VI — Randomized controlled trial

Only after satisfactory laboratory and pilot results should the formulation be compared with an established therapeutic food in an adequately powered randomized clinical trial.

The regulatory and ethical boundary

A critical point must be emphasized.

Davanagere Mix should not currently be labelled or marketed as UNICEF RUTF solely on the basis of its traditional composition or the 2022 pilot study.

RUTF is a specialized therapeutic food. Its use forms part of a broader clinical pathway that includes assessment, medical management, breastfeeding and appropriate infant and young-child feeding practices.

Therefore, any locally developed product intended for SAM should undergo appropriate regulatory assessment, laboratory testing, clinical evaluation and institutional/ethical review before therapeutic claims are made.

An opportunity for academic–clinical collaboration

The concept provides an excellent opportunity for collaboration between paediatric departments, nutrition scientists, food technologists, public-health researchers and accredited laboratories.

A potential research programme could be titled:

“Development and Clinical Evaluation of a Locally Sourced, Ragi–Groundnut–Bengal Gram Based Ready-to-Use Therapeutic Food for Children with Severe Acute Malnutrition.”

Such a project could place Karnataka's traditional nutritional knowledge within a modern evidence-generation framework.

The objective should not be to prove beforehand that Davanagere Mix is equivalent to RUTF.

The objective should be to find out scientifically whether it can be transformed into a safe, affordable and effective therapeutic food.

Conclusion

Davanagere Mix represents an important chapter in Karnataka's history of community nutrition. Its greatest lesson may be broader than the recipe itself: nutritional interventions are more likely to succeed when they respect local foods, local economics and local culture.

Modern therapeutic nutrition provides the opportunity to take that principle further.

The future could lie not in replacing traditional nutrition with standardized products, nor in using traditional foods without validation, but in bringing the two approaches together.

Local ingredients.

Scientific formulation.

Micronutrient fortification.

Food safety.

Clinical evidence.

Davanagere gave Karnataka the idea.

The next generation of researchers can determine whether that idea can evolve into a scientifically validated therapeutic food for children with severe acute malnutrition.

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**COMPLIMENTARY FEEDING
DAY CELEBRATION**

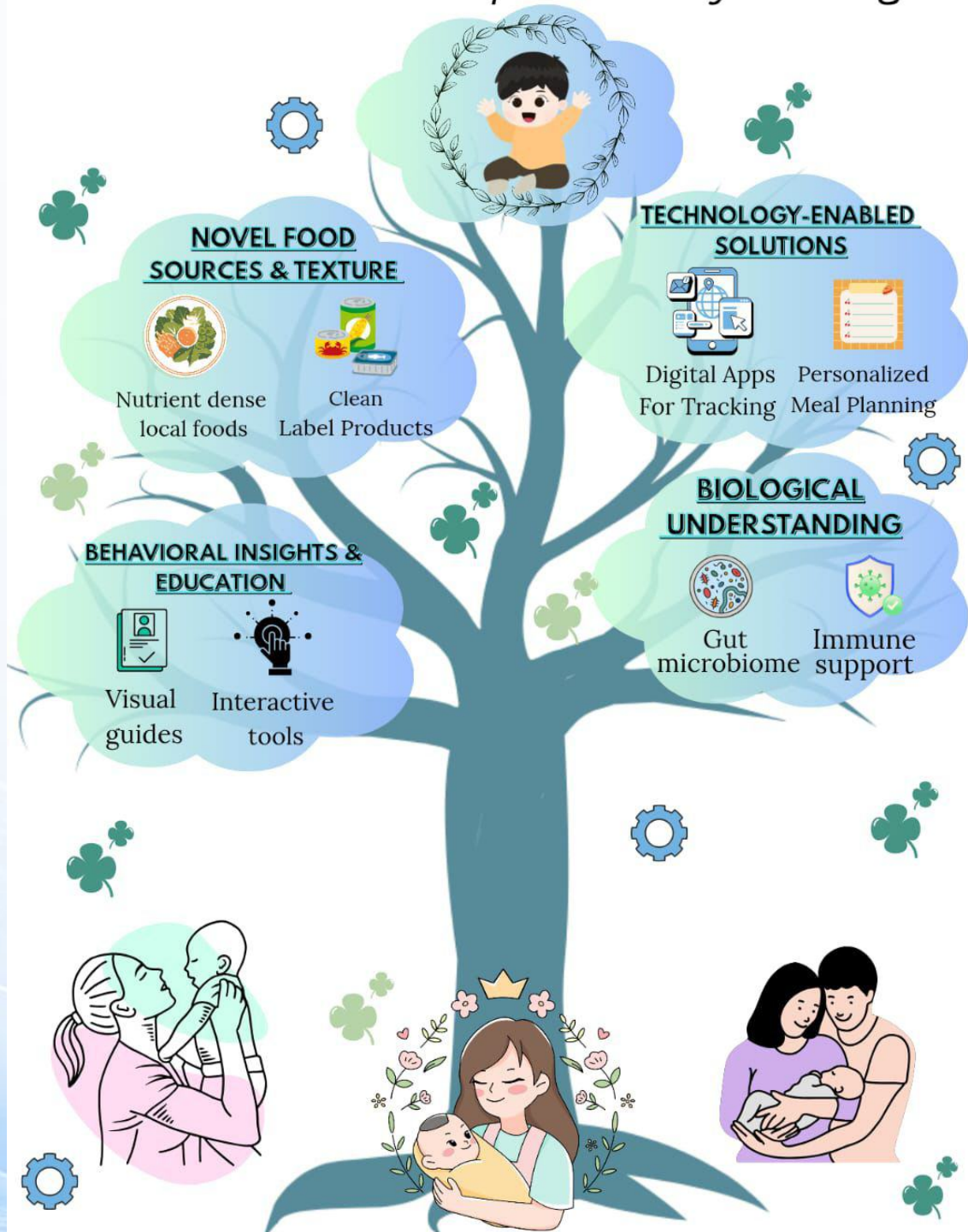
NATIONAL IYCF WITH IAP

UG First Place

Khushi Arora & Amit Ranjan

NOURISH TODAY THRIVE TOMORROW

Innovations in complementary feeding



UG Second Place

Wasim Ahmed & Niharika Saikia



THE FIRST 1000 DAYS

NOURISHING FUTURES

A Smart Complementary Feeding System for 0-2 Years

Track • Feed • Grow • Thrive

The first 1000 days shape a lifetime

THE 8 FOOD GROUPS



ORDER OF INTRODUCING FOODS

START WITH NUTRIENT-DENSE FOODS
(First 6 groups)

Focus on protein and good fats first to support growth, muscle development, and brain development.

1 2 3 4 5 6

INTRODUCE FRUITS AND VEGETABLES LAST
(7th & 8th groups)

Introducing them later helps prevent picky eating and rejection of non-sweet flavors.

7 8

2. NUTRITION LADDER – AGE WISE PROGRESSION

Increase variety, texture and quantity as your child grows.

Age	Feeding Practice	Texture	Frequency	Quantity
UP TO 6 MONTHS	Breastfeeding only		On demand, exclusively.	☐
6-8 MONTHS	Start complementary feeding	Smooth / Puree	2-3 meals/day	Quantity: ½ – 1 katori per meal ☐
8-11 MONTHS	Explore variety & build habits	Mashed / Thick puree	3-4 meals/day	Quantity: ½ – 1½ katori per meal ☐
12-18 MONTHS	Moving to family foods	Soft / Chopped	3-4 meals + 1-2 snacks/day	Quantity: 1½ – 2 katori per meal ☐
18-24 MONTHS	Family foods, healthy habits	Family food (cut small)	3-4 meals + 2 snacks/day	Quantity: 2 – 2½ katori per meal ☐

ALLERGY CHECK

Introduce new foods separately first to check for any allergic reactions before combining them with other items.

INTRODUCE A NEW FOOD EVERY 4TH DAY

Introduce a new food once every 4th day.

START WITH ONE TABLESPOON

Start with 1 tablespoon alongside previously accepted foods, and gradually increase the amount daily.

TRACKING GROWTH (6 MONTHS – 2 YEARS)

Age	Weight Gain	Height Gain
6-9 MONTHS	2-3 kg	2.5 cm/month
9-12 MONTHS	1.5-2.5 kg	1.5-2 cm/month
12-18 MONTHS	1-2 kg	1-1.5 cm/month
18-24 MONTHS	1-1.5 kg	1-1.5 cm/month

HOW TO TRACK

- Weigh regularly
- Measure height monthly
- Plot on growth chart
- Consult health worker if growth is not as expected

SIGNS OF GOOD COMPLEMENTARY FEEDING

1. ACTIVE & PLAYFUL

Child is active, alert and playful.

2. STEADY GROWTH

Steady weight gain and height increase as per age.

3. GOOD APPETITE

Eats with appetite and shows interest in food.

4. HEALTHY DIGESTION

Regular bowel movements, no constipation or diarrhea.

5. STRONG IMMUNITY

Fewer illnesses, healthy and energetic.

6. DEVELOPMENT ON TRACK

Achieves milestones like sitting, standing, walking, talking as expected.

YOU ARE DOING AN AMAZING JOB, MAMA!

SMART FEEDING TODAY, STRONGER GENERATIONS TOMORROW

ANY DOUBT?

ASK YOUR ASHA / ANM / ANGANWADI WORKER

PG First

Dr. Pradipta & Dr. Archi Jain

Watch the baby, not the bowl



What do I feed
in summers?



Offer breast milk more frequently

Keep feeding schedules flexible
(if appetite decreases slightly)

Include water-rich fruits & veggies

Offer boiled and cooled sips of water



Lean In • Reach Out • Watch Closely

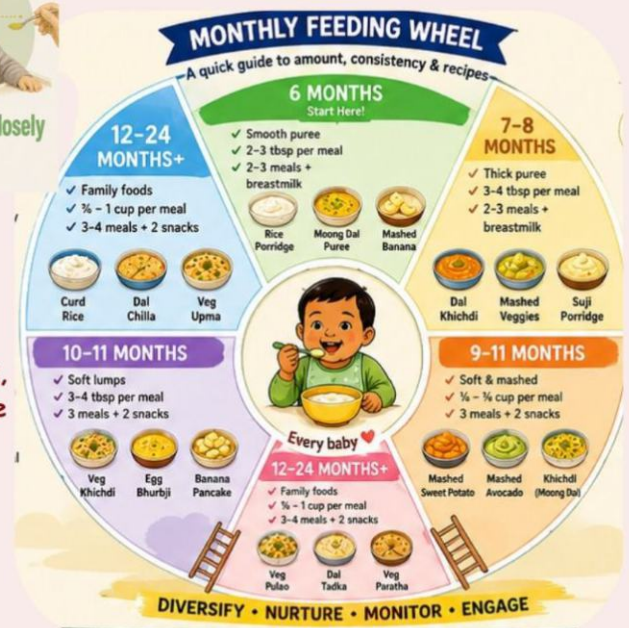
These are your baby's hunger cues.
When you see them, it may be time to offer food.

No Sugar.
No Salt.
Just Smart Nutrition.

Breast milk, fruits, vegetables,
and home-cooked foods provide
all the flavor babies need.



THE ROAD TO A HEALTHY 2 YEARS



PG Second

Dr. Riya Ghosh & Dr. Aditi Badhe

INNOVATIONS IN COMPLEMENTARY FEEDING

ADVANCING NUTRITION FOR INFANTS & TODDLERS

NUTRIENT-DENSE SOLUTIONS



Fortified Cereals Purees with Iron-rich foods Fortified Pouches

Emphasizing Iron, Zinc, & Key Nutrients.
Fortified options, Diverse Ingredients.

BABY-LED WEANING (BLW)



Encouraging Independence & Self-Feeding.
Safe finger foods from an early age.

CULTURAL & LOCAL DIVERSITY



Exploring a World of Flavors & Tastes.
Incorporating diverse and traditional foods.

RESPONSIVE FEEDING



Listening to Baby's Hunger & Fullness Cues.
Positive feeding relationships.

SUSTAINABLE CHOICES



Eco-Friendly & Locally Sourced Ingredients.
Fresh, seasonal produce, reduced waste.

DIGITAL TOOLS & GUIDANCE



Using Technology for Personalized Advice, Trackers,
& Reliable Information.

CONSULT YOUR HEALTHCARE PROVIDER

SUSTAINABLE, SAFE, AND JOYFUL FEEDING JOURNEY

ABSTRACTS **PAPER**

Sustainability and Determinants of Exclusive Breast Milk Feeding in Preterm Infants (<34 weeks): A Prospective Longitudinal Cohort Study.

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ABSTRACT

Objective: To evaluate sustainability of EBMF at 6 months corrected age among preterm infants (<34 weeks), identify maternal and neonatal determinants of sustained EBMF, and compare re-hospitalization rates between exclusively breastfed and mixed/formula-fed infants during 6-month follow-up.

Methods: This cohort study was conducted in a Level III NICU over 8 months. Preterm infants <34 weeks discharged on mother's own milk (direct breastfeeding or expressed breast milk via spoon feeding) were consecutively enrolled. Infants with feeding-interfering congenital anomalies, neurological dysfunction, or maternal contraindications to breastfeeding were excluded. Demographic, clinical, and feeding data were collected during hospitalization. Telephonic follow-up continued for 6 months: fortnightly for 3 months, followed by monthly.

Results: Among 66 preterm infants, 100% received exclusive breast milk feeding at discharge. EBF declined to 80.6% at 2 months, with all 12 cessations occurring within 3 months; perceived insufficient milk was the leading cause. Twin birth increased cessation risk (HR 4.01), while higher gestational age was protective (HR 0.68, $p=0.005$). Perceived insufficient milk accounted for 83% of discontinuations. Re-hospitalization, predominantly for respiratory illness, was higher with mixed feeding (RR 8.33; 95% CI 2.92–23.75).

Conclusion: Exclusive breast-milk feeding was sustained through six months ($\approx 80\%$), with all attrition occurring in the first three months. Twin birth was the strongest determinant of EBF cessation, while higher gestational age was protective. Perceived insufficient milk drove most discontinuation, highlighting an actionable target for support.

Keywords: Exclusive breast milk feeding, Determinants, Preterm

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Evaluation Of Vitamin B12 Deficiency And Associated Clinical Features In Pediatric Patients

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Background: Vitamin B12 deficiency is a nutritional disorder in childhood and may present with hematological, mucocutaneous and neuro developmental abnormalities. Early identification is essential because neurological manifestations may occur with variable hematological findings and delayed treatment may cause persistent neurological sequelae.

Objectives: To characterize vitamin B12 deficiency in children and evaluate relationships between serum vitamin B12 concentrations and demographic, nutritional, developmental, clinical and hematological parameters

Methods: A prospective observational study was conducted in the Department of Pediatrics, S.S. Institute of Medical Sciences and Research Centre, Davangere. Children with low serum vitamin B12 underwent structured clinical, dietary, nutritional and developmental assessment, complete blood count, peripheral smear and serum vitamin B12 estimation. The present analysis included 46 children.

Results: The mean age was 7.97 ± 5.95 years, with 58.7% aged >5 years; sex distribution was equal. Mean serum Vitamin B12 was 124.5 ± 37.1 pg/mL, and 26.1% had levels <100 pg/mL. Pallor was present in 100%, followed by knuckle hyperpigmentation (60.9%), easy fatigability (58.7%), glossitis (39.1%), cognitive/behavioral abnormality (26.1%) and developmental regression (17.4%). Serum Vitamin B12 increased significantly with age (Spearman $\rho = 0.675$, $p < 0.001$) and correlated positively with PCV ($\rho = 0.677$, $p < 0.001$) and negatively with MCV ($\rho = -0.485$, $p < 0.001$).

Conclusion: Vitamin B12 insufficiency in children resulted in a diverse clinical and haematological phenotype. The substantial associations between age and red-cell indices highlight the importance of clinical suspicion and biochemical testing even in the absence of classical macrocytosis or neurological symptoms.

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Development and Validation of Standardized Survey Instruments for Assessing Knowledge, Practices, and Programme Delivery under the Home-Based Care for Young Child (HBYC) Programme

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Background: Home-Based Care for Young Child (HBYC) is an important community-based strategy for promoting appropriate infant and young child feeding, growth monitoring, immunization, hygiene, recognition of childhood illness and timely referral. Standardized tools to simultaneously assess programme delivery by ASHA workers and child-care practices among mothers are essential for programme evaluation.

Objectives: To develop and validate standardized HBYC assessment tools for ASHA workers and mothers, and to assess HBYC programme delivery and maternal child-care practices using the developed tools.

Methods: A methodological questionnaire-development and validation study was conducted in Belagavi, Karnataka. An initial item pool was developed from HBYC programme guidance and relevant literature and reviewed by 15 Community Medicine experts across Reputed Medical Colleges. Content validity was assessed using Item Content Validity Index (I-CVI) and Scale Content Validity Index/Average (S-CVI/Ave). The revised tools were pilot tested among 15 ASHA workers and 30 mothers of young children. Internal consistency was assessed using Cronbach's alpha. Two programme-related outcome measures were developed: ASHA HBYC Programme Delivery /Practice Score and Maternal Child-care Practice Score.

Results: The ASHA tool demonstrated an I-CVI range of 0.87–1.00 and S-CVI/Ave of 0.992, while the maternal tool demonstrated an I-CVI range of 0.73–1.00 and S-CVI/Ave of 0.983. Cronbach's alpha ranged from 0.81–0.92 for ASHA domains and 0.78–0.93 for maternal domains. The mean ASHA programme delivery/practice score was $19.2 \pm 3.95/33$, while the mean maternal child-care practice score was 10.17 ± 3.40 .

Conclusion: The developed tools demonstrated excellent content validity and acceptable-to excellent internal consistency. They provide structured measures for assessing HBYC programme delivery and maternal child-care practices and may support future programme evaluation.

Complimentary Feeding Practices And Nutritional Status Of Children Aged 6 To 24 Months

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Introduction: The first two years of life are critical for growth, and inadequate complementary feeding contributes significantly to childhood undernutrition. This study assesses complementary feeding practices and their association with nutritional status among children aged 6–24 months.

Aims and Objective: To assess the relationship between complementary feeding practices and nutritional status among children aged 6–24 months, and to evaluate the association with maternal knowledge and behavior .

Materials and Methods: A hospital-based prospective observational study was conducted among 365 children aged 6- 24 months. Data on complementary feeding practices and anthropometric measurements were collected. Nutritional status was assessed using WHO Zscores

Results: The prevalence of underweight, stunting, and wasting was 39.7%, 37.0%, and 46.0% respectively. Timely initiation of complementary feeding was observed in only 51.2% of children. Exclusive breast feeding till six months was practiced by 59.7%. Minimum dietary diversity was adequate in 38.8%, and only 9.0% received a minimum acceptable diet. Significant associations were found between wasting and exclusive breastfeeding ($p<0.001$), minimum meal frequency ($p<0.001$), and dietary diversity score ($p=0.04$). Dietary diversity score showed a significant inverse association with stunting ($p=0.03$) and underweight ($p=0.002$). Low birth weight, preterm gestation, and lower maternal education were significant risk factors for undernutrition.

Conclusion: Suboptimal complementary feeding practices, poor dietary diversity, are significantly associated with undernutrition. Targeted nutrition education and dietary diversification programs are needed

Keywords: Complementary feeding, nutritional status, underweight

Cross Sectional Study Of Feeding Problems In Late Preterm Babies Admitted To Tertiary Care Centre

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Background: Late preterm infants ($34\frac{0}{7}$ – $36\frac{6}{7}$ weeks of gestation) are physiologically immature and are at increased risk of feeding difficulties, which contribute to delayed breastfeeding, prolonged hospital stay, and neonatal morbidity. This study was conducted to determine the prevalence of feeding problems and identify factors associated with early initiation of breastfeeding (EIBF) among late preterm babies admitted to a tertiary care centre.

Need for the study: To identify feeding problem in late Preterm and reason associated with delayed feeding and to address the issue in order to ensure initiation of early breastfeeding

Objective: 1) To determine the feeding problems in late Preterm babies admitted to tertiary care centre
2) To determine the factors affecting early initiation of breastfeeding

Methods: It is hospital based cross sectional study conducted on 140 late Preterm babies ($34\frac{0}{7}$ to $36\frac{6}{7}$) admitted in SNCU and Postnatal wards of BMC and RC , a tertiary care centre in Ballari district, Karnataka from January 2025 to July 2026. Sample size of 150 was taken and Maternal characteristics, neonatal variables, breastfeeding practices, feeding difficulties, clinical complications, Kangaroo Mother Care (KMC), antenatal counselling, and discharge feeding outcomes were recorded using a structured proforma. Statistical analysis was performed to determine factors significantly associated with EIBF ($p < 0.05$).

Cross Sectional Study Of Feeding Problems In Late Preterm Babies Admitted To Tertiary Care Centre (Contd)

Results: Feeding problems were identified in 57.1% of neonates. The commonest difficulties were latching difficulty (41.4%), sleepy infant behaviour (30.0%), and perceived inadequate milk (27.1%). Although 70.0% of babies received mother's milk as the first feed, only 37.1% achieved EIBF and 34.3% were exclusively breastfed at discharge. Significant positive associations with EIBF were observed with Kangaroo Mother Care (48.8% vs. 18.5%; $p=0.0003$) and antenatal breastfeeding counselling (46.3% vs. 24.1%; $p=0.0074$). Caesarean delivery, prelacteal feeding, lower gestational age, and latch difficulties were associated with poorer breastfeeding outcomes. Neonates without feeding difficulties achieved higher exclusive breastfeeding rates at discharge than those with feeding problems (46.7% vs. 25.0%).

Conclusion: Feeding problems are highly prevalent among late preterm infants and significantly compromise breastfeeding success. Routine feeding surveillance, universal KMC, strengthened antenatal counselling, avoidance of prelacteal feeds, and early lactation support—particularly following caesarean delivery—may substantially improve early breastfeeding initiation and exclusive breastfeeding at discharge in this high-risk group.

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Cross Sectional Study Of Feeding Problems In Late Preterm Babies Admitted To Tertiary Care Centre (Contd)

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A Quality Improvement Initiative To Improve Expressed Breast Milk In Mothers Of Very Preterm And Moderate Preterm Infants Through Multimodal Approach.

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Background: Very preterm and moderate prem infants benefit substantially from MoM, yet establishing adequate milk production after preterm birth can be challenging. In our tertiary neonatal unit, low expressed breast milk volumes and delayed lactational counselling were identified as barriers to MoM feeding.

Objectives: By day 7, preterm babies require 180 ml/kg/day and a 24-hour milk volume of 320 ml was considered adequate. The aim was to improve day 7 expressed milk volume from a baseline mean of 104 ml (52 ml/kg/day) to 320 ml within 12 months.

Methods: This QI initiative was conducted in a 20-bed Level 2 NICU from October 2025 to July 2026. Stable inborn very and moderate preterm mothers were enrolled. Baseline expressed milk volumes were monitored during the first week. Barriers were addressed through multimodal approach like structured breastfeeding counselling, early and frequent milk expression, increased KMC hours, music therapy, meditation therapy, nutritional therapy, Domperidone and DHA supplementation. Interventions were tested through PDSA cycles and monitored using run charts.

Results: 47 mother-infant dyads, including three twins, were included in the intervention phase. By 3 months, 6 months and 9 months of intervention phase, day 7 mean volume increased to 172 ml, 249ml and 330ml respectively from baseline 104 ml. Mean time to first expression decreased to 3 hours, with increased expression frequency.

Conclusion: This ongoing QI initiative demonstrates that a multimodal approach with targeted interventions can improve expressed milk volumes. Integrating early lactation support into neonatal care may strengthen MoM provision for preterm infants.

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Evaluation Of Diagnostic Accuracy Of Who Cut-off Of Mid-upper Arm Circumference (muac) In Comparison To Weight-for-height Z-score (whz) In Screening Of Severe Acute Malnutrition (sam)

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Background: Childhood malnutrition remains a major public health challenge and contributes to nearly 35% of deaths among children under five years. Poor nutrition in the first 1,000 days adversely affects growth, cognitive development and future productivity. MUAC is a simple, low-cost screening tool, but diagnostic accuracy may vary across populations.

Objectives: To evaluate sensitivity and specificity of the WHO MUAC cut-off (11.5 cm) against WHZ <-3 SD for screening SAM among children aged 6–59 months, and determine the optimal MUAC cut-off.

Methods: A hospital-based cross-sectional observational study was conducted from March 2024 to February 2025 at BIMS Belagavi. Seventy-two children aged 6–59 months with SAM (WHZ <-3 SD) were included; generalized oedema and limb deformities were excluded. MUAC, weight and height/length were measured using standardized techniques. ROC analysis assessed diagnostic performance.

Results: Mean age was 26.92 ± 15.65 months; 59.7% were males. Mean MUAC was 11.94 ± 1.09 cm. Using the WHO cut-off of 11.5 cm, 40.3% were identified as SAM. ROC analysis showed an optimal MUAC cut-off of 12.20 cm with 50% sensitivity, 75% specificity and Youden Index 25%.

Conclusion: The WHO MUAC cut-off of 11.5 cm showed low sensitivity in this setting. A higher threshold of 12.20 cm demonstrated better diagnostic performance. Reevaluation of MUAC cut-offs for SAM is warranted to improve case detection.

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A Short Term Study Of Social Demographic Factors , Clinical Profile, Risk Factors And Outcome Of Neonatal Hypoglycemia In Small Vulnerable Newborns

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Background: Neonatal hypoglycemia is one of the most common metabolic emergencies encountered during the neonatal period, particularly among preterm and low birth weight (LBW) infants. Delayed initiation of breastfeeding and inadequate feeding are recognized as important modifiable risk factors. This study aimed to evaluate the relationship between early breastfeeding practices and the occurrence of neonatal hypoglycemia.

Need for the study: Neonatal hypoglycemia is the most common metabolic problem in newborn babies and it is a preventable cause of brain injury .It is common affecting 5-15%of all babies and approximately half of at risk babies and is associated with range of adverse sequele .

Objective: To determine the frequencies , Risk factors and outcomes associated with neonatal hypoglycemia in preterm and low birth weight babies and it's correlation to breastfeeding

Methods: A prospective cohort study was conducted in the neonatal intensive care unit of a tertiary care teaching hospital. A total of 236 preterm (<37 weeks) and/or LBW (<1.5 kg) neonates were enrolled. Blood glucose levels were monitored according to institutional protocol during the first 72 hours of life. Data regarding initiation of breastfeeding, exclusive breastfeeding, expressed breast milk feeding, and feeding delays were collected. Maternal and neonatal risk factors were also documented. The primary outcome was the incidence of neonatal hypoglycemia and its association with breastfeeding practices.

Results: Among the enrolled neonates, 105 developed hypoglycemia, with the highest incidence occurring within the first 24 hours of life . Delayed initiation of breastfeeding and interruptions in enteral feeding were significantly associated with hypoglycemia. Infants who received early breast milk feeding had a lower frequency of hypoglycemic episodes and required fewer intravenous glucose interventions. Prematurity, very low birth weight, infants of diabetic mothers, birth asphyxia, and neonatal sepsis further increased the risk of hypoglycemia These babies who were 'at risk ' constituted 45% and 27% had hypoglycemia in at risk babies.

A Short Term Study Of Social Demographic Factors , Clinical Profile, Risk Factors And Outcome Of Neonatal Hypoglycemia In Small Vulnerable Newborns (Contd)

Conclusion: Early initiation and maintenance of breastfeeding play a crucial role in reducing the incidence of neonatal hypoglycemia among preterm and LBW infants. Strengthening breastfeeding support and ensuring timely feeding in high-risk neonates may improve glycemic stability and neonatal outcomes

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Association Between Complementary Feeding Practices and the Risk of Severe Acute Malnutrition Among Children Aged 6–24 Months

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Background: 6 - 23 months of age is a period of tremendous potential and enormous vulnerability. This age group is critical period for physical growth and cognitive development¹. Children receiving inadequate complementary feeds are vulnerable to poor cognition, stunting and risk of acquiring infectious diseases like pneumonia and diarrhea². According to NFHS-5, 35.5% of Indian children under 5 years are stunted and 19.3% are wasted, highlighting the need to improve complementary feeding practices³. This study aims to assess Association Between Complementary Feeding Practices and the Risk of Severe Acute Malnutrition Among Children Aged 6–24 in Maharashtra, India.

Methods: A cross-sectional observational study was conducted among 310 mother–child dyads at a tertiary care centre in Maharashtra. Mothers were interviewed using pre-validated questionnaire on complementary feeding practices. Anthropometric assessment of all children was done. Data collected was analysed using SPSS 17.0, with multivariate logistic regression. $p < 0.05$ considered statistically significant.

Results: Majority of children (82.6%) had timely initiation of complementary feeding, 2.6% had early and 14.8% had delayed initiation of complementary feeding. The most common foods introduced were biscuits (25.16%), rice gruel (13.23%), rava ganji (10.65%) and roti (10.32%). Present study showed that 152 (49.03%) of 310 children who participated had severe acute malnutrition. When factors like Minimum Meal frequency (MMF) and Minimal acceptable diet (MAD) were considered, more frequent meals were linked to a lower chance of SAM [coefficient of -0.7021 ($p = 0.022$)] while MAD [coefficient of 0.0781 ($p = 0.950$)] does not have a reliable impact on SAM.

Conclusion: Complementary feeding practices adopted were not adherent to IYCF practices. Children who achieved MMF were less likely to have SAM. Present study highlights the need for strengthening of health programs specially addressing the complementary feeding practices and national nutritional programs.

Association Between Complementary Feeding Practices and the Risk of Severe Acute Malnutrition Among Children Aged 6–24 Months

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Background: Breastfeeding is the optimal method of infant feeding, offering important nutritional, immunological, and psychological benefits. Despite recommendations for exclusive breastfeeding, primiparous mothers often face difficulties due to inexperience, inadequate counselling, and perinatal factors. These may result in delayed initiation, improper technique, and early supplementation. Early identification of breastfeeding difficulties is essential to improve exclusive breastfeeding rates and neonatal outcomes.

Objectives:

1. To assess breastfeeding difficulties among primiparous mothers delivered at BMCRC, Ballari.
2. To identify maternal, perinatal, and neonatal factors associated with breastfeeding difficulties.

Methodology: This hospital-based observational study was conducted at BMCRC, Ballari. Primiparous mothers with live newborns were included after informed consent. Mothers with contraindications to breastfeeding and neonates with major congenital anomalies were excluded. Data were collected using a structured proforma covering sociodemographic details, antenatal and perinatal history, breastfeeding practices, position and attachment assessment, LATCH score, perceived barriers, and breast or nipple problems. Breastfeeding adequacy was assessed by feeding frequency, urine output, stool frequency, and maternal breast fullness. Data were analysed using appropriate descriptive and inferential statistical methods

Conclusion: Breastfeeding difficulties were more common among mothers aged 21–25 years, those from low socio-economic backgrounds, and those with school-level education. Intrapartum events affecting immediate mother–baby contact and positioning difficulties persisted despite postnatal counselling. Breast and nipple problems impaired latch, leading to ineffective suckling and perceived milk insufficiency.

Keywords: Breastfeeding difficulties, Primiparous mothers, LATCH score, Exclusive breastfeeding.

Barriers and Facilitators to Human Milk Donation Among Postnatal Mothers

Background: Donor human milk (DHM) is an important source of nutrition for infants who are unable to receive adequate mother's own milk, particularly preterm and low-birth-weight infants. Human milk banking provides safe, pasteurized donor milk and can support optimal neonatal nutrition. However, adequate availability of donor milk depends on the willingness of lactating mothers to donate. Understanding the barriers and facilitators influencing human milk donation is therefore essential for improving donor recruitment.

Objectives: To identify the barriers and facilitators influencing human milk donation among postnatal mothers and to assess factors associated with their willingness to donate human milk.

Methods: A hospital-based cross-sectional study was conducted among postnatal mothers attending a tertiary care hospital. Participants were assessed using a structured, pretested questionnaire covering socio-demographic characteristics, knowledge regarding human milk donation, willingness to donate, perceived barriers, and facilitating factors. The collected data were analyzed using appropriate descriptive and inferential statistical methods.

Results: The major barriers to human milk donation identified were inadequate knowledge regarding human milk donation and human milk banks, concerns about insufficient milk for their own infant, fear of weakness or adverse health effects, lack of awareness regarding the donation process, and practical difficulties related to expression, storage, and transportation of milk. Misconceptions and inadequate family support were additional barriers. Important facilitators included adequate knowledge about the benefits and safety of donor human milk, counselling by healthcare professionals, reassurance regarding sufficient milk for the mother's own infant, convenient milk expression and collection facilities, and positive family support. Appropriate counselling by healthcare professionals was associated with greater willingness to donate.

Conclusion: Lack of awareness, misconceptions, concerns regarding milk adequacy, and practical difficulties are important barriers to human milk donation. Counselling by healthcare professionals, family support, accessible milk-bank services, and improved awareness regarding the safety and benefits of donor human milk may facilitate donation. Incorporating structured human milk donation counselling into antenatal and postnatal care could help increase donor recruitment and improve the availability of donor human milk for vulnerable infants.

Barriers and Facilitators to Human Milk Donation Among Postnatal Mothers (Contd)

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Effect of Educational Intervention on KAP of Nursing Mothers Receiving Kangaroo Mother Care and Its Impact on Weight Gain

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Background: Kangaroo Mother Care (KMC) is a simple, low-cost intervention that improves outcomes in low-birth-weight (LBW) neonates. Maternal knowledge, attitude, and practice (KAP) influence its effectiveness.

Aim: To assess maternal KAP regarding KMC and determine the impact of audiovisual educational intervention on KAP and infant weight gain.
Materials and Methods: This randomised controlled trial was conducted in the KMC ward of Belagavi Institute of Medical Sciences, Karnataka. Seventy-nine mother–baby dyads were randomised into an intervention group (n=39) receiving audiovisual KMC education and a control group (n=40) receiving standard counselling. Maternal KAP was assessed using a prestructured questionnaire. Infants were followed up at 1, 2, and 3 months after discharge. Data were analysed using SPSS 23.0.

Results: Baseline characteristics were comparable between groups. Knowledge scores improved significantly in the intervention group at discharge (23.9 ± 0.38 vs 21.63 ± 3.31 , $p < 0.001$). Significant improvements were also observed in attitude (6.98 ± 0.16 vs 6.70 ± 0.62 , $p = 0.005$) and practice scores (9.38 ± 1.39 vs 6.0 ± 1.97 , $p < 0.001$). Mean weight gain was significantly higher in the intervention group at 2 months (25.32 ± 8.09 vs 22.43 ± 4.99 g/day, $p = 0.005$) and 3 months (25.21 ± 6.75 vs 22.69 ± 3.81 g/day, $p = 0.004$).

Conclusion: Audiovisual educational intervention significantly improves maternal KAP regarding KMC and is associated with better infant weight gain. Strengthened, structured counselling should be advocated to enhance the effectiveness of KMC.

Comparative Evaluation Of Three Hospital-grade Breast Pumps In Donor Human Milk Banking: A Randomized Three-period Crossover Trial

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Background: In donor human milk banking, efficient and comfortable milk expression is essential to sustain pasteurized donor human milk availability for vulnerable neonates when mother's own milk is unavailable or insufficient.

Objective: To compare milk expression performance and maternal experience with three hospital-grade electric breast pumps among donor lactating mothers.

Methods: This prospective randomized three-period crossover trial was conducted from January to June 2026 at Rotary's Jeevamruta Donor Human Milk Bank, Karnataka Medical College and Research Institute, Hubballi, India. Ninety-five donor mothers were randomized to one of six pump-use sequences and used Medela Symphony, Ardo Carum, and Spectra S2 on three consecutive days. Bilateral expression was performed using manufacturer-recommended settings with individualized flange sizing. The primary outcome was single-session milk expression volume. Secondary outcomes included pumping duration, efficiency, comfort, ease of use, pain, perceived noise, and willingness to reuse the pump. Data were analyzed using the Friedman test with Wilcoxon signed-rank post-hoc analysis and linear mixed-effects modeling.

Results: All 95 participants completed the study. Milk expression volume differed significantly among pumps ($P=0.031$), with Medela yielding higher volume than Ardo (mean difference 11.0 mL; 95% CI 3.6–18.4; adjusted $P=0.026$). Mean expressed volumes were 40.3 ± 40.3 mL with Medela, 32.8 ± 24.2 mL with Spectra, and 29.3 ± 29.1 mL with Ardo. Comfort, ease of use, pain scores, and willingness to reuse differed significantly (all $P<0.01$), favoring Medela. Pumping duration, efficiency, and perceived noise were comparable.

Comparative Evaluation Of Three Hospital-grade Breast Pumps In Donor Human Milk Banking: A Randomized Three-period Crossover Trial

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Conclusions: While all three hospital-grade pumps demonstrated similar operational performance, Medela provided modestly higher milk yield and superior maternal experience. Pump selection in donor milk banks should therefore integrate maternal comfort with expression performance and service feasibility.

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“Assessment Of Knowledge, Attitude And Practices Regarding Human Milk Donation Among Postnatal Mothers In A Tertiary Care Centre Ballari “

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Background: Breast milk is the optimal source of nutrition for newborns and provides important benefits for growth, immunity and neurodevelopment. Donor human milk is particularly valuable for preterm, low-birth-weight and sick neonates when mother's own milk is unavailable or insufficient. Despite increasing availability of human milk banks in India, awareness and participation in milk donation remain limited.

Objective: To assess the knowledge, attitude and practices of postnatal mothers regarding human milk donation and acceptance of donor human milk; identify barriers and motivating factors influencing willingness to donate; and provide recommendations to improve awareness and participation in human milk donation programs.

Methods: A hospital-based cross-sectional study will be conducted among 400 postnatal mothers admitted to Gulbarga Institute of Medical Sciences, Kalaburagi, from July 2025 to December 2026. Participants will be selected by simple random sampling. After obtaining written informed consent, data will be collected using a pretested semi-structured questionnaire administered by interview. Knowledge will be assessed using Yes/No/Don't Know questions, while attitude and motivating factors will be assessed using a five-point Likert scale. Barriers to donation will also be evaluated. Data will be analysed using appropriate statistical methods, with $p < 0.05$ considered statistically significant.

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Results : The study is expected to identify gaps in knowledge, prevailing attitudes, existing practices, and major barriers and motivators influencing human milk donation.

Conclusion: The findings may help develop targeted counselling and educational interventions to improve awareness and promote human milk donation, thereby enhancing the availability of donor human milk for vulnerable neonates.

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ABSTRACTS **POSTER**

Impact of Structured Breastfeeding and Lactation Counselling on Feeding Outcomes in Very Low Birth Weight Infants After NICU Discharge

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Background: VLBW/ELBW infants are at increased risk of feeding difficulties and inadequate post-NICU weight gain. Structured breastfeeding and lactation counselling may support effective breastfeeding, KMC and growth.

Methods: A prospective observational follow-up was conducted among 20 VLBW/ELBW infants attending NICU follow-up OPD. Mothers received individualized counselling on breastfeeding, positioning and attachment, perceived low milk supply, feeding frequency and KMC. Infants were assessed weekly for breastfeeding and weight gain; after reaching 2 kg, follow-up continued at 15-day intervals.

Results: Almost all infants were exclusively breastfed. About 50% of mothers required additional support, mainly for positioning, attachment and concerns about milk supply. Mean birth weight was 1020 ± 231 g, increasing to 1555 ± 164 g at NICU discharge, 1687 ± 185 g at first follow-up and 2066 ± 305 g at second follow-up. Mean NICU stay was 39.4 ± 16.8 days. Weight increased significantly at each stage ($p < 0.001$). Mean gain from birth to second follow-up was 1046 g (109%). Nineteen infants (95%) achieved ± 1.5 times birth weight and 10 (50%) achieved ± 2 times birth weight. KMC increased from approximately 2 to 8 hours/day after counselling.

Conclusion: Structured counselling with regular follow-up was associated with improved breastfeeding support, increased KMC participation and substantial weight gain among VLBW/ELBW infants.

Keywords: VLBW, ELBW, breastfeeding, lactation counselling, NICU follow-up, KMC, weight gain.

Impact of Breastfeeding and Lactation Counselling on Post-discharge Weight Gain in Very Low Birth Weight Infants

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Background: Very low birth weight (VLBW) infants are at increased risk of growth failure after NICU discharge. Breastfeeding and lactation counselling, along with Kangaroo Mother Care (KMC) and appropriate postnatal diet (PNC diet), may improve breastfeeding practices and support growth. This study was conducted in a tertiary care hospital to assess post-discharge weight gain among VLBW infants receiving follow-up care.

Methods: An observational follow-up study was conducted among 100 VLBW infants with birth weight <1500 g discharged from the NICU. Mothers received breastfeeding and lactation counselling during follow-up, including breastfeeding technique, management of feeding difficulties, KMC and PNC diet. Birth weight, discharge weight, first follow-up weight and second follow-up weight were recorded. Follow-up weights were measured using the same weighing machine.

Results: Mean birth weight was 1132.6 ± 198.0 g and mean discharge weight was 1499.4 ± 160.1 g. Mean weight increased to 1689.9 ± 200.9 g at first follow-up and 2063.7 ± 312.7 g at second follow-up. Mean weight gain from discharge to first follow-up was 189.0 g ($p < 0.001$), with a further gain of 373.8 g between follow-ups ($p < 0.001$). Overall mean weight gain from discharge to second follow-up was 565.4 g ($p < 0.001$).

Conclusion: VLBW infants demonstrated weight gain during post-discharge follow-up. Breastfeeding and lactation counselling, supported by KMC and appropriate PNC diet, may contribute to improved feeding practices and post-discharge growth.

Keywords: Very low birth weight, breastfeeding, lactation counselling, Kangaroo Mother Care, PNC diet, post-discharge growth, weight gain, NICU follow-up.

Validation of Responsive feeding practices Assessment tool for evaluating complementary feeding practices among south indian infants – a cross sectional study

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Background: Complementary feeding begins at 6 completed months alongside continued breastfeeding¹. Responsive feeding (RF) refers to feeding practices that encourage autonomous eating in response to a child's physiological and developmental needs, supporting self-regulation and cognitive, emotional, and social development^{1,2}. Despite its importance, gaps persist in caregiver awareness and health-system support for RF, particularly in low- and middle-income settings^{2,3}.

Objective: To validate the Responsive Feeding Practices Assessment Tool among infants aged 6–12 months in South India.

Methods: A cross-sectional study was conducted among 84 mother–infant dyads. RF practices were assessed using a 15-item, five-point Likert-type Responsive Feeding Assessment Tool, comprising three domains: feeding environment and schedule (A1–A7), recognition of hunger and satiety cues (B8–B9), and feeding interaction and child autonomy (C10–C15). Descriptive statistics were used to evaluate item-level responses and domain and overall scores. Missing responses were assessed for completeness. The tool demonstrated variability across different dimensions of responsive feeding.

Discussion: Responsive feeding involves patient caregiving that respects hunger and satiety cues, encourages self-feeding, minimises mealtime distractions, and fosters bonding through eye contact and verbal interaction^{1,2}. Non-responsive feeding, by contrast, involves forcing intake, ignoring satiety cues, and caregiver distraction^{1,2}. Key barriers include limited caregiver knowledge, cultural beliefs, screen overreliance, and inadequate frontline worker training².

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Conclusion: Responsive feeding builds healthy eaters and nurtures young minds, with potential to prevent both undernutrition and obesity while supporting development². As over 80% of brain development occurs within the first three years of life², integrating RF counselling into routine services and strengthening frontline worker training are essential to secure a healthier future for children^{1,2}.

Keywords: Responsive feeding, complementary feeding, nurturing care, self-regulation, infant and young child feeding

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Prevalence Of Iron, Vitamin B12 And Folate Deficiency In Children With Severe Acute Malnutrition

Author: Dr Gourav Gupta, Dr Manmeet Kaur Sodhi
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Background: Severe acute malnutrition (SAM) is frequently associated with multiple micronutrient deficiencies. Iron, vitamin B12 and folate are essential for erythropoiesis, growth, immune function and neurodevelopment. Deficiencies may contribute to anaemia and adversely affect recovery.

Objectives: To determine the prevalence of iron, vitamin B12 and folate deficiency among children with severe acute malnutrition.

Methods: A hospital-based observational study was conducted among 45 children aged 6–59 months diagnosed with SAM according to WHO criteria. Clinical, nutritional and anthropometric assessment was performed at admission. Investigations included haemoglobin, serum iron, total iron-binding capacity, transferrin saturation, serum folate and serum vitamin B12. Iron deficiency was defined as transferrin saturation <16%, folate deficiency as serum folate <3 ng/mL and vitamin B12 deficiency as serum vitamin B12 <200 pg/mL.

Results: Among 45 children, anaemia was present in 40 (88.9%). Iron deficiency was the most prevalent micronutrient deficiency, identified in 31 (68.9%) children, followed by vitamin B12 deficiency in 21 (46.7%) and folate deficiency in 11 (24.4%). Coexisting iron and vitamin B12 deficiency was present in 14 (31.1%), iron and folate deficiency in 8 (17.8%), and folate and vitamin B12 deficiency in 7 (15.6%). All three deficiencies were present concurrently in 5 (11.1%) children.

Conclusion: Micronutrient deficiencies are highly prevalent among children with SAM, with iron deficiency being the most common, followed by vitamin B12 and folate deficiency. The frequent coexistence of multiple deficiencies highlights the importance of comprehensive micronutrient assessment and appropriate supplementation during nutritional rehabilitation.

Keywords: Severe acute malnutrition, Iron deficiency, Vitamin B12 deficiency, Folate deficiency, Anaemia, Micronutrients.

Author: Kashamma Uppin

Objective: To study the effect of nutrition care process (NCP) on cleft repair timing.

Design: Quasi-experimental design.

Setting: Tertiary care hospital with an operational cleft unit.

Participants: 47 mothers of infants aged 0–6 months with cleft lip and palate who fulfilled the eligibility criteria. During the baseline visit, anthropometric measurements of the infant were recorded, and World Health Organization (WHO) Z scores were plotted to identify their nutritional status. Nutritional education according to NCP was imparted to the mothers. In subsequent visits, growth of infants was monitored by anthropometry, education was reiterated and errors rectified. Right surgical timing was classified as on time or delayed according to age in months at surgery. Data collected were analyzed in SPSS software.

Main Outcome Measure(s): Nutritional status, timely surgical readiness, educational level regarding nutrition, and feeding techniques.

Results: Among the 47 infants, malnutrition improved from 55.3% mild, 29.8% moderate, and 14.9% severe at the first visit to 66% mild at lip surgery and 70.2% mild at palate surgery, with 68.1% and 70.2% infants respectively achieving timely surgical readiness. Infants with cleft showed consistently lower mean weights than the WHO standards at birth, lip, and palate surgery which was statistically significant ($p=.001$) indicating persistent growth faltering that was more pronounced among males. Mother's education level was significantly associated with timely surgery ($\chi^2=7.964$, $p=.047$).

Conclusion: Nutrition education effectively assisted infants in attaining the weight necessary for corrective surgery.

Keywords:

nutrition, anthropometry, cleft lip and palate, evidence-based practices, feeding, intervention.

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A case of Goldenhar syndrome (oculoauriculovertebral dysplasia)

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Introduction: Goldenhar syndrome (GS), also called oculoauriculovertebral dysplasia or facio-auriculo-vertebral spectrum, is a congenital disorder caused by abnormalities of the first and second branchial arches. It has variable craniofacial, ocular, auricular, vertebral, cardiac, renal, and neurological manifestations. Typical features include epibulbar dermoids, microtia, mandibular hypoplasia, preauricular tags, hearing loss, hemivertebrae, scoliosis, and cervical fusion. Ocular abnormalities include microphthalmia, anophthalmia, and eyelid coloboma. Facial involvement is commonly unilateral, producing characteristic facial asymmetry.

Case report: A 2-year-old female child, born to non-consanguineous, healthy parents, presented with global developmental delay. She was born preterm by vaginal delivery, weighing 1 kg, and required NICU admission for 2 months due to very low birth weight and respiratory distress syndrome. Congenital anomalies included a left preauricular skin tag and deformed, asymmetrical right ear, without hearing loss. MRI at 6 months showed bilateral frontal and parietal cystic encephalomalacia with diffuse cerebral atrophy, sequelae of HIE. Seizures occurred at 1 year; EEG showed multifocal spikes. Cervical and spinal radiographs were normal. Child was prescribed with antiepileptics, no seizure episodes in past 10 months. Later child showed global delay in gross motor, fine, social skills & language.

Discussion: The etiology of GS remains unknown. Although autosomal dominant, autosomal recessive and multifactorial inheritance pattern have been reported, most of the cases are sporadic. Early diagnosis of GS is essential for appropriate treatment of affected patients and genetic counselling.

Keywords: Goldenhar syndrome, oculoauriculovertebral dysplasia, hemifacial microsomia, craniofacial anomalies, CNS anomalies.

A Comparative Study Of Latch Score In Full Term Babies Delivered Through Caesarean V/s Vaginal Route And Its Use As A Tool To Assess Weight Gain And Exclusive Breastfeeding At 6 Weeks Of Life

**Dr Naheed Farozan N Sindagiri, Dr Radhika S Kulal,
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Background: Early identification of breastfeeding difficulties can facilitate timely intervention and improve breastfeeding outcomes. The LATCH score is a simple bedside tool for assessment of breastfeeding effectiveness.

Objective: To compare LATCH scores in term babies delivered by cesarean versus vaginal route, assess the effect of breastfeeding counselling, and determine whether the 48-hour LATCH score predicts exclusive breastfeeding (EBF) and weight gain at 6 weeks.

Method: A prospective observational study was conducted among 140 singleton term neonates (70 LSCS, 70 vaginal deliveries) at Belagavi Institute of Medical Sciences from August 2022 to July 2023. LATCH score was assessed within 24 hours of birth (L1), followed by breastfeeding counselling, and reassessed at 48 hours (L2). EBF status and weight gain were assessed at 6 weeks. Logistic regression and ROC analysis were used to assess L2 as a predictor of EBF, while linear regression assessed its association with weight gain.

Result: Mean L1 was significantly higher following vaginal delivery than LSCS (7.24 ± 0.69 vs 6.34 ± 0.51 ; $p < 0.001$). LATCH scores improved significantly following counselling in FTND from L1 of 7.24 to 8.7 mean latch score and in LSCS from 6.34 to 7.57; $p < 0.001$. Multigravida mothers had higher L1 scores than primigravida (7.06 ± 0.85 vs 6.56 ± 0.58 ; $p < 0.001$). At a cutoff >7 , L2 predicted EBF with 89.47% sensitivity, 84.30% specificity and AUROC 0.8876 ($p < 0.001$). EBF at 6 weeks occurred in 98.07% with $L2 > 7$ versus 52.7% with $L2 \leq 7$ ($p < 0.001$). Mean weight gain was also higher with $L2 > 7$ (16.95 ± 3.03 vs 14.49 ± 2.89 g/day; $p < 0.001$).

Conclusion: LATCH scoring at 48 hours is a useful bedside predictor of EBF and early weight gain. Low scores can identify mother-infant dyads requiring targeted breastfeeding support before discharge.

Knowledge to Practice: Breastfeeding Knowledge, Attitudes and Practices Among Postnatal Mothers – A South Indian Hospital-Based Study

Authors: Dr. Prithvi Baliga, Dr. Ramesh R. Pol,
Dr. Bhuvaneshwari C Yelamali

Background: Optimal breastfeeding is essential for infant survival, growth, and development. Despite widespread awareness, gaps between breastfeeding knowledge and actual practices persist. Maternal attitude, antenatal counselling, family influence, cultural beliefs, and healthcare support influence the translation of knowledge into appropriate practices.

Objectives: To assess breastfeeding knowledge, attitudes, and practices among postnatal mothers and identify factors associated with breastfeeding practices.

Methods: A hospital-based cross-sectional study was conducted among 150 postnatal mothers with infants younger than six months at a tertiary care teaching hospital in South India from February to April 2026. Data were collected using a structured, pre-validated KAP questionnaire. Descriptive statistics and chi-square tests were used, with $p < 0.05$ considered statistically significant.

Results: The mean maternal age was 24.5 ± 3.6 years. Good breastfeeding knowledge was observed in 45.3% of mothers, while 46.7% had moderate knowledge. A positive attitude was present in 78.0%, and 89.3% demonstrated good breastfeeding practices. Antenatal counselling was significantly associated with better knowledge ($p = 0.001$), while positive attitude was strongly associated with favourable breastfeeding practices ($p < 0.001$).

Conclusion: Despite encouraging attitudes and practices, knowledge gaps persist. Strengthening antenatal education, lactation counselling, and Baby-Friendly Hospital Initiative implementation may help bridge the knowledge–practice gap and promote optimal breastfeeding.

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Hospital Based Study on Estimation of Breast Milk Sodium Levels in Mothers Delivering Term and Preterm Babies

Introduction: Breast milk provides complete nutrition for the newborn, and its sodium content changes naturally during lactation, normally declining over the first two weeks after birth. **Objectives:** To compare breast milk sodium levels between mothers of preterm and term babies, and to study the changes in sodium levels during the first postnatal week in both groups. **Methodology:** This retrospective, hospital-based study was conducted in the Department of Pediatrics at a tertiary care hospital in Central Karnataka from January 2019 to September 2020. Seventy newborns were included, with equal numbers of term and preterm babies. Breast milk samples were collected daily from Day 1 to Day 7 postpartum and analyzed for sodium levels, and neonatal weight was recorded daily over the same period. **Results:** The study population comprised 55.7% female and 44.3% male newborns. The mean breast milk sodium level was 19.8 ± 2.9 mEq/L in mothers of term babies and 19.5 ± 3.0 mEq/L in mothers of preterm babies, and this difference was not statistically significant ($p=0.678$). Sodium levels did not vary significantly across the seven days in either group. In contrast, neonatal weight differed significantly between term (2.77 ± 0.5 kg) and preterm (2.5 ± 0.3 kg) babies through the first week ($p=0.007$).

Conclusion: Breast milk sodium levels do not differ significantly between mothers of term and preterm babies and remain largely stable during the first week postpartum, even though neonatal weight differs significantly between the two groups. This suggests maternal and feeding-related factors may influence breast milk sodium more than gestational age alone.

Keywords: Breast milk, Sodium, Term, Preterm, Lactation, Breastfeeding

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Effect of Educational Intervention on KAP of Nursing Mothers Receiving Kangaroo Mother Care and Its Impact on Weight Gain

Presenter: Dr Rohit A Ainapur

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Background: Kangaroo Mother Care (KMC) is a simple, low-cost intervention that improves outcomes in low-birth-weight (LBW) neonates. Maternal knowledge, attitude, and practice (KAP) influence its effectiveness.

Aim: To assess maternal KAP regarding KMC and determine the impact of audiovisual educational intervention on KAP and infant weight gain.

Materials and Methods: This randomised controlled trial was conducted in the KMC ward of Belagavi Institute of Medical Sciences, Karnataka.

Seventy-nine mother–baby dyads were randomised into an intervention group (n=39) receiving audiovisual KMC education and a control group (n=40) receiving standard counselling. Maternal KAP was assessed using a prestructured questionnaire. Infants were followed up at 1, 2, and 3 months after discharge. Data were analysed using SPSS 23.0.

Results: Baseline characteristics were comparable between groups. Knowledge scores improved significantly in the intervention group at discharge (23.9 ± 0.38 vs 21.63 ± 3.31 , $p < 0.001$). Significant improvements were also observed in attitude (6.98 ± 0.16 vs 6.70 ± 0.62 , $p = 0.005$) and practice scores (9.38 ± 1.39 vs 6.0 ± 1.97 , $p < 0.001$). Mean weight gain was significantly higher in the intervention group at 2 months (25.32 ± 8.09 vs 22.43 ± 4.99 g/day, $p = 0.005$) and 3 months (25.21 ± 6.75 vs 22.69 ± 3.81 g/day, $p = 0.004$).

Conclusion: Audiovisual educational intervention significantly improves maternal KAP regarding KMC and is associated with better infant weight gain. Strengthened, structured counselling should be advocated to enhance the effectiveness of KMC.

Clinical Profile of Urinary Tract Infection in Severe and Moderate Acute Malnutrition Among Children Aged 6–60 Months: An Observational Study

Background: Urinary tract infection (UTI) is a common bacterial infection in children and may present with nonspecific symptoms, particularly in malnourished children. Data on the prevalence and clinical profile of UTI among children with severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) are limited.

Objectives: To determine the prevalence of UTI among children aged 6–60 months with SAM and MAM, describe the clinical profile of symptomatic and asymptomatic UTI, and assess antimicrobial sensitivity patterns among culture-positive cases.

Methods: A hospital-based observational study was conducted in the Pediatric Ward and Nutrition Rehabilitation Centre of Belagavi Institute of Medical Sciences from May 2023 to April 2024. A total of 259 children aged 6–60 months with SAM or MAM were enrolled. Midstream clean-catch urine samples were collected for routine examination, microscopy, culture, and sensitivity testing. Statistical analysis was performed using percentages and chi-square tests.

Results: Among 259 children screened, 56 (21.6%) had UTI and 36 (64.3%) were culture positive. Females constituted 66.1% of the study population. The highest proportion of UTI-positive children belonged to the 13–24 months age group (41.07%). Fever was the most common presenting symptom (16.07%), while pallor was observed in 55.35% of cases. *Escherichia coli* was the most frequently isolated organism (27.77%), followed by *Klebsiella* species (25%). Nitrofurantoin demonstrated the highest overall sensitivity (44.4%). No mortality was reported during the study period.

Conclusion: UTI is common among malnourished children, with a prevalence of 21.6%. Female children and those aged 13–24 months were more frequently affected. *E. coli* was the predominant pathogen, and Nitrofurantoin showed the highest antimicrobial sensitivity. Routine urine screening should be considered in malnourished children to facilitate early diagnosis and appropriate treatment.

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