



PUNARJANI

REPORT OF MEDICAL CAMP CONDUCTED FOR UNDER 15 CHILDREN IN TRIBAL SETTLEMENTS OF CHINNAR WILDLIFE SANCTUARY

A medical camp was conducted for children under 15 years of age in 11 tribal settlements in Chinnar Wildlife Sanctuary from 3rd to 6th September, 2016 with the help of Kerala Forest Department. In the four-day camp, a total of 143 children were examined. 58 children under the age of 5 years and 85 children in the age group 5 - 15 years of age were examined.

Place	Under 5 years	5 -15 years	Total
Puthukudy	5	8	13
Iruttalakudy	1	11	12
Eechampetty	11	16	27
Thayannankudy	4	1	5
Champakkadu	15	11	26
Ollavayalkudy	8	13	21
Alampetty	12	14	26
Palapetty	2	11	13
Total	58	85	143

Table 1. Table showing the participation of children in medical camp

MAJOR FINDINGS OF THE MEDICAL CAMP ARE GIVEN HERE.

Malnutrition in children under 5 years of age

Under weight

Malnutrition is assessed as low weight for that age (underweight). For under 5 children, growth was assessed using WHO MGRS Charts (same as used in Anganwadis under ICDS Scheme). Based on the assessment, children between -2 SD to -3 SD are categorised as Moderate Malnutrition and those less than -3 SD as Severe Malnutrition. Only those children with at least moderate malnutrition as per the charts are labelled as malnourished.

43% of the children of the age group examined were malnourished. 25 out of 58 children showed malnutrition. Among them 12% (7 out of 58) showed severe malnutrition requiring urgent corrective measures. Alampetty and Champakkadu settlements constituted maximum no. of children with malnutrition. *See Annexure I*

Place	Detected case	Total Under 5 children
Ollavayalkudy	3	8
Alampetty	9	12
Eechampetty	2	11
Champakkadu	11	15

Table 2. Table showing malnutrition in children below 5 years of age

Stunting

Stunting refers to low height for age. Height measurement was done to assess the effects of nutritional status on long term growth or chronic malnutrition. WHO MGRS Charts were used for the assessment.

9 out of 58 children exhibited stunting. It comes to around 15% of the total population examined among children under 5 years of age.

Malnutrition in age group 5 - 15 years

Children were examined and Underweight & Stunting was identified using REVISED Indian Academy of Pediatrics (IAP) charts designed for Indian children. Only those with weight less than 3rd percentile is considered as malnourished.

20% of the population with 17 out of 85 children in this age group were found malnourished. Most of the remaining children fall between 3rd - 10th percentiles, which can be considered as borderline. They can go below 3rd percentile at any time. Thus their weight is required to be monitored closely. 8 out of 85 children were stunted ie 9% of children in the age group 5- 15 yrs of age. See Annexure II

Place	Detected	Total children in 5 - 15 age group
Ollavayalkudy	3	13
Alampetty	7	14
Palapettykudy	2	11
Puthukudy	1	8
Eechampetty	2	16

Table 3. Table showing malnutrition in the age group of 5 - 15 years

Anaemia

34% with 20 out of 50 children under the age of 5 years were observed to be anaemic. 25% with 22 out of 85 children in the age group of 5 - 15 years were also anaemic. (Based on clinical observation)

Iron syrups/tablets were provided to all anaemic children as far as possible. Anaemia prevalence detected in the settlements is low compared to national prevalence. This can be due to the following reasons

- Only moderate to severe pallor was documented
- Mild cases may be missed in small children
- No lab investigation was done to assess blood Hb level

Cases requiring evaluation in medical college

a) Cardiac cases: 1 child from Iruttalakudy and 2 children from Alampetty

b) ENT cases: 1 child with hearing deficit and one with chronic ear infection- B/L CSOM. Both cases were reported from Iruttalakudy.

Both ENT and cardiac cases were given Reference letters to Kottayam Medical College.

Goiter

6 Cases of goiter was reported, 2 each from Ollavayalkudy and Puthukudy, 1 each from Echampetty and Palapetty. All these 6 children and 1 child with upper midline neck swelling were advised Thyroid Function Tests from nearby labs and further follow up from PHC.

Rickets (Suspected)

Rickets is defined as vitamin D3 deficiency. 2 children from Ollavayalkudy were suspected with rickets. Both were advised X-RAY of left wrist and further follow up from PHC.

Juvenile Diabetes on insulin

One child from Echampetty was having diabetes on insulin.

Febrile convulsions

One child from Puthukudy was reported with occurrence of Febrile convulsions. Prescription was given for drugs and entrusted social workers & anganwadi teachers to ensure that, the child gets adequate medication as prescribed.

Chronic cough & fever

One child with chronic cough and fever for 2 months was reported from Ollavayalkudy. Advised evaluation for Tuberculosis from PHC and entrusted ASHA worker to follow up the case.

Developmental delay

One child from Champakkadu was reported with mild global developmental delay, mental retardation and microcephaly.

Dental caries

Most of the children examined throughout the camp have poor oral hygiene. 16 children under 5 years have dental caries. 46 children out of 85 children in age group 5 - 15 years have dental caries, which comes to around 54%.

Skin conditions

Most of the children examined, have dry skin. A few cases of atopic dermatitis, pyoderma and fungal infections were detected and given medications.

Respiratory infections, Acute Diarrhea

Few cases of Acute respiratory infections and Acute diarrhea without dehydration were reported and given adequate medication.

Incomplete vaccination

Medical team couldn't access vaccination registers in some places(Champakadu). A vaccination register was not at all kept in Palapetty. As per our observation, people from these settlements are reluctant to take vaccines. Due to the relentless efforts of PHC staff, Asha workers and Anganwadi teachers, almost all children examined have taken 3 doses of PENTAVAC and OPV. Vaccinations at 5 years, 10 years and 15 years are incomplete.

See Annexure III

NOTE: Details regarding every child examined is documented on separate note books and is entrusted with Forest Department.

OUR HUMBLE SUGGESTIONS BASED ON ABOVE FINDINGS

- 1) Measures to correct malnutrition
Since 43% of children under 5 years of age are malnourished and 12 % having severe malnutrition, urgent measures are required to improve nutrition. This is necessary to avoid unexpected increase in mortality in children under 5 years of age. Special care is to be given to children of Alampetty and Champakkadu where 75% & 73% of children under 5 years of age are malnourished respectively.
 - a) Improve food provisions through Anganwadi for under 5 children.
 - b) Include milk and egg in diet.
 - c) Provide 3 meals per day to all children under 15 years of age.
 - d) Encourage people to include green leafy vegetables, pulses and raggi in diet.
- 2) Anaemia correction
Some Anganwadis are having iron tablets, but Anganwadi workers don't know to whom it should be given.
 - i) Detect anaemia during medical camps and medication must be given if found anaemic for 3 months.
 - ii) Iron syrups must be provided to small children as they can't tolerate iron tablets.
 - iii) De-worming must be done in every 6 months. Make sure de-worming is done on last august 2016 as part of National Deworming Day and all children are covered.
- 3) Due to high prevalence of dental caries, it is advised to conduct dental checkup for all the children. Ensure proper dental hygiene and supply of micronutrients.
- 4) Since 6 cases of goiter are reported, it is advised to conduct iodine estimation in water sources. Make sure people are using iodised salt.
- 5) Many medical camps are conducted in these areas by various agencies. Better co-ordination of these camps and agencies will make it beneficial for people in the area. Children in these areas don't have any documentation regarding their health,

medications and vaccination. If a health record or simply a note book is kept for each and every child, follow up and further treatments will be easier. An initiative taken by forest officials of Chinnar wildlife sanctuary in this regard is appreciated.

- 6) Health checkups by a pediatrician, at least once in a year is absolutely necessary, but once in 6 months is advised.
- 7) Health education to parents regarding proper vaccination, proper diet and feeding habits.
- 8) Proper follow up and transport facilities to children, requiring evaluation in medical colleges.
- 9) Provide education facilities up to 10th std.

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01-10-2016

Annexure I

List of children with Malnutrition under 5 years of age

Severe Malnutrition		
1	Ahalya	Champakkadu
2	Saran	“
3	Ajanya	“
4	Menaka	“
5	Dhanya V.	Alampetty
6	Anu	“
7	Madhukuttan	“

Moderate Malnutrition		
1	Resehwary	Ollavayalkudy
2	Rajesh Passimuthu	“
3	Harikrishnan	“
4	Sibiraj	Alampetty
5	Praveen	“
6	Rithimon	“
7	Sanjay S.	“
8	Sreekumar	“
9	Gauri	“
10	Vanila V.	Eechampetty
11	Lavanya C.	“
12	Anusree	Champakkadu
13	Nithin	“
14	Anjana	“
15	Pranitha	“
16	Ajesh	“
17	Pavithra	“
18	Monika	“

Annexure II

List of children with Malnutrition in the age group 5 -15 years

1	Kavitha P.	Ollavayal
2	Sangeetha B.	"
3	Magadevi A.	"
4	Vinith	Alampetty
5	Vikasini V.	"
6	Malu	"
7	Vinod	"
8	Anisha	"
9	Jayasree	"
10	Sreevardhini	"
11	Sica Sankar	Palapetty
12	Manikandan	"
13	Vinu V.	Puthukudy
14	Vishnupriya	Eechampetty
15	Vishal P.	"
16	Ajay	Champakkadu
17	Harish	"

Annexure III

List of children with defects, diseases and deficiencies

No.	Name	Condition	Place
1	Jayarani M	Cardiac Reference	Iruttalakudy
2	Sathya Deepika	Cardiac Reference	Alampetty
3	Gauri	Cardiac case	Alampetty
4	Pavizhakody	Hearing difficulty	Iruttalakudy
5	Jayadevi	Chronic Ear Infection	Iruttalakudy
6	Anand A.	Goiter	Eechampetty
7	Pavithra L.	Goiter	Ollavayalkudy
8	Magadevi	Goiter	Ollavayalkudy
9	Santhimurugan	Goiter	Palapetty
10	Dhanalekshmy	Goiter	Puthukudy
11	Vinu	Goiter	Puthukudy
12	Sreeraj Vijayakumar	Rickets (Suspected)	Ollavayalkudy
13	Ramalekshmi	Rickets (Suspected)	Ollavayalkudy
14	Sivaranjini	Juvenile diabetes	Eechampetty
15	Ramu R.	Febrile convulsions	Puthukudy
16	Bhavani B.	Chronic cough	Ollavayalkudy
17	Aravind	Developmental delay	Chanmpakkadu

REPORT OF MEDICAL CAMP CONDUCTED FOR CHILDREN UNDER 18 YEARS IN TRIBAL SETTLEMENTS OF CHINNAR WILDLIFE SANCTUARY

A medical camp was organized for children under 18 years of age in 10 tribal settlements in Chinnar Wildlife Sanctuary from 12th to 15th March 2017 with the help of Kerala Forest Department. This was a follow up Pediatric medical camp conducted in last September 2016. In the four-day camp, a total of 206 children were examined. 68 children under the age of 5 years and 132 children in the age group 5-15 years of age and 6 in the age group of 15-18 years were examined.

<i>Settlement</i>	Under 5 years	5 -15 years	Total
<i>Puthukudy</i>	4	8	12
<i>Vellakkal</i>	1	9	10
<i>Iruttalakudy</i>	7	23	30
<i>Eechampetty</i>	11	10	21
<i>Thayannankudy</i>	4	3	7
<i>Olikudy</i>	1	2	3
<i>Champakkadu</i>	14	24	38
<i>Ollavayalkudy</i>	7	18	25
<i>Alampetty</i>	14	19	33
<i>Palapetty</i>	5	16	27 (15-18 years: 6)
Total	68	132	206

Table 1. Table showing the participation of children in medical camp from various settlements

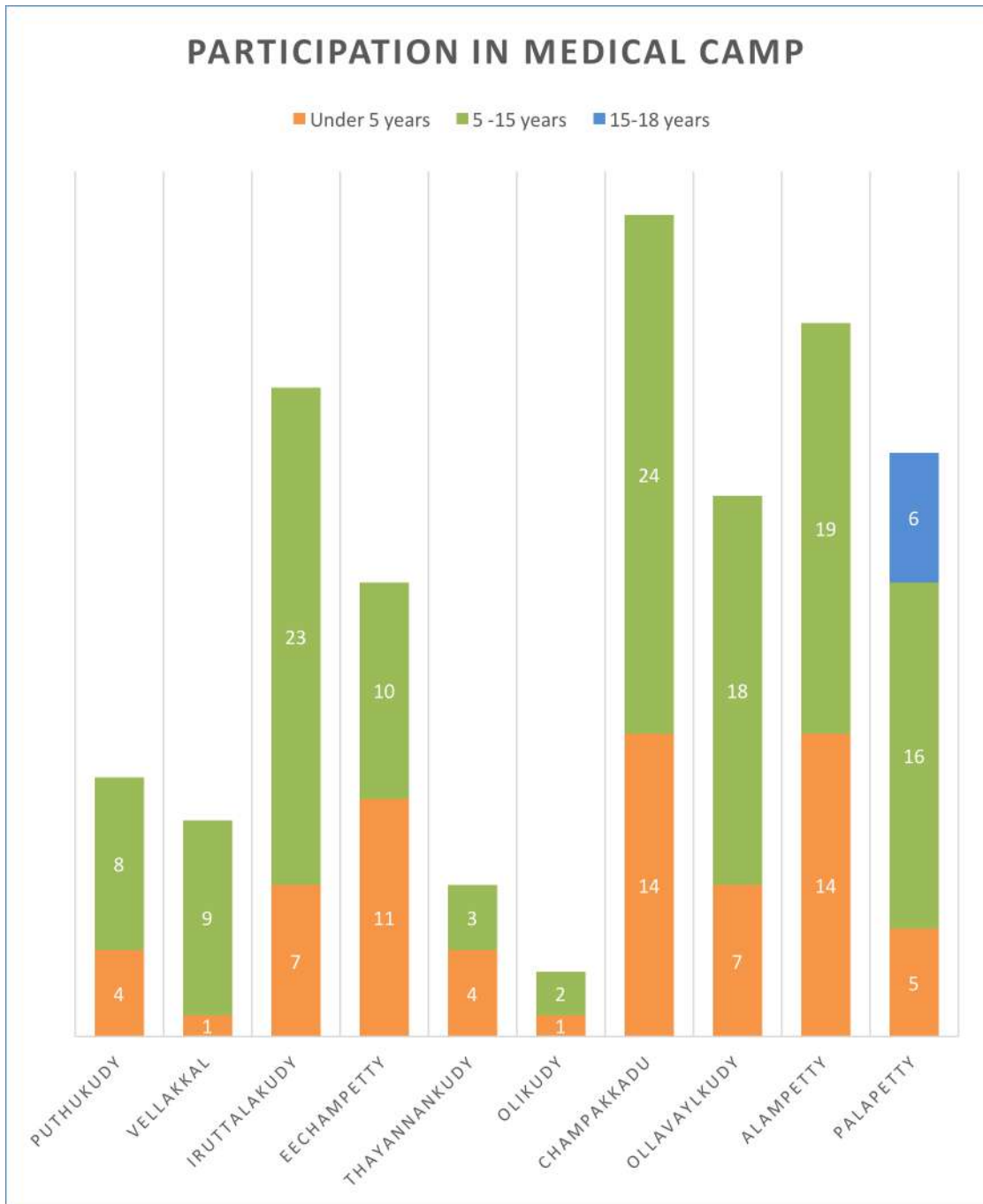


Fig 1. Graph showing the participation of children in medical camp from various settlements

MAJOR FINDINGS OF THE MEDICAL CAMP

Malnutrition in children under 5 years of age

Under weight

Malnutrition is assessed as low weight for that age (underweight). For under 5 children, growth was assessed using WHO MGRS Charts 2006. Based on the assessment, children between -2 SD to -3 SD are categorised as Moderate Malnutrition and those less than -3 SD as Severe Malnutrition. Only those children with at least moderate malnutrition as per the charts are labelled as malnourished.

<i>Settlement</i>	Moderate Malnutrition (Underweight -2 SD to -3 SD)	Severe Malnutrition Underweight < -3SD	Total
<i>Alampetty</i>	5	9	14
<i>Chambakkadu</i>	0	9	14
<i>Vellakkal</i>	0	0	1
<i>Puthukkudy</i>	1	1	4
<i>Echampetty</i>	1	1	11
<i>Iruttalakudy</i>	1	0	7
<i>Palappetty</i>	0	1	5
<i>Ollavayalkudy</i>	2	0	7
<i>Thayannankudy</i>	0	0	4
<i>Olikudy</i>	0	0	1
TOTAL	10	21	68

Table 2. Table showing the the status of malnutrition in various settlements

A total of 46% (31 out of 68) children in the age group 0-5 years examined, were malnourished. And 31% (21 out of 68) showed severe malnutrition requiring urgent corrective measures. Medical camp conducted in September 2016 showed only 12% children with severe malnutrition. Hence it can be assumed that, children reported with moderate malnutrition last time, progressed to severe malnutrition due to lack of corrective measures in spite of warning.

Alampetty and Champakkadu settlements constituted maximum children with malnutrition. In Alampetty 14 children in the age group 0-5 were examined. Of which, 9 children showed severe malnutrition and remaining 5 showed moderate malnutrition. In Chambakkadu 9 out of 14 children showed severe malnutrition.

<i>Alampetty</i>	Moderate malnutrition	Severe malnutrition
<i>September 2016</i>	50%	25%
<i>March 2017</i>	35.7%	64.3%

<i>Chambakkadu</i>	Moderate malnutrition	Severe malnutrition
<i>September 2016</i>	46.6%	26.6%
<i>March 2017</i>	0%	64.3%

Table 3. Table showing the the status of malnutrition in Alampetty and Chambakkadu settlements

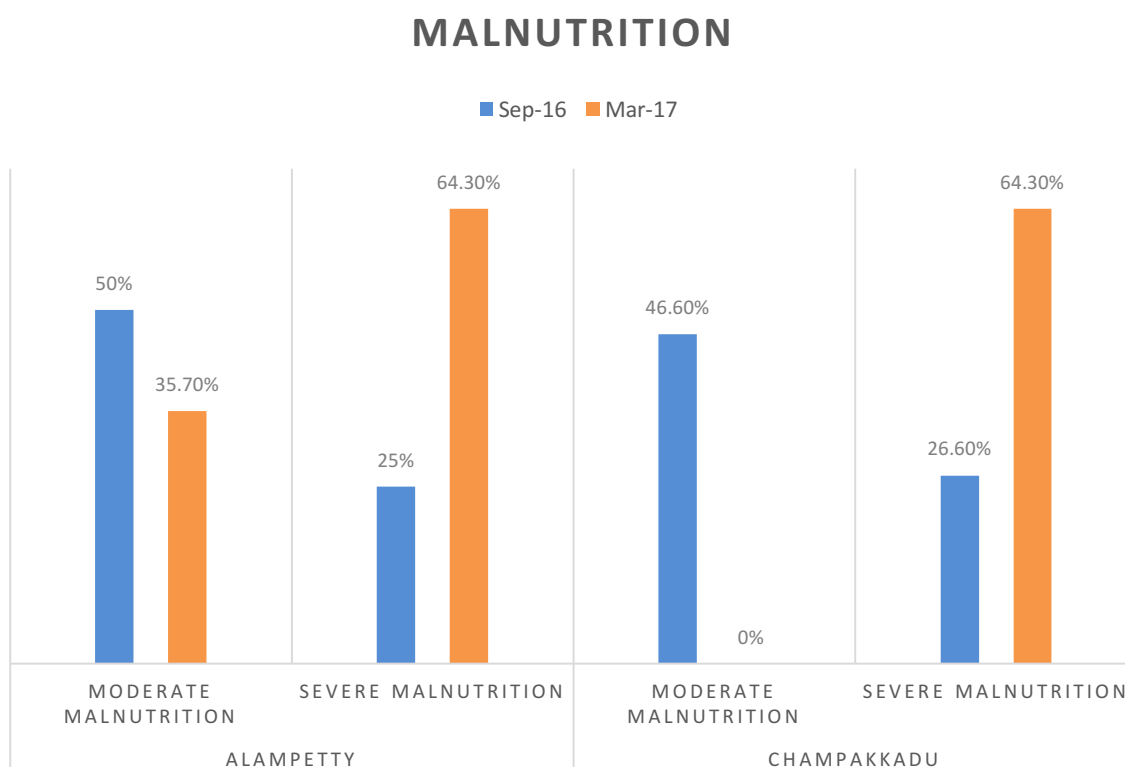


Fig 2. Graph showing malnutrition in Alampetty and Chambakkadu

Data for these two settlements shows that children here are suffering with severe malnutrition, which predispose them to infection and sudden deaths at any time.

See Annexure 1 for details

Stunting

Stunting refers to low height for age. Height measurement was done to assess the effects of nutritional status on long term growth or in other words stunting is taken as a sign of chronic malnutrition. WHO MGRS Charts were used for the assessment.

In 0-5 age group, 38% children (26 out of 68) exhibited stunting. Among them 12 comes in the -2 SD to -3 SD category and 14 comes under less than -3 SD

Severe Acute Malnutrition (SAM)

Severe acute Malnutrition is defined as weight for height less than -3 SD as per WHO charts. During examination, 11 children were reported with Severe Acute Malnutrition; 7 from Alampetty and 4 from Chambakkadu. Among them 2 children had respiratory infection and 1 child had acute diarrhoea with no dehydration. Emergency care was given and was advised institutional care.

Details of these children are given in Annexure 2 and is forwarded to medical officer of nearby PHC.

Malnutrition in the age group 5-15 years

Total 132 children were examined in this age group. Underweight & Stunting was identified using REVISED Indian Academy of Pediatrics (IAP) charts designed for Indian children. Only those with weight less than 3rd percentile were considered malnourished.

In this age group, 14 % of the population with 19 out of 132 children were found malnourished. Some of the remaining children fall between 3rd and 10th percentiles, which can be considered as borderline. They can go below 3rd percentile at any time. Thus their weight is required to be monitored closely. Last year, 20% children of this age group showed malnutrition and the percentage came down to 14% this year. This might not be due to improvement of nutritional status. During the medical camp, some children who were staying in school hostels in Idukki, Adimali and Ettumanoor were present in the settlements, due to holidays. These children were well nourished and their presence reduced the percentage of malnutrition here. And 9% of children (12 out of 132) in the age group of 5-15 years were stunted.

Settlement	Malnourished children (weight < 3rd percentile)	Total children (5-15 age group)
<i>Alampetty</i>	9	19
<i>Champakudy</i>	1	24
<i>Puthukudy</i>	0	8
<i>Vellakkal</i>	1	9
<i>Eechampetty</i>	1	10
<i>Iruttalakudy</i>	3	23
<i>Thayannankudy</i>	0	3
<i>Olikudy</i>	0	2
<i>Ollavayalkudy</i>	3	18
<i>Palapetty</i>	0	16
TOTAL	18	132

Table 4. Table showing children with malnutrition in the age group of 5–15 years

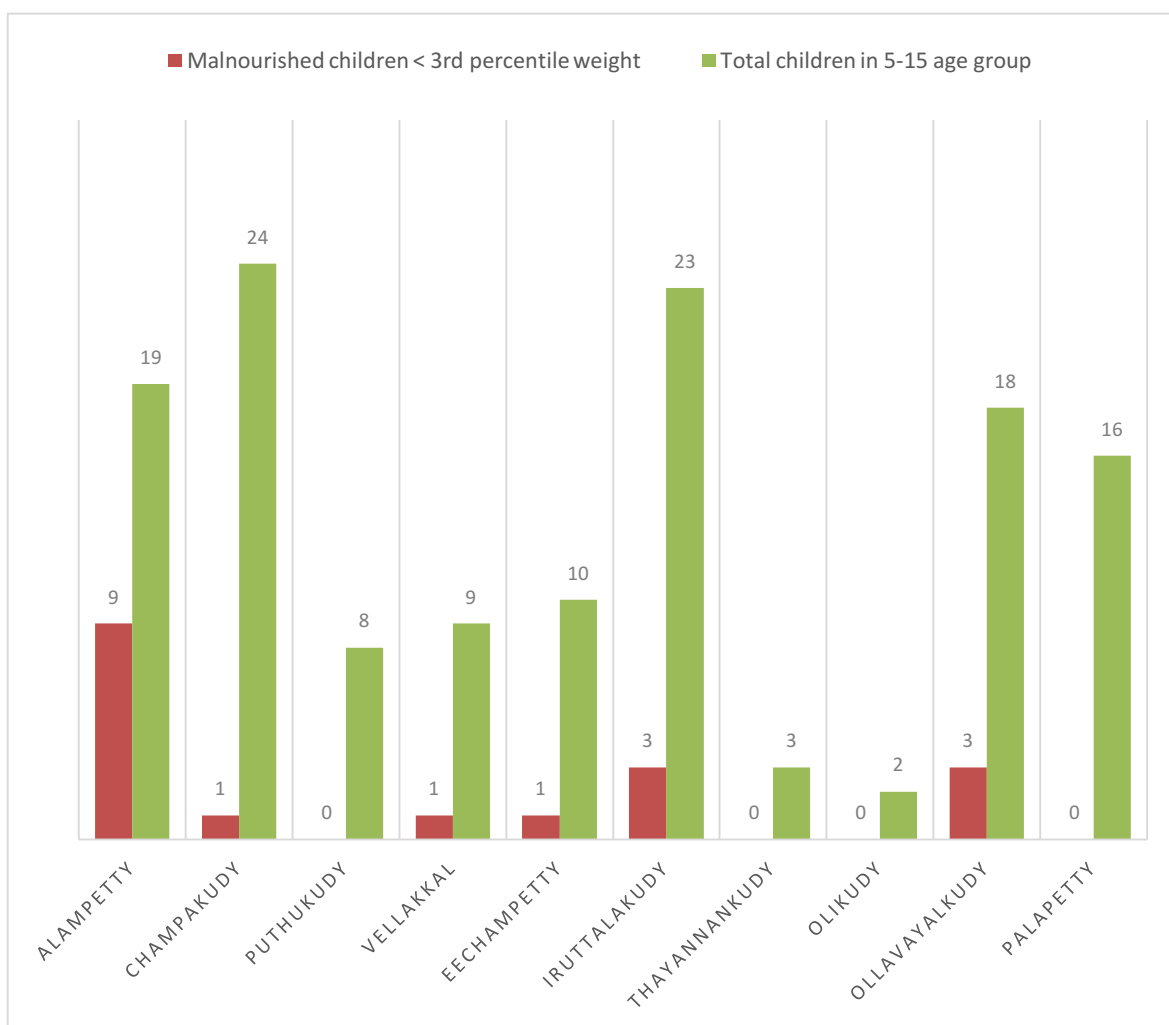


Fig 3. Graph showing children with malnutrition in the age group of 5–15 years

Details of children with malnutrition; weight < 3rd percentile are given in Annexure 3

Anaemia

Anaemia detection was done on the basis of pure clinical observation. Children in 0-5 age group was observed with 55.8% anaemia with 38 out of 68 children. Most of these children are from Alampetty and Chambakkadu. In 5-15 years age group, 11.4% with 15 out of 132 children were also found anaemic.

Iron syrups/tablets were provided to all anaemic children as far as possible. Anaemia prevalence detected in the settlements may vary due to the following reasons.

- Only moderate to severe pallor was documented
- Mild cases may be missed in small children
- No lab investigation was done to assess blood Hb level

One child from Iruttalakudy with Nutritional Anaemia and suspected Vitamin B12 deficiency was admitted due to congestive cardiac failure in Kottayam Medical college 3 months back. She was advised to take monthly injections of Methyl cobalamine from PHC. Unfortunately the monthly injections were discontinued. That child should be given follow up medical care.

Cases requiring Evaluation in medical college

Cardiac cases

- Total of 4 cases detected. Two were new cases detected from Vellakkal.
- Two children, one from Iruttalakudy and one from Alampetty requires further follow up.

ENT cases

- During last medical camp, one child from Iruttalakudy was detected to have hearing deficit and was referred for evaluation. The evaluation revealed Sensorineural hearing deficit.
- Recurrent ear infection – 3 cases of Chronic Suppurative Otitis Media (CSOM) reported from Iruttalakudy.

Both ENT and cardiac cases were advised further evaluation from Kottayam Medical College.

Goitre

Goitre was reported for 18 children from various settlements. Ollavayalkudy and Palpetty reported 4 cases each, Iruttalakudy and Puthukudy with 3 each, Olikudy with 2 cases and Vellakkal and Echampetty with 1 each. One child with small upper midline neck swelling was advised Thyroid Function Test from nearby lab and further follow up from PHC.

Rickets (Suspected)

Clinical features suggestive of Vitamin D3 deficiency were found in 2 children from Ollavayalkudy and 1 child from Chambakkadu. Hence they were advised X-RAY of left wrist and further follow up from PHC.

Juvenile Diabetes on insulin

One child from Echampetty was having diabetes on insulin.

Chronic cough & fever

One child with chronic cough was reported from Ollavayalkudy. Advised evaluation for Tuberculosis from PHC and entrusted social worker to follow up the case.

Developmental delay

One child from Champakkadu was reported with mild mental retardation, microcephaly and defective vision. He needs further evaluation, IQ assessment and Ophthalmology Consultation.

Defects

Left Ear Anotia was reported for one child from Alampetty. The child requires hearing evaluation and plastic surgery consultation.

Hand deformity for 1 child from Iruttalakudy is reported.

Dental caries

Most of the children examined in the camp have poor oral hygiene. Total of 18 children in the age group 0-5 years have dental caries. And 92 children out of 132 in age group 5-15 years have dental caries, which comes to around 70% in this age group.

Skin conditions

Most of the children examined, have dry skin. A few cases of atopic dermatitis, pyoderma and fungal infections were detected and given medications.

Respiratory infections, Acute Diarrhoea

Few cases of Acute respiratory infections and Acute diarrhoea without dehydration were reported and were given adequate medication.

Incomplete vaccination

Medical team couldn't access vaccination registers in some places (Champakadu, Alampetty, Palapetty and Olikkudy). As per our observation, people from some settlements are reluctant to take vaccines. Due to the relentless efforts of PHC Medical officers and staff, social workers and Anganwadi teachers, almost all children except a few examined are vaccinated up to 5 years except a few. Thus vaccination coverage improved drastically compared to last year.

See Annexure 5 for children with incomplete vaccination as per History

NOTE: Details regarding every child examined is documented on separate note books and is entrusted with Forest Department.

SPECIAL MENTION

Anganwadi teachers working in various settlements deserve special mention especially teachers from Iruttalakkudy, Eechampetty, Vellakkal and Thayannankudy. Ms. Ajitha of Iruttalakkudy Anganwadi is very efficient and knows all the details regarding every child in the settlement. We really appreciate her efforts and devotion.

SUGGESTIONS BASED ON ABOVE FINDINGS

1. Measures to correct malnutrition:

Since 46% of children under 5 years of age are malnourished and 31% having severe malnutrition, urgent measures are required to improve nutrition. This is necessary to avoid unexpected increase in mortality in children under 5 years of age. Special care is to be given to children of Alampetty and Champakkadu where 100% & 64% of children respectively under 5 years of age are malnourished.

- a. For Anganwadi children
 - i. Proper implementation of food supply through Anganwadis. Ensure beneficiaries are receiving the food rations distributed and they are consuming it daily.
 - ii. Double feeding for children with severe malnutrition
 - iii. Include milk, oil and egg in diet.
- b. For children less than 3 years
 - i. Ensure Amrutham powder is fed to all these children. At least twice a day it may be prepared at Anganwadi and fed there itself.
 - ii. Provide eggs and milk daily to these children in addition to food supplements from Anganwadi.
- c. For children 5-15 Years
 - i. Provide 3 meals per day to all children under 15 years of age though schools. Morning and evening snacks in the form of eggs, milk, Uppuma etc. may be provided.
- d. General measures
 - i. Encourage people to include green leafy vegetables, pulses and raggi in diet.
 - ii. Educate mothers regarding breast feeding, proper complementary feeding after six months of age, healthy food habits.

2. Management of Severe Acute Malnutrition (SAM)

For emergency management of children with severe acute malnutrition it is better to have inpatient facilities in nearby CHC, Marayoor.

- a. Make sure infection is controlled and there are no complications.
- b. Advised Blood Routine, Peripheral smear, Blood culture, Urine microscopy, Chest X-Ray and Mantoux for all these children.
- c. They must be provided with SAT mix (Roasted and powdered rice, Wheat or Raggi, black gram and Powdered sugar in 1:1:1:2 ratio). Feeding must be increased slowly.
- d. Micronutrients – Multi Vitamin syrups
- e. Zinc at 2mg/kg/day
- f. Iron 3 mg/kg/day once infection is controlled
- g. Folic acid 1 mg/ day
- h. Oral Vitamin A to be given unless a dose has been given in last 1 month. Dose: 50,000 IU for children less than 6 months of age, 1 lakhs IU for children in 6-12 months age and 2 lakhs for more than 1 year age with weight greater than 8 kg. If weight is less than 8 kg, give half the dose.

3. Anaemia correction

- a. Ideally hemoglobin estimation should be done for all children or at least for malnourished children especially in Alampetty and Chambakkadu.

- b. Some Anganwadis are having iron tablets, but Anganwadi workers don't know to whom it should be given.
 - c. Detect anaemia during medical camps and medication must be given if found anaemic for 3 months.
 - d. Iron syrups must be provided to small children as they can't tolerate iron tablets.
 - e. De-worming must be done in every 6 months. Make sure de-worming is done on last February 2017 as part of National Deworming Day and all children were covered.
 - f. Cultivation and consumption of Iron rich foods like Raggi, leafy vegetables, jaggery etc. should be encouraged.
4. Due to high prevalence of dental caries, it is advised to conduct dental checkup for all the children. Ensure proper dental hygiene and supply of micronutrients. Importance of dental hygiene should be propagated in the community.
 5. Since 18 cases of goiter are reported, it is advised to conduct iodine estimation in water sources. Most people are found to be using non iodised crystal salt. Encourage them to switch over to iodised salt.
 6. Many medical camps are conducted in these areas by various agencies. Better co-ordination of these camps and agencies will make it beneficial for people in the area. Children in these areas don't have any documentation regarding their health, medications and vaccination. If a health record or simply a note book is kept for each and every child, follow up and further treatments will be easier. An initiative taken by forest officials of Chinnar wildlife sanctuary in this regard is appreciated.
 7. Health checkups by a pediatrician, at least once in a year is absolutely necessary, but once in 6 months is advised.
 8. Health education to parents regarding proper vaccination, proper diet and feeding habits.
 9. Proper follow up and transport facilities to children, requiring evaluation in medical colleges.
 10. Provide education facilities up to 10th standard.

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Annexure 1

List of children with Malnutrition under 5 years of age

Severe Malnutrition		
1	Sreekumar	Alampetty
2	Bhanumathy	Alampetty
3	Sabeenkumar	Alampetty
4	Sibiraj	Alampetty
5	Dhanya V.	Alampetty
6	Sathyadeepika	Alampetty
7	Madhukuttan	Alampetty
8	Rithimon	Alampetty
9	Jaimon	Alampetty
10	Anusree	Chambakkadu
11	Ajeesh	Chambakkadu
12	Arathy	Chambakkadu
13	Ajanya	Chambakkadu
14	Greeshma	Chambakkadu
15	Vismaya	Chambakkadu
16	Pranitha	Chambakkadu
17	Saran	Chambakkadu
18	Monicka	Chambakkadu
19	Sneha S	Puthukudy
20	Rema K	Eechampetty
21	Sudheesh	Palapetty

Moderate Malnutrition		
1	Vignesh	Alampetty
2	Gauri	Alampetty
3	Anu	Alampetty
4	Sanjay. S	Alampetty
5	Praveen	Alampetty
6	Anitha	Puthukudy
7	Aiswaryalakshmi	Eechampetty
8	Malavathy	Iruttalakudy
9	Jayaraj Varadharaj	Ollavayalkudy
10	Rajeshwary	Ollavayalkudy

Annexure 2
Severe Acute Malnutrition

No	Name	Settlement	Details
1	Sreekumar	Alampetty	1 year 8 month, Weight: 8 kg Significant Anaemia with Respiratory infection
2	Madhukuttan	Alampetty	2 ½ years, Weight: 8.5 kg. Mild anaemia
3	Sibiraj	Alampetty	41/2 years, Weight: 10.5 kg Mild anaemia
4	Dhanya .V	Alampetty	2 ½ years, Weight: 6.5 kg Birth Weight: 2.5 Kg Mid Arm Circumference: 11.4 cm
5	SathyaDeepika	Alampetty	2 ½ years, Weight: 6 kg Severe anaemia. Birth weight: 2.25 kg
6	Rithimon	Alampetty	5 years. Weight: 12 kg
7	Jaimon	Alampetty	1 year 9 month, Weight: 7.5 kg Preterm with birth weight: 1.5 kg
8	Anusree	Chambakkadu	4 years 3 month, Weight: 10 kg Acute Lower respiratory infection with Anaemia
9	Vismaya	Chambakkadu	1 year 4 months, Weight: 6.5 kg Anaemia
10	Saran	Chambakkadu	2 year 10 month, Weight: 9 kg
11	Monika	Chambakkadu	1 year 3 month, Weight: 7kg Acute diarrhea with no dehydration , Anaemia+

Annexure 3

List of children with Malnutrition in the age group 5 -15 years
Weight less than 3rd percentile

No	Name	Settlement
1	Rijimon	Alampetty
2	Sajitha	Alampetty
3	Viji	Alampetty
4	Vinitha	Alampetty
5	Vikasini V.	Alampetty
6	Malu	Alampetty
7	Vinod	Alampetty
8	Ramya	Alampetty
9	Jayasree	Alampetty
10	Nandhini	Champakkadu
11	Shanmuga raj	Vellakkal
12	A neesh	Iruttalakudy
13	Ajesh	Iruttalakudy
14	Mahadevi	Iruttalakudy
15	Vishal P.	Eechampetty
16	Bhavani.B	Ollavayalkudy
17	Sangeetha.B	Ollavayalkudy
18	Pavithra.L	Ollavayalkudy
19	Vinu. v	Puthukudy

Annexure 4

List of children with defects, diseases and deficiencies

No.	Name	Condition	Settlement
1	Vidhya	Cardiac case (VSD)	Vellakkal
2	Shanmugaraj	Cardiac case	Vellakkal
3	Gauri	Cardiac case (VSD)	Alampetty
4	Jayarani M	Cardiac case (OS ASD)	Iruttalakudy
5	Pavizhakody	Hearing difficulty(SNHL)	Iruttalakudy
6	Jayadevi	Chronic Ear Infection (B/L CSOM)with hearing difficulty	Iruttalakudy
7	Anesh	Right Ear CSOM	Iruttalakudy
8	Dharanya	Recurrent CSOM	Iruttalakudy
9	Vinod	Left ear Anotia	Alampetty
10	Krishna Gandh	Hand deformity	Iruttalakudy
11	Susheela.s	Anaemia with suspected vitamin B-12 deficiency	Iruttalakudy
12	Sreekumar	Severe anaemia	Alampetty
13	Sathyadeepika	Severe anaemia	Alampetty
14	Sreeraj Vijayakumar	Rickets (Suspected)	Ollavayalkudy
15	Ramalekshmi	Rickets (Suspected)	Ollavayalkudy
16	Monika	Rickets (Suspected)	Champakkadu
17	Sivaranjini	Juvenile diabetes	Eechampetty
18	Bhavani B.	Chronic cough	Ollavayalkudy
19	Aravind	Mild mental retardation	Chanmpakkadu

Annexure 5

List of children reported with incomplete vaccination (as per history)

No	Name	Age	Settlement
1	Ranganathan	10y 9m	Eechampetty
2	Susmitha	12y 11m	Eechampetty
3	Vennila V	2y	Eechampetty
4	Pavizhakkodi	16y	Iruttalakudy
5	Mahadevi	9y	Iruttalakudy
6	Aravind	10m	Thayannankudy

REPORT OF PEDIATRIC MEDICAL CAMP – JANUARY 2018 IN TRIBAL SETTLEMENTS OF CHINNAR WILDLIFE SANCTUARY

A Paediatric medical camp was organized for children under 15 years of age in 10 tribal settlements in Chinnar Wildlife Sanctuary from 27th to 30th March 2018 with the help of Kerala Forest Department. This was a follow-up medical camp conducted in last March 2017. In the four-day camp, a total of 173 children were examined. Out of the total 173 children, 66 children were under the age of 5 years and 107 children were in the age group 5-15 years. When conducted last year, 206 children attended the medical camp. Many children were sent to hostels outside Chinnar for educational purposes, which is one of the reasons for the reduced participation this year.

Settlement	Under 5 years	5 -15 years	Total
<i>Alampetty</i>	13	18	31
<i>Champakkadu</i>	11	20	31
<i>Eechampetty</i>	9	18	27
<i>Iruttalakudy</i>	5	12	17
<i>Olikudy</i>	1	1	2
<i>Ollavayalkudy</i>	2	9	11
<i>Palapetty</i>	10	10	20
<i>Puthukudy</i>	7	8	15
<i>Thayannankudy</i>	4	1	5
<i>Vellakkal</i>	4	10	14
TOTAL	66	107	173

Table showing the participation of children in medical camp from various settlements

MAJOR FINDINGS OF THE MEDICAL CAMP

1. Malnutrition in children under 5 years of age (See annexure 1 & 2)

Under weight

Malnutrition is assessed as low weight for that age (underweight). For under 5 children, growth was assessed using WHO MGRS Charts 2006. Based on the assessment, children between **-2 SD to -3 SD** are categorised as Moderate Malnutrition and those less than **-3 SD** as Severe Malnutrition. Only those children with at least moderate malnutrition as per the charts are labelled as malnourished.

Settlement	Moderate Malnutrition (Underweight -2 SD to -3 SD)	Severe Malnutrition Underweight < -3SD	Total under 5 children examined
<i>Alampetty</i>	3	4	13
<i>Chambakkadu</i>	5	2	11
<i>Echampetty</i>	0	1	9
<i>Iruttalakudy</i>	0	0	5
<i>Olikudy</i>	0	0	1
<i>Ollavayalkudy</i>	0	0	2
<i>Palapetty</i>	2	2	10
<i>Puthukudy</i>	2	0	7
<i>Thayannankudy</i>	1	0	4
<i>Vellakkal</i>	3	0	4
TOTAL	16	9	66

Table showing the status of malnutrition of children under 5 years of age in various settlements

38% children (25 out of 66) of the age group 0-5 years examined were malnourished. And 13.6% children (9 out of 66) showed severe malnutrition requiring urgent corrective measures.

Comparison of malnutrition in children under 5 years of age with previous years

	Moderate malnutrition	%	Severe malnutrition	%	Total malnutrition
<i>2016</i>	18 out of 58	31%	7 out of 58	12%	43%
<i>2017</i>	10 out of 68	14.7%	21 out of 68	30.8%	46%
<i>2018</i>	15 out of 66	22.7%	9 out of 66	13.6%	38%

Alampetty & Chambakkadu

When compared to last year, malnutrition came down this year due to improvement of results in Alampetty. Here all children under 5 years of age documented to have malnutrition in last year could be reviewed this year. We could definitely see improvement in this children. We wholeheartedly appreciate the efforts of Forest Department and Anganwadi workers to provide extra nutrition to these children. In spite of these efforts, 30% children are still malnourished here. Hence all measures taken last year to supplement nutrition should be intensified this year for better outcome.

Alampetty	Moderate malnutrition	Severe malnutrition	Total Malnutrition (age under 5)
<i>September 2016</i>	50%	25%	75%
<i>March 2017</i>	35.7%	64.3%	100%
<i>January 2018</i>	23%	30.8%	53.8%

Table showing the status of malnutrition of children under 5 years of age in Alampetty

In Chambakkadu, total malnutrition cases remain the same as previous years. There was a definite reduction in severe malnutrition. But children documented to have severe malnutrition last year could not be traced this year. Parents lack awareness regarding health issues of children and hence co-operation in medical camp was poor.

Chambakkadu	Moderate malnutrition	Severe malnutrition	Total malnutrition (age under 5)
<i>September 2016</i>	46.6%	26.6%	73.2%
<i>March 2017</i>	0%	64.3%	64.3%
<i>January 2018</i>	45.4%	18.2%	63.6%

Table showing the status of malnutrition of children under 5 years of age in Chambakkadu

See Annexure 1 for details

Stunting

Stunting refers to low height for age. Height measurement was done to assess the effects of nutritional status on long term growth or in other words stunting is taken as a sign of chronic malnutrition. WHO MGRS Charts were used for the assessment.

31.8% children (21 out of 66) under 5 years of age exhibited stunting. Among them 16 comes in the -2 SD to -3 SD category and 5 comes under less than -3 SD.

Severe Acute Malnutrition (SAM)

Severe acute Malnutrition is defined as weight for height less than **-3 SD** as per WHO charts. 5 children were reported with Severe Acute Malnutrition, 3 from Alampetty and 2 from Palapetty. These children require immediate attention and it is better to provide institutional care. Details of these children are given in *Annexure 2* and is forwarded to medical officer of nearby CHC.

2. Malnutrition in age group 5-15 years

Children were examined and Underweight & Stunting was identified using REVISED Indian Academy of Paediatrics (IAP) charts designed for Indian children. Only those with weight less than 3rd percentile are considered malnourished.

12% of the children (13 out of 107) in this age group were found malnourished. (Last year it was 14%) 19.6% of the remaining children fall between 3rd and 10th percentiles, which can be considered as borderline. They can go below 3rd percentile at any time. Thus their weight is required to be monitored closely.

Settlement	Malnourished children (weight < 3 rd percentile)	Total children (5-15 age group)
<i>Alampetty</i>	2	18
<i>Champakudy</i>	4	20
<i>Puthukudy</i>	0	8
<i>Vellakkal</i>	1	10
<i>Eechampetty</i>	2	18
<i>Iruttalakudy</i>	1	12
<i>Thayannankudy</i>	0	1
<i>Olikudy</i>	0	1
<i>Ollavayalkudy</i>	0	9
<i>Palapetty</i>	3	10
TOTAL	13	107

Table 3. Table showing children with malnutrition in the age group of 5–15 years

Details of children with malnutrition (weight < 3rd percentile) are given in *annexure 3*

3. Anaemia

Anaemia detection was done only on the basis of clinical observation. About 49.1 % of total children examined were found to be anaemic clinically. Almost 63.2% children in age group 0-5 years and 39.25% (42 out of 107) children in the age group of 5-15 years were found anaemic.

Iron syrups/tablets were provided to all anaemic children as far as possible. Anaemia prevalence detected in the settlements may vary due to the following reasons.

- Mild cases may be missed in small children
- No lab investigation was done to assess blood Hb level

4. Cardiac cases

- 5 cases were reported this year
- 2 cases were detected from Vellakkal.
- 1 child from Palapetty
- 2 children from Alampetty
- One child with cardiac problem (OS ASD) was reported last year from Iruttalakudy who required further evaluation.
- All these 6 children should be sent to Kottayam Medical College or preferably Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum.

5. ENT cases

- Recurrent ear infection – 1 cases of Chronic Suppurative Otitis Media (CSOM) case from Iruttalakudy.

6. Goitre

11 Cases of goitre was reported, 2 each from Ollavayalkudy, Iruttalakudy, Puthukudy and Palapetty, 1 each from Alampetty, Vellakkal and Eechampetty. *See annexure 5*

7. Dental caries

Most of the children examined in the camp have poor oral hygiene. 17 children under 5 years have dental caries. 86 children out of 107 children in age group 5 - 15 years have dental caries, which comes to around 80.37 % in 5-15 years of age. Last year it was 70%.

8. Skin conditions

Most of the children examined, have dry skin. A few cases of atopic dermatitis, pyoderma and fungal infections were detected and given medications.

9. Respiratory infections

Few cases of acute respiratory infections were reported and given adequate medication.

10. Incomplete vaccination

Medical team couldn't access vaccination registers in some places. Still a few cases of incomplete vaccination as per history were noticed and the details are given in *annexure 6*.

NOTE: Details regarding every child examined is documented on separate note books and is entrusted with Forest Department. A soft copy of examination details from this year onwards will be kept safely with the medical team.

SUGGESTIONS BASED ON ABOVE FINDINGS

1. Measures to correct malnutrition: Since 38% of children under 5 years of age are malnourished and 13% having severe malnutrition, urgent measures are required to improve nutrition. This is necessary to avoid unexpected increase in mortality in children under 5 years of age. Special care is to be given to children of Alampetty , Champakkadu and Palapetty where severe malnutrition cases are reported
 - a. Proper implementation of food supply through Anganwadis
 - b. It is better food be cooked and fed there in Anganwadi itself at least twice daily to ensure beneficiaries are receiving the food rations distributed,
 - c. Double feeding of children with severe malnutrition
 - d. Provide eggs and milk daily to these children in addition to food supplements from Anganwadi.
 - e. Provide 3 meals per day to all children under 15 years of age though schools. Morning and evening snacks in the form of eggs, milk, Uppuma etc. may be provided. Measures taken in this regard by forest department are appreciated. It might be extended to other settlements also.
 - f. Encourage people to include green leafy vegetables, pulses and ragi in diet.
 - g. Educate mothers regarding breast feeding, proper weaning, and healthy food habits.
2. All Severe Acute malnutrition cases should undergo basic workup and further follow-up from near-by CHC. Details are informed to CHC medical officer.

3. Anaemia correction
 - a. Ideally, hemoglobin estimation should be done for all children in these settlements with the help of CHC
 - b. Iron supplements must be given if found anaemic for 3 months.
 - c. Iron syrups must be provided to small children as they can't tolerate iron tablets.
 - d. De-worming must be done in every 6 months. Make sure all children are covered as part of National Deworming Day.
 - e. Cultivation and consumption of Iron rich foods like Ragi, leafy vegetables, jaggery etc. should be encouraged.
4. Dental caries: About 80% children in age group 5-15 years of age have dental caries. Last year it was 70%. Hence it is better to conduct dental checkup for all the children. Ensure proper dental hygiene and supply of micronutrients. Importance of dental hygiene should be propagated in the community.
5. Goitre: Since 11 cases of goiter were reported, it is advised to conduct iodine estimation in water sources. Most people are found to be using non iodised crystal salt. Encourage them to switch over to iodised salt.
6. Many medical camps are conducted in these areas by various agencies. Better co-ordination of these camps and agencies will make it beneficial for people in the area.
7. Health checkups by a pediatrician, at least once in a year is absolutely necessary, but once in 6 months is advised.
8. Health education to parents regarding proper vaccination, proper diet and feeding habits.
9. Proper follow up and transport facilities to children, requiring evaluation in medical colleges.
10. Provide educational facilities up to a minimum of 10th standard.

Report prepared by



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8 February 2018

Annexure 1

List of children under 5 years of age with severe malnutrition

No	Child Name	Father's Name	Location
1	Sathyadeepika	Chandran	Alampetty
2	Dhanya V	Bijukumar	Alampetty
3	Sandhini M	Mottayan	Alampetty
4	Anu	Manikandan	Alampetty
5	Vismaya	Biju	Chambakkadu
6	Bhavana	Shaji	Chambakkadu
7	Aishwaryalakshmy	Balamurukan	Echampetty
8	Abhinaya	Chaply	Palappetty
9	Midhun krishnan	Moorthy	Palappetty

List of children under 5 years of age with moderate malnutrition

No	Child Name	Father's Name	Location
1	Sreekumar	Kumareshan	Alampetty
2	Sanjay S	Sasidharan	Alampetty
3	Madhukuttan	Kuppuswami	Alampetty
4	Athulya	Ravi	Chambakkadu
5	Janani	Manikandan	Chambakkadu
6	Saran		Chambakkadu
7	Ahalya		Chambakkadu
8	Arathi Binu	Binu	Chambakkadu
9	Kanusha	Binukumar	Palappetty
10	Madhusree	Moorthy	Palappetty
11	Anitha	Allimuthu	Puthukkudy
12	Mallika	Rajendran	Puthukkudy
13	Jayakumar	Lakshmanan	Thayannankudy
14	Palanikumar	Kayalraj	Vellakkal
15	Sandhya	Soman	Vellakkal
16	Lekshmy	Mani	Vellakkal

Annexure 2
Severe Acute Malnutrition

No	Name	Settlement	Details
1	Dhanya V D/o Bijukumar	Alampetty	3 years 5 months, Weight: 8.8 kg, Height: 85.7cm Birth Weight: 2.5 Kg Mid Arm Circumference (MAC): 12 cm
2	Sathyadeepika D/o Chandran	Alampetty	3 years 3 months Weight: 8.6 kg, Height: 84.8 cm. Suspected Congenital Heart Disease. Mild anaemia+, Birth weight: 2.25 kg MAC 12.5 cm
3	Sandhini M D/o Mottayan	Alampetty	6 months old, Weight: 5.2 kg, Height: 65 cm, ?Preterm, Birth weight: 2.15 kg MAC: 11.9 cm
4	Midhun Krishnan S/o Moorthy	Palapetty	7 months old Weight: 4.77 kg, Length: 62.2 cm, Birth weight: 2.09 kg, Term/normal delivery. MAC-10.8 cm
5	Abhinaya D/o Chaply	Palapetty	10 months old, Weight: 5 kg, Height: 64 cm SEVERE ANAEMIA+, Birth history: twin/Preterm, Birth weight: 1.2 kg. Other twin- Normal, MAC 11 cm

Annexure 3

List of children with Malnutrition in the age group 5 -15 years
Weight less than 3rd percentile

No	Child Name	Father's Name	Location
1	Sibiraj	Sudhan	Alampetty
2	Vikasini	Vijukumar	Alampetty
3	Pavithra		Chambakkadu
4	Shivashankari	Sudan	Chambakkadu
5	Hareesh		Chambakkadu
6	Archana Ashokan	Ashokan	Chambakkadu
7	Vishal P	Paramashivan	Echampetty
8	Vishnupriya P	Paramashivan	Echampetty
9	Ajesh S	Sreeraman	Iruttalakudy
10	Aruna	Murukan	Palappetty
11	Maheshwaran (Heart Disease)	Raja	Palappetty
12	Saravanan	Pachayan	Palappetty
13	Shanmugaraj (Congenital Heart disease)	Rasaimani	Vellakkal

Annexure 4

List of children requiring Reference to Medical College

No.	Name	Father's Name	Settlement	Condition
1	Vidhya	Kashirajan	Vellakal	Cardiac Reference (VSD)
2	Shanmugaraj	Rasaimani	Vellakkal	Cardiac Reference
3	Gauri	Gopalan	Alampetty	Cardiac case (VSD)
4	Jayarani M	Manikandan	Iruttalakudy	Cardiac case (OS ASD)
5	Sathyadeepika	Chandran	Alampetty	Suspected Cardiac case with Severe acute Malnutrition
6	Maheshwaran	Raja	Palapetty	Large inlet VSD,PAH
7	Dharanya	Rangaswamy	Iruttalakudy	Recurrent CSOM (ENT Case)

Annexure 5

List of children detected with Goitre

No	Child Name	Father's Name	Location
1	Achu	Sooryan	Vellakkal
2	Ayyaswamy	Rajendran	Puthukkudy
3	Deepa	Ashwamedhan	Iruttalakudy
4	Divya	Murukeshan	Palapetty
5	Madhumitha	Palaniswami	Alampetty
6	Nandini	Ramachandran	Puthukkudy
7	Pavithra L	Lakshmanan	Ollavayalkudy
8	Radha	Paramashivan	Iruttalakudy
9	Ranganathan	Murukan	Echampetty
10	Sangeetha B	Bhagyaraj	Ollavayalkudy
11	Santhi Murukan		Palapetty

Annexure 6

List of children with Incomplete Vaccination

No	Child Name	Father's Name	Location
1	Kavya B	Binu	Alampetty
2	Ajanya		Chambakkadu
3	Janani	Manikandan	Chambakkadu
4	Aishwaryalakshmy	Balamurukan	Echampetty
5	Maneshkumar	Shivakumar	Iruttalakudy
6	Malavathy	Raghu	Iruttalakudy
7	Nandini	Ramachandran	Puthukkudy
8	Vinu V		Puthukkudy

Annexure 7

List of children requiring evaluation and follow up from CHC

1. Abhinaya, D/o Chaply and Ayyamma from Palapetty has severe anaemia and Severe Acute Malnutrition (SAM). She requires urgent blood investigation and follow up from CHC.
2. All children with Severe Acute Malnutrition (Annexure 2) requires baseline investigations from CHC
3. All goitre cases (Annexure 5) should be evaluated with Thyroid Function Tests.
4. All children with incomplete vaccination (Annexure 6) should be traced and appropriate action be taken.

REPORT OF PAEDIATRIC MEDICAL CAMP IN TRIBAL SETTLEMENTS OF CHINNAR WILDLIFE SANCTUARY – FEBRUARY 2019

A Paediatric medical camp was organized for children under 15 years of age in 11 tribal settlements in Chinnar Wildlife Sanctuary from 25th to 28th February 2019 with the help of Kerala Forest Department. This was a follow-up medical camp conducted consecutively for the last 4 years. In the four-day camp, a total of 183 children were examined. Out of the total 183 children, 91 children were under the age of 5 years and 92 children were in the age group 5-15 years. When conducted last year, 173 children attended the medical camp. Many children examined previously could not be identified this year as they were sent to schools and hostels outside Chinnar for educational purposes.

Settlement	Under 5 years	5 -15 years	Total
<i>Alampetty</i>	16	20	36
<i>Champakkadu</i>	19	17	36
<i>Vellakkal</i>	2	10	12
<i>Puthukudy</i>	7	8	15
<i>Eechampetty</i>	11	6	17
<i>Iruttalakudy</i>	10	16	26
<i>Mangappara</i>	3	1	4
<i>Palapetty</i>	8	4	12
<i>Ollavayalkudy</i>	11	5	16
<i>Thayannankudy</i>	4	3	7
<i>Mulangamutty</i>	0	2	2
TOTAL	91	92	183

Table showing the participation of children in medical camp from various settlements

MAJOR FINDINGS OF THE MEDICAL CAMP

1. Malnutrition in children under 5 years of age (See annexure 1 & 2)

1.a Under weight

Malnutrition is assessed as low weight for that age (underweight). For under 5 children, growth was assessed using WHO MGRS Charts 2006. Based on the assessment, children

between **-2 SD to -3 SD** are categorised as Moderate Malnutrition and those less than **-3 SD** as Severe Malnutrition. Only those children with at least moderate malnutrition as per the charts are labelled as malnourished.

Settlement	Moderate Malnutrition (Underweight -2 SD to -3 SD)	Severe Malnutrition Underweight < -3SD	Total under 5 children examined
<i>Alampetty</i>	5	3	16
<i>Champakkadu</i>	10	4	19
<i>Vellakkal</i>	1		2
<i>Puthukudy</i>	-	-	7
<i>Eechampetty</i>	2	-	11
<i>Iruttalakudy</i>	2	-	10
<i>Mangappara</i>	1	-	3
<i>Palapetty</i>	4	1	8
<i>Ollavayalkudy</i>	3	-	11
<i>Thayannankudy</i>	-	-	4
<i>Mulangamutty</i>	-	-	0
TOTAL	28	8	91

Table showing the status of malnutrition of children under 5 years of age in various settlements

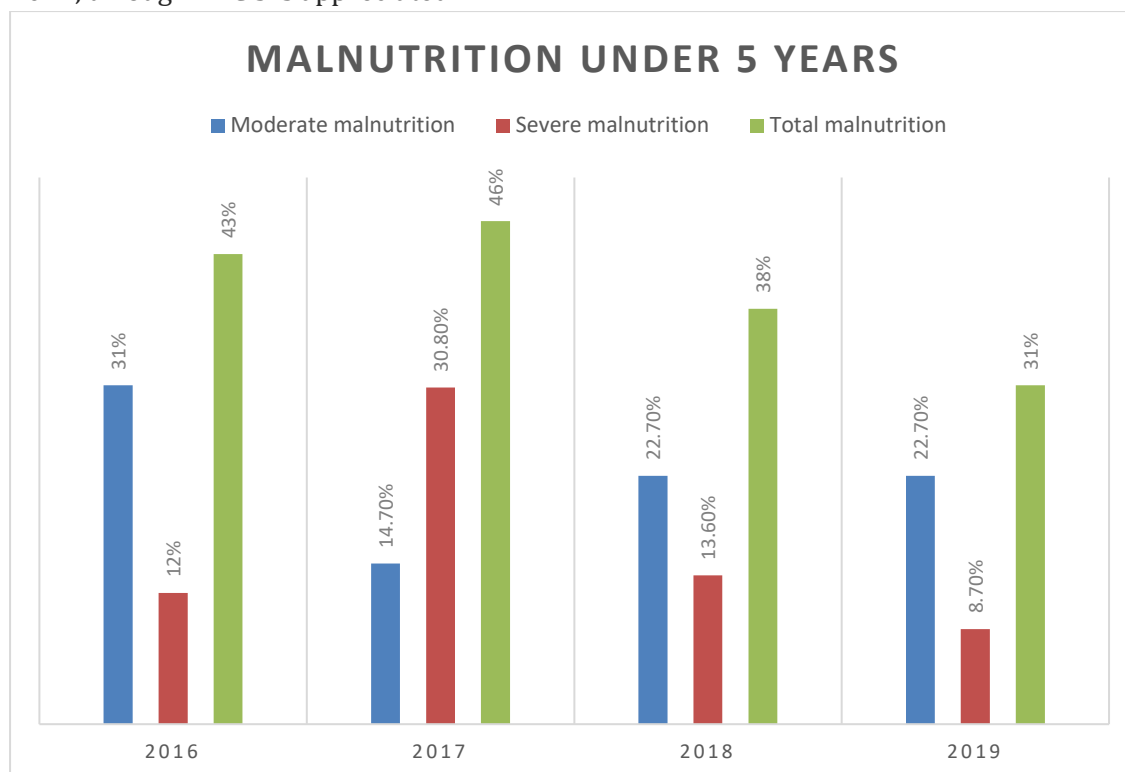
38% children (25 out of 66) of the age group 0-5 years examined were malnourished. And 13.6% children (9 out of 66) showed severe malnutrition requiring urgent corrective measures.

Comparison of malnutrition in children under 5 years of age with previous years

	Moderate malnutrition	%	Severe malnutrition	%	Total malnutrition
<i>2016</i>	18 out of 58	31%	7 out of 58	12%	43%
<i>2017</i>	10 out of 68	14.7%	21 out of 68	30.8%	46%
<i>2018</i>	15 out of 66	22.7%	9 out of 66	13.6%	38%
<i>2019</i>	28 out of 91	22.7%	8 out of 91	8.7%	31%

When comparing malnutrition in children under 5 years of age with previous years, a drastic reduction in total malnutrition could be observed. Even though percentage of moderate malnutrition remains the almost the same, Severe malnutrition cases had been

reduced by three times from 2017. Efforts taken by the Forest officials in this regard after 2017, through EDC's is appreciated.



1.b Stunting

Stunting refers to low height for age. Height measurement was done to assess the effects of nutritional status on long term growth or in other words stunting is taken as a sign of chronic malnutrition. WHO MGRS Charts were used for the assessment.

24.2% children (22 out of 91) under 5 years of age exhibited stunting. Among them 18 comes in the -2 SD to -3 SD category and 4 comes under less than -3 SD. Stunting also showed a reduction in percentage, compared to previous year, when 31.8% children (21 out of 66) exhibited stunting.

1.c Severe Acute Malnutrition (SAM)

Severe acute Malnutrition is defined as weight for height less than **-3 SD** as per WHO charts. 7 children were reported with Severe Acute Malnutrition, 4 from Alampetty, 2 from Chambakkad and 1 from Palapetty. None of the children oedema have odema at present. These children require immediate attention and it is better to provide institutional care. Details of these children are given in *Annexure 2* and is forwarded to medical officer of nearby CHC.

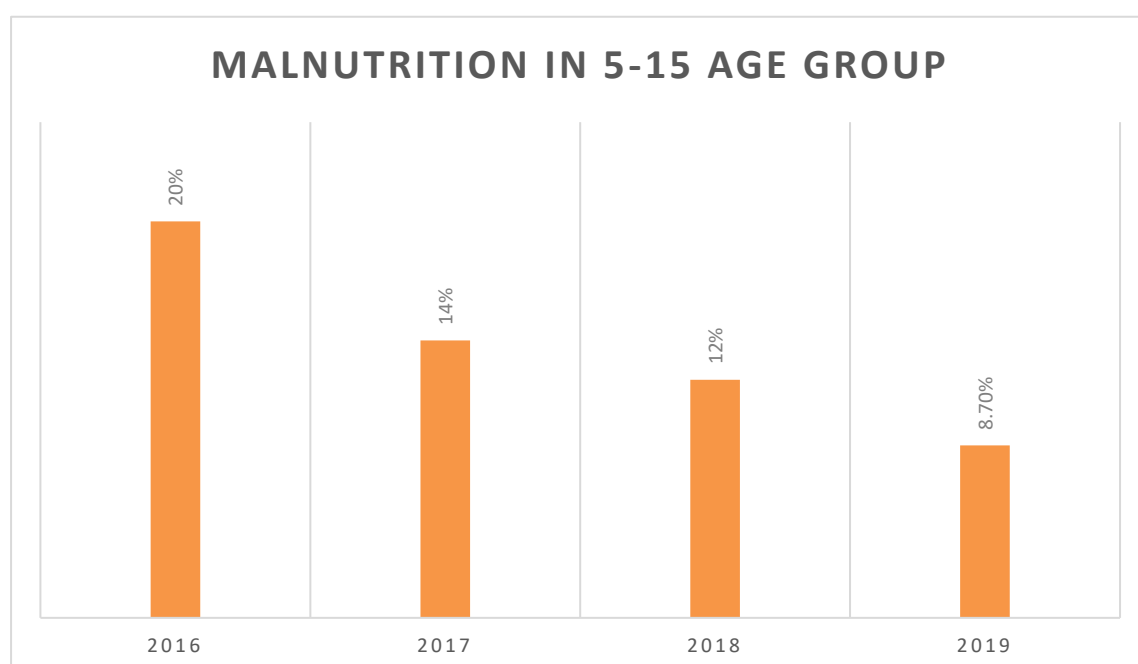
2. Malnutrition in age group 5-15 years

Children were examined and Underweight & Stunting was identified using REVISED Indian Academy of Paediatrics (IAP) charts designed for Indian children. Only those with weight less than 3rd percentile are considered malnourished.

8.7% of the children (8 out of 92) in this age group were found malnourished. (Last year it was 12%) 20.7% of the children fall between 3rd and 10th percentiles, which can be considered as borderline. They can go below 3rd percentile at any time. Thus, their weight is required to be monitored closely.

Settlement	Malnourished children (weight < 3 rd percentile)	Total children examined (5-15 age group)
<i>Alampetty</i>	1	20
<i>Champakkadu</i>	3	17
<i>Vellakkal</i>	2	10
<i>Puthukudy</i>	-	8
<i>Eechampetty</i>	2	6
<i>Iruttalakudy</i>	-	16
<i>Mangappara</i>	-	1
<i>Palapetty</i>	-	4
<i>Ollavayalkudy</i>	1	5
<i>Thayannankudy</i>	-	3
<i>Mulangamutty</i>	-	2
TOTAL	8	92

Table 3. Table showing children with malnutrition in the age group of 5–15 years



Details of children with malnutrition (weight < 3rd percentile) are given in *Annexure 3*

3. Anaemia

Anaemia detection was done only on the basis of clinical observation. About 26.8% of total children examined were found to be anaemic clinically. Almost 28.6% (26/91) children in age group 0-5 years and 25% (23/92) children in the age group of 5-15 years were found anaemic. Total anaemic cases seem to have reduced drastically compared to previous year when 49% of the children examined showed signs of anaemia.

Iron syrups/tablets were provided to all anaemic children as far as possible. Anaemia prevalence detected in the settlements may vary due to the following reasons.

- Mild cases may be missed in small children
- No lab investigation was done to assess blood Hb level

4. Cardiac cases

Three cases were reported, 1 from Vellakkal and 2 from Alampetty. All these children should be sent to Kottayam Medical College or preferably Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum.

5. Neurological problems

One child from Chambakkadu was reported to have Mental retardation with epilepsy. Another one from same settlement was found to have developmental delay. Both need detailed evaluation. *See Annexure 4*

Two cases of Febrile seizure are reported one each from Vellakkal and Puthukudy.

6. Goitre

Nine cases of goitre were reported, two each from Eechampetty and Iruttalakudy, one each from Puthukudy, Palapetty, Alampetty, Vellakkal and Ollavayalkudy. *See Annexure 5*

7. Dental caries

Most of the children examined in the camp have poor oral hygiene. 21 children under 5 years have dental caries. 74 children out of 92 children in age group 5 - 15 years have dental caries, which comes to around 80% in this age group. The percentage of children with dental caries remains the same from previous year. Oral hygiene has become a problem of serious concern among children in various settlements.

8. Skin conditions

Most of the children examined, have dry skin. A few cases of atopic dermatitis, pyoderma and fungal infections were detected and given medications. Chambakkad showed the highest number of skin problems in previous years. Surprisingly, the number has come down drastically this year.

9. Respiratory infections

Many cases of acute respiratory infections and a few cases of ASOM were reported and given adequate medication.

10. Incomplete vaccination

Medical team couldn't access vaccination registers in some places. Still a few cases of incomplete vaccination as per history were noticed and the details are given in *Annexure 6*.

NOTE: Details regarding every child examined is documented on separate note books and is entrusted with Forest Department. A soft copy of examination details from year 2017 onwards will be kept safely with the medical team. Efforts will be taken to completely digitize the medical records.

COMPARISON OF MALNUTRITION IN ALAMPETTY & CHAMBAKKADU

Alampetty and Chambakkad tribal settlements in Chinnar Wildlife Sanctuary provides best comparison due to the consistent participation of children in medical camps. Moreover, these settlements showed the most sensitive results in the previous examinations with regard to malnutrition.

Alampetty reported 100% malnutrition in children under the age of 5 years in 2017. In 2018 due to the efforts of Forest Department officials, the percentage of malnutrition could be reduced down to 54% and this was further reduced to 50% in 2019. Severe malnutrition was reduced to 19% from 31% of previous year. But the percentage of children with moderate malnutrition increased to 31% from 23% last year.

Alampetty tribal settlement can be considered as a model for management of malnutrition through proper intervention. It was noted that the Forest department is providing additional nutritional supply to all children in the settlement from 2017 onwards. The efforts are showing its results through the drastic decline in number of malnourished children after two years. Among the three severely malnourished children in Alampetty, one child is having congenital heart disease, second child was born in Echampetty and was recently shifted to Alampetty. Effectively, only one child could be counted in this category and the percentage would have come down to 6.3% from 18.8%. Hence total malnutrition in Alampetty could have been 37.6%.

ALAMPETTY	Moderate malnutrition	Severe malnutrition	Total Malnutrition (age under 5)
<i>September 2016</i>	50%	25%	75%
<i>March 2017</i>	35.7%	64.3%	100%
<i>January 2018</i>	23%	30.8%	53.8%
<i>February 2019</i>	31.3%	18.8%	50%

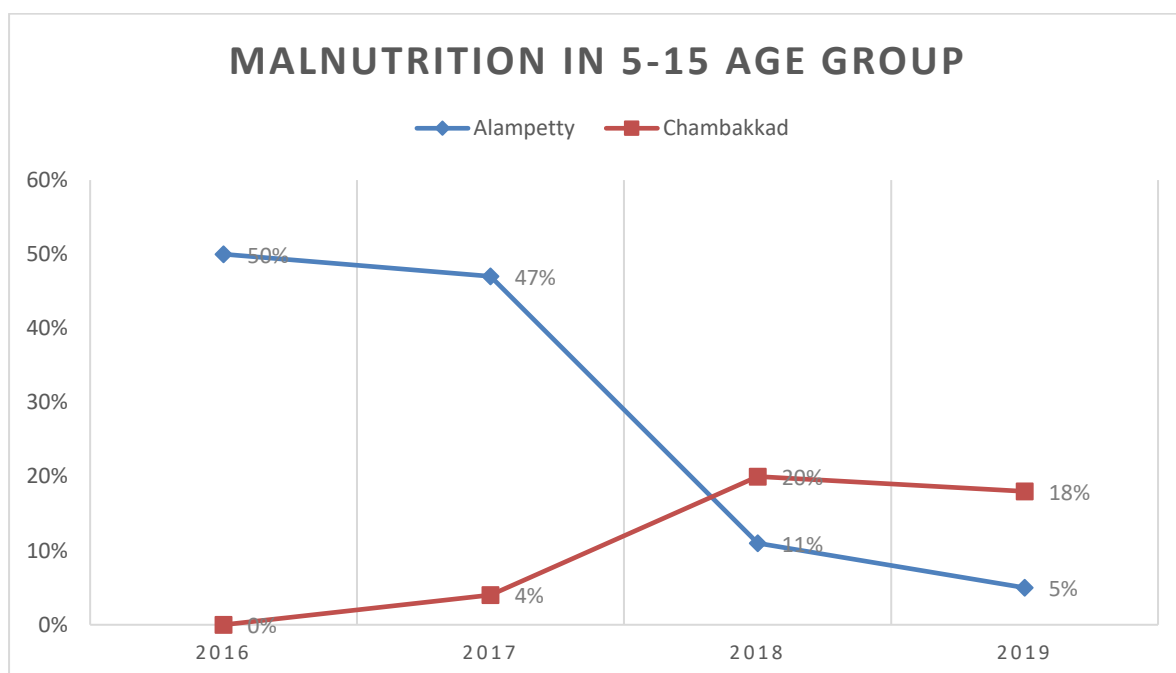
Table showing the status of malnutrition of children under 5 years of age in Alampetty

In Chambakkadu, total malnutrition cases increased by 10% from previous years. There was a definite reduction in severe malnutrition in previous year but it showed slight increase this year. Moderate malnutrition also showed a 7% increase from previous year. Parents lack awareness regarding health issues of children and hence co-operation in medical camp was poor.

CHAMBAKKADU	Moderate malnutrition	Severe malnutrition	Total malnutrition (age under 5)
September 2016	46.6%	26.6%	73.2%
March 2017	0%	64.3%	64.3%
January 2018	45.4%	18.2%	63.6%
February 2019	52.6%	21.1%	73.7%

Table showing the status of malnutrition of children under 5 years of age in Chambakkadu

When children coming under 5-15 age group was assessed, Alempetty showed steep reduction in numbers for the last four years. Contrary to that Champakkadu is showing steady increase in number of malnourished children in the concerned age group.



We wholeheartedly appreciate the efforts of Forest Department and Anganwadi workers to provide extra nutrition to these children. In spite of these efforts, 30% children are still malnourished here. Hence all measures taken last year to supplement nutrition should be intensified this year for better outcome.

See Annexure 1 for details

SUGGESTIONS BASED ON ABOVE FINDINGS

1. Measures to correct malnutrition: Since 31% of children under 5 years of age are malnourished and 8.7% having severe malnutrition, urgent measures are required to improve nutrition. This is necessary to avoid unexpected increase in mortality in children under 5 years of age. Special care is to be given to children of Alampetty, Champakkadu and Palapetty where severe malnutrition cases are reported
 - a. Proper implementation of food supply through Anganwadis
 - b. It is better food be cooked and fed there in Anganwadi itself at least twice daily to ensure beneficiaries are receiving the food rations distributed,
 - c. Double feeding of children with severe malnutrition
 - d. Provide eggs and milk daily to these children in addition to food supplements from Anganwadi.
 - e. Two out of seven children in the under 5 category who showed severe malnutrition belong to less than 1 year of age. Hence proper weaning practices after 6 months of age are to be encouraged. We observed mothers in these settlements have a tendency to avoid weaning up to 1 year.
 - f. Many babies are found to have low birth weight. In order to overcome the situation, nutrition of adolescent girls and pregnant mothers are to be improved.
 - g. Educate mothers regarding breast feeding, proper weaning, and healthy food habits.
2. Measures to correct malnutrition in age group 5- 15 years
 - a. Provide 3 meals per day to all children under 15 years of age through schools. Morning and evening snacks in the form of eggs, milk, Uppuma etc. may be provided. Measures taken in this regard by forest department in Alampetty settlement after 2017 resulted in drastic reduction of malnutrition in this age group from 50% to 5%. Hence Alampetty model might be extended to other settlements also.
 - b. Encourage people to include green leafy vegetables, pulses and ragi in diet.
3. All Severe Acute Malnutrition cases should undergo basic workup and further follow-up from near-by CHC. Details are informed to CHC medical officer.
4. Anaemia correction: Medical team has provided iron supplements as far as possible
 - a. Ideally, hemoglobin estimation should be done for all children in these settlements with the help of CHC
 - b. Iron supplements must be given if found anaemic for 3 months.
 - c. Iron syrups must be provided to small children as they can't tolerate iron tablets.
 - d. De-worming must be done in every 6 months. Make sure all children are covered as part of National Deworming Day.
 - e. Cultivation and consumption of Iron rich foods like Ragi, leafy vegetables, jaggery etc. should be encouraged as a long-term solution for the problem.

5. Dental caries: About 80% children in age group 5-15 years of age have dental caries. No signs of improvement are shown in this regard from last year. Hence it is better to conduct dental checkup for all the children and fluoride estimation of water sources. Ensure proper dental hygiene and supply of micronutrients. Importance of dental hygiene should be propagated in the community.
6. Goitre: Since 9 cases of goiter were reported, it is advised to conduct iodine estimation in water sources. Most people are found to be using non iodised crystal salt. Encourage them to switch over to iodised salt.
7. Many medical camps are conducted in these areas by various agencies. Better co-ordination of these camps and agencies will make it beneficial for people in the area.
8. Health checkups by a pediatrician, at least once in a year is absolutely necessary, but once in 6 months is advised.
9. Health education to parents regarding proper vaccination, proper diet and feeding habits.
10. Follow up cases: Proper follow up and transport facilities must be provided to children requiring evaluation in medical colleges. They must be accompanied by someone to provide necessary assistance and essential financial support to both the family and support person be provided.
11. Provide educational facilities up to a minimum of 10th standard.

Report prepared by



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5 March 2019

Annexure 1

List of children under 5 years of age with severe malnutrition

No	Child Name	Father's Name	Location
1	Abhinaya	Chaply	Palappetty
2	Krishnaraj	Selvan	Alampetty
3	Dhanya V	Vijukumar	Alampetty
4	Sathyadeepika	Chandran	Alampetty
5	Janani	Manikandan	Chambakkadu
6	Bhavana	Shaji	Chambakkadu
7	Shivaniya	Shaji	Chambakkadu
8	Ahalya		Chambakkadu

List of children under 5 years of age with moderate malnutrition

No	Child Name	Father's Name	Location
1	Sandhya	Soman	Vellakkal
2	Sreeraj Vijayakumar	Vijayakumar	Ollavayalkudy
3	Nandini	Chinnaswamy	Ollavayalkudy
4	Chaply B	Balamurugan	Echampetty
5	Aishwaryalakshmy	Balamurukan	Echampetty
6	Malavathy	Raghu	Iruttalakudy
7	Dhanya Hariraj	Hariraj	Iruttalakudy
8	Masiladevi	Murukan	Palappetty
9	Kanusha	Binukumar	Palappetty
10	Midhun krishnan	Moorthy	Palappetty
11	Madhusree	Moorthy	Palappetty
12	Anu	Manikandan	Alampetty
13	Varunya V	Vijay	Alampetty
14	Sandhini M	Mottayan	Alampetty
15	Sanjay S	Sasidharan	Alampetty
16	Madhukuttan	Kuppuswami	Alampetty

17	Sreekumar	Chandrakumar	Ollavayalkudy
18	Harikrishnan	Dharmaraj	Mangappara
19	Arathi Binu	Binu	Chambakkadu
20	Vismaya	Biju	Chambakkadu
21	Greeshma	Girijayan	Chambakkadu
22	Saran		Chambakkadu
23	Manjunath	Satheeshkumar	Chambakkadu
24	Ananya	Rajesh	Chambakkadu
25	Abhinesh	Ravikumar	Chambakkadu
26	Pranitha		Chambakkadu
27	Arathi Binu	Binu	Chambakkadu
28	Sidharth	Siju	Chambakkadu

Annexure 2
Severe Acute Malnutrition

No	Name	Settlement	Details
1	Dhanya V D/o Bijukumar	Alampetty	4 years 6 months, Weight: 10.6 kg, Height: 94.3 cm Birth Weight: 2.5 Kg Severe Acute Malnutrition Underweight Mid Arm Circumference (MAC): 13.2 cm
2	Sathyadeepika D/o Chandran	Alampetty	4 years 4 months Weight: 9 kg, Height: 92 cm Congenital Heart Disease High risk VSD, Evaluated at Kottayam Medical College Stunting, Severe Acute Malnutrition Mild anaemia+, Birth weight: 2.25 kg MAC: 12.2 cm
3	Sanjay S S/o Sasidharan	Alampetty	3 years 7 months Weight: 12.2 kg , Height: 102.2 cm Anaemia Severe Acute Malnutrition MAC: 13.6 cm
4	Madhukuttan S/o Kuppuswamy	Alampetty	4 years 3 months Weight: 10.8 kg , Height: 96 cm Severe Acute Malnutrition Upper Respiratory tract Infection MAC: 13.8 cm
5	Abhinaya D/o Chaply	Palapetty	1 year 11 months old, Weight: 7.18 kg, Height: 76.5 cm Severe anaemia, Severe malnutrition, Severe Acute Malnutrition, Delayed attainment of milestone Preterm/Twin, Birth weight: 1.2 kg., Other twin- Normal MAC: 12.2 cm

6	Shivaniya D/o Shaji	Chambakkadu	8 months Weight: 5 kg, Height: 62.5 cm Term, Birth Weight: 2.2 kg, SVD Severe malnutrition, Inadequate Weaning Upper Respiratory tract Infection MAC: 12.3 cm
7	Ahalya	Chambakkadu	3 years 6 months Weight: 10.2 kg, Height: 92.9 cm Term, Birth Weight: 2.14 kg, SVD Respiratory infections in last week Severe Acute Malnutrition Severe Malnutrition

Annexure 3

List of children with Malnutrition in the age group 5 -15 years
Weight less than 3rd percentile

No	Child Name	Father's Name	Location
1	Renjith Kumar	Chinnaraj	Vellakkal
2	Sangeetha B	Bhagyaraj	Ollavayalkudy
3	Vishal P	Paramashivan	Echampetty
4	Manoj C	Chinnappan	Echampetty
5	Nandhana	Vijukumar	Alampetty
6	Sanmugaraj (? Congenital Heart disease)	Rasaimani	Vellakkal
7	Hareesh		Chambakkadu
8	Archana Ashokan	Ashokan	Chambakkadu
9	Ajanya		Chambakkadu

Annexure 4

List of children requiring External Evaluation and follow up

No.	Name	Father's Name	Settlement	Referral centre & Condition
1	Gauri	Gopalan	Alampetty	Medical College, Cardiology Consultation
2	Sanmugharaj		Vellakkal	Medical College, Cardiology Consultation
3	Sathyadeepika	Chandran	Alampetty	Medical College, Cardiology Review (Congenital Heart Disease - VSD)
4	Ranganathan	Murukan	Echampetty	Medical College, Dermatology Consultation
5	Aravind		Chambakkadu	Medical College, Neurology Consultation (Mental retardation with seizure)
6	Archana	Ashokan	Chambakkadu	Medical College, Orthopedic Consultation
7	Abhinaya	Chaply	Palappetty	Medical College, Paediatric consultation (Anaemia, Failure to thrive)
8	Janani	Manikandan	Chambakkadu	Medical College, Paediatric consultation (Developmental delay with constipation)
9	Abhinaya C	Chandran	Echampetty	CHC, Evaluation for rickets (X-ray left wrist)
10	Chaply B	Balamurugan	Echampetty	CHC, Evaluation of respiratory infection
11	Jothish	Kannappan	Chambakkadu	CHC, Evaluation of TB
12	Vishal P	Paramashivan	Echampetty	CHC, Evaluation of TB
13	Murugesan		Vellakkal	CHC, Febrile seizure (Adequate supply of Frisium for intermittent prophylaxis)
14	Ramu R	Raveendran	Puthukkudy	CHC, Febrile seizure (Adequate supply of Frisium for intermittent prophylaxis)

Annexure 5

List of children detected with Goitre

No	Child Name	Father's Name	Location
1	Dhanalakshmi	Anguswamy	Puthukkudy
2	Dharanya	Rangaswamy	Iruttalakudy
3	Kausalya M	Murugaraj	Vellakkal
4	Madhumitha	Palaniswami	Alampetty
5	Manoj C	Chinnappan	Echampetty
6	Priyanka	Chaply	Palappetty
7	Radha	Paramashivan	Iruttalakudy
8	Ranganathan	Murukan	Echampetty
9	Sangeetha B	Bhagyaraj	Ollavayalkudy

Annexure 6

List of children with Incomplete Vaccination

No	Child Name	Father's Name	Location
1	Arun K	Kashiraman	Puthukkudy
2	Kanusha	Binukumar	Palappetty
3	Murugesan	Eeshwaran	Vellakkal
4	Sreekumar	Chandrakumar	Ollavayalkudy
5	Thankachan	Rangaswamy	Iruttalakudy

Annexure 7

List of children requiring evaluation and follow up from CHC

1. All children with Severe Acute Malnutrition (Annexure 2) require baseline investigations from CHC
2. All goitre cases (Annexure 5) should be evaluated with Thyroid Function Tests.
3. All children with incomplete vaccination (Annexure 6) should be traced and appropriate action be taken.

REPORT OF

PAEDIATRIC MEDICAL CAMP

IN TRIBAL SETTLEMENTS OF CHINNAR WILDLIFE SANCTUARY – MAY 2022

A Paediatric medical camp was organized in 11 tribal settlements of Chinnar Wildlife Sanctuary from 10th to 13th May 2022 with the help of Kerala Forest Department. This was a follow-up medical camp conducted consecutively for the last 6 years. In the four-day camp, a total of 220 children were examined. Out of the total 220 children, 86 children were under the age of 5 years and 134 children were in the age group 5-18 years.

LOCATION	MALE	FEMALE	UNDER 5	5 TO 18 YEARS	TOTAL
ALAMPETTY	20	28	13	35	48
CHAMBAKKADU	23	22	18	27	45
VELLAKKAL	2	3	2	3	5
PUTHUKKUDY	2	7	3	6	9
ECHAMPETTY	16	16	16	16	32
IRUTTALAKUDY	11	12	10	13	23
MANGAPPARA	4	0	1	3	4
PALAPPETTY	6	9	8	7	15
OLLAVAYALKUDY	14	14	10	18	28
THAYANNANKUDY	3	6	4	5	9
MULANGAMUTTY	1	1	1	1	2
TOTAL	102	118	86	134	220

Table showing the participation of children in medical camp from various settlements

MAJOR FINDINGS OF THE MEDICAL CAMP

1. Malnutrition in children under 5 years of age (See annexure 1 & 2)

1.a Under weight

Malnutrition is assessed as low weight for that age (underweight). For under 5 children, growth was assessed using WHO MGRS Charts 2006. Based on the assessment, children between **-2 SD to -3 SD** are categorised as Moderate Malnutrition and those less than **-3 SD**

as Severe Malnutrition. Only those children with at least moderate malnutrition as per the charts are labelled as malnourished.

SETTLEMENT	MODERATE MALNUTRITION	SEVERE MALNUTRITION	TOTAL UNDER 5 CHILDREN EXAMINED
	(UNDERWEIGHT -2 SD TO -3 SD)	UNDERWEIGHT < -3SD	
ALAMPETTY	6	2	13
CHAMPAKKADU	8	3	18
VELLAKKAL	0	0	2
PUTHUKUDY	1	0	3
EECHAMPETTY	6	1	16
IRUTTALAKUDY	5	0	10
MANGAPPARA	0	0	1
PALAPETTY	3	1	8
OLLAVAYALKUDY	1	1	10
THAYANNANKUDY	1	0	4
MULANGAMUTTY	0	0	1
TOTAL	31	8	86

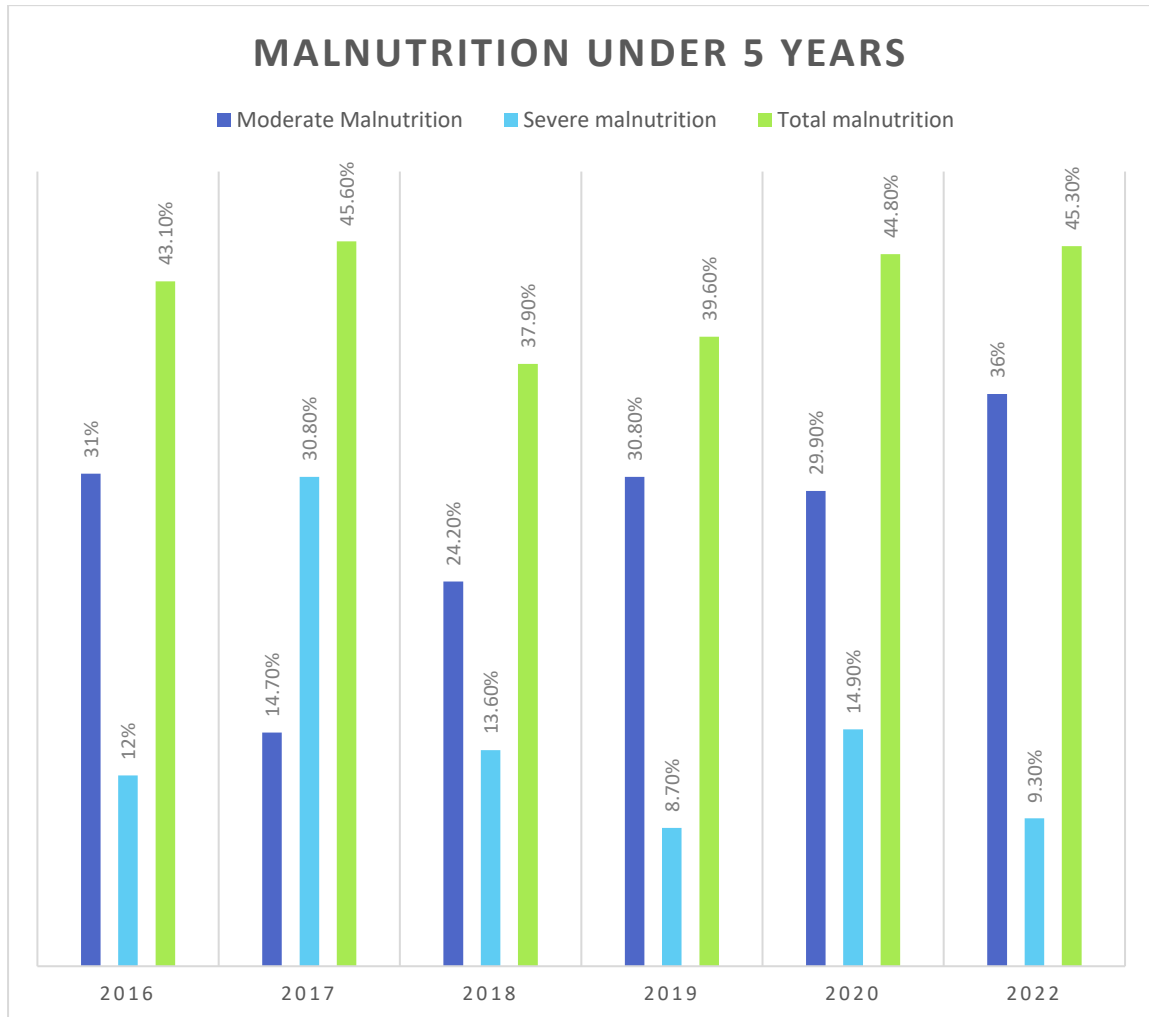
Table showing the status of malnutrition of children under 5 years of age in various settlements

36% children (31 out of 86) of the age group 0-5 years examined were moderately malnourished. And 9.3% children (8 out of 86) showed severe malnutrition requiring urgent corrective measures. *See Annexure 1 and 2* for details.

Comparison of malnutrition in children under 5 years of age with previous years

	MODERATE MALNUTRITION	%	SEVERE MALNUTRITION	%	TOTAL MALNUTRITION
2016	18 out of 58	31%	7 out of 58	12%	43.1%
2017	10 out of 68	14.7%	21 out of 68	30.8%	45.6%
2018	16 out of 66	24.2%	9 out of 66	13.6%	37.9%
2019	28 out of 91	30.8%	8 out of 91	8.7%	39.6%
2020	26 out of 87	29.9%	13 out of 87	14.9%	44.8%
2022	31 out of 86	36%	8 out of 86	9.3%	45.3%

When comparing malnutrition in children under 5 years of age with previous years, total malnutrition remains the same. Severe malnutrition seems to have reduced from previous years. There is a trend of children shifting category from severe malnutrition to moderate malnutrition since 2017. Efforts taken by the Forest officials in this regard after 2017, through EDC's is appreciated.



Graph showing the status of malnutrition in children under 5 years of age group over years

1.b Stunting

Stunting refers to low height for age. Height measurement was done to assess the effects of nutritional status on long term growth or in other words stunting is taken as a sign of chronic malnutrition. WHO MGRS Charts were used for the assessment.

32.5% children (28 out of 86) under 5 years of age exhibited stunting. Among them 23 comes in the -2 SD to -3 SD category and 5 comes under less than -3 SD. Stunting shows an increase in percentage, compared to previous year, when 17.2% children (15 out of 87) exhibited stunting. See Annexure 3

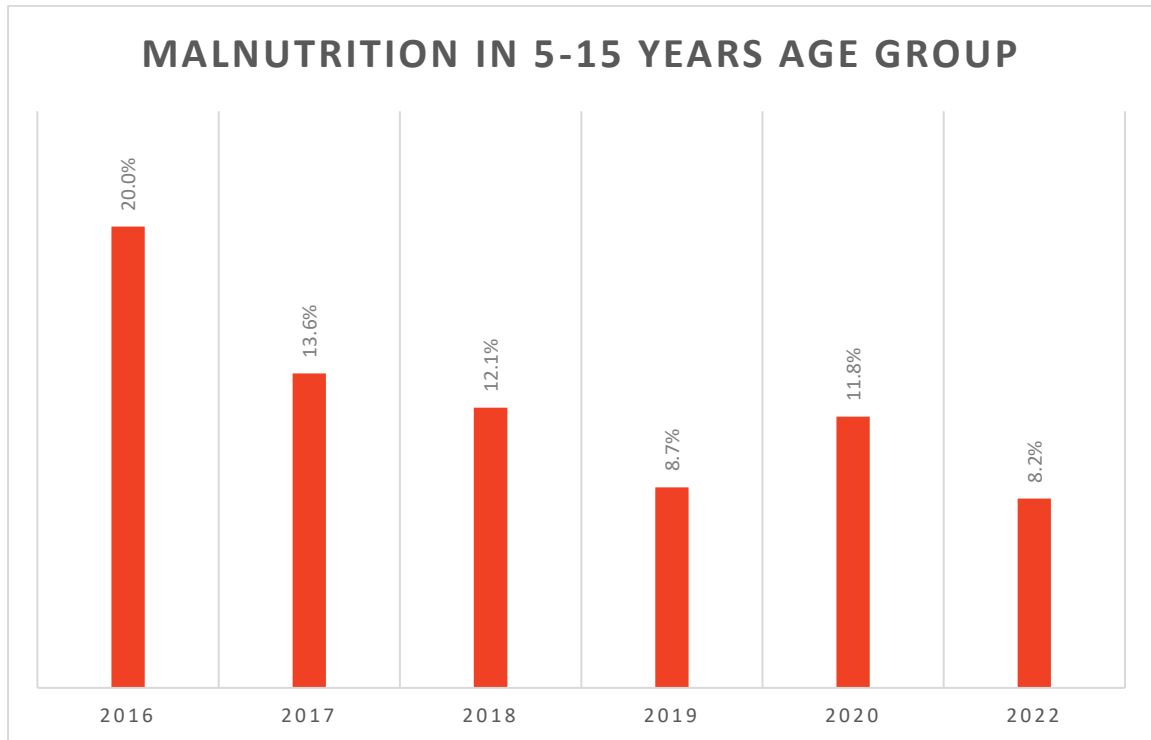
2. Malnutrition in age group 5-18 years (School going children)

Total 134 Children were examined in this age group. Underweight & Stunting was identified using REVISED Indian Academy of Paediatrics (IAP) charts designed for Indian children. Only those with weight less than 3rd percentile are considered malnourished.

8.2% of the children (11 out of 134) in this age group were found malnourished. (Last year it was 11.76%) 19.5% of the children fall between 3rd and 10th percentiles, which can be considered as borderline. They can go below 3rd percentile at any time. Thus, their weight is required to be monitored closely.

SETTLEMENT	MALNOURISHED CHILDREN (WEIGHT < 3 RD PERCENTILE)	TOTAL CHILDREN EXAMINED (5-18 AGE GROUP)
ALAMPETTY	8	35
CHAMPAKKADU	1	27
VELLAKKAL	1	3
PUTHUKUDY	0	6
EECHAMPETTY	1	16
IRUTTALAKUDY	0	13
MANGAPPARA	0	3
PALAPETTY	0	7
OLLAVAYALKUDY	0	18
THAYANNANKUDY	0	5
MULANGAMUTTY	0	1
TOTAL	11	134

Table 3. Table showing children with malnutrition in the age group of 5-18 years



Graph showing the status of malnutrition in children in 5-18 years of age group over years

Details of children with malnutrition (weight < 3rd percentile) are given in *Annexure 4*

3. Anaemia

Anaemia detection was done only on the basis of clinical observation. About 30% of total children examined were found to be anaemic clinically. Almost 36% (31/86) children in age group 0-5 years and 26.1% (35/134) children in the age group of 5-18 years were found anaemic. One child with severe anaemia needs follow up from CHC (*See Annexure 8*).

Iron syrups/tablets were provided to all anaemic children as far as possible. Anaemia prevalence detected in the settlements may vary due to the following reasons.

- Mild cases may be missed in small children
- No lab investigation was done to assess blood Hb level

4. Cardiac cases

Four cases were reported, one new case from Chambakkad and two from Alampetty. All these children should get an ECHO done and be sent to Kottayam Medical College or preferably Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum for further management if needed. The medical team is happy to see one of the cardiac cases reported last few years (Gauri from Allampetty) underwent surgery from Sreechithra last month. Special attention should be given for her follow up check-ups.

See Annexure 8

5. Vision problems

All children above 6 years were screened using Snellen vision chart. 16 children were screened to have defective vision and one child with dacryocystitis. They require further evaluation and corrective measures under the direction of an Ophthalmologist.

See Annexure 8

6. Developmental Delay and Mental Retardation

Three cases of developmental delay and three cases of mental retardation were reported.

See Annexure 5

7. Goitre

Goitre cases reduced drastically compared to previous years. Promotion of iodised salt in this regard is being fruitful. This year, just one case of goitre was reported from Iruttalakkudy.

See Annexure 6

8. Dental caries

Most of the children examined in the camp have poor oral hygiene. 15 children under 5 years have dental caries. 59 children out of 134 children in age group 5 - 18 years have dental caries, which comes to around 44% in this age group. Oral hygiene has become a problem of serious concern among children in various settlements. The medical team was surprised to see beetel leaf chewing habit in 3-year-old girl in Ollavayal. Such chewing habits should be discouraged among children

9. Skin conditions

Most of the children examined, have dry skin. A few cases of atopic dermatitis, pyoderma and fungal infections were detected and given medications.

10. Respiratory infections

Many cases of acute respiratory infections and a few cases of ASOM were reported and given adequate medication.

11. Incomplete vaccination

A few cases of incomplete vaccination as per history were noticed and the details are given in *Annexure 7*.

MALNUTRITION IN ALAMPETTY & CHAMBAKKADU

Alampetty and Chambakkad tribal settlements in Chinnar Wildlife Sanctuary offers consistent participation of children in medical camps. Moreover, these settlements showed the most sensitive results compared to previous years with regard to malnutrition.

a. Children under 5 years of age

Alampetty reported 100% malnutrition in children under the age of 5 years in 2017 with 64 % being severely malnourished. After conducting medical camp in 2017, various coordinated efforts were made to improve the nutritional status of these children. We appreciate the efforts taken by Forest Department in those days to provide daily extra food supplements for about 2 years through EDC in addition to ICDS Supply.

ALAMPETTY	MODERATE MALNUTRITION	SEVERE MALNUTRITION	TOTAL MALNUTRITION (AGE UNDER 5)
2016	50.0%	25.0%	75.0%
2017	35.7%	64.3%	100.0%
2018	30.8%	30.8%	61.5%
2019	31.3%	25.0%	56.3%
2020	23.5%	29.4%	52.9%
2022	46.2%	15.4%	61.5%

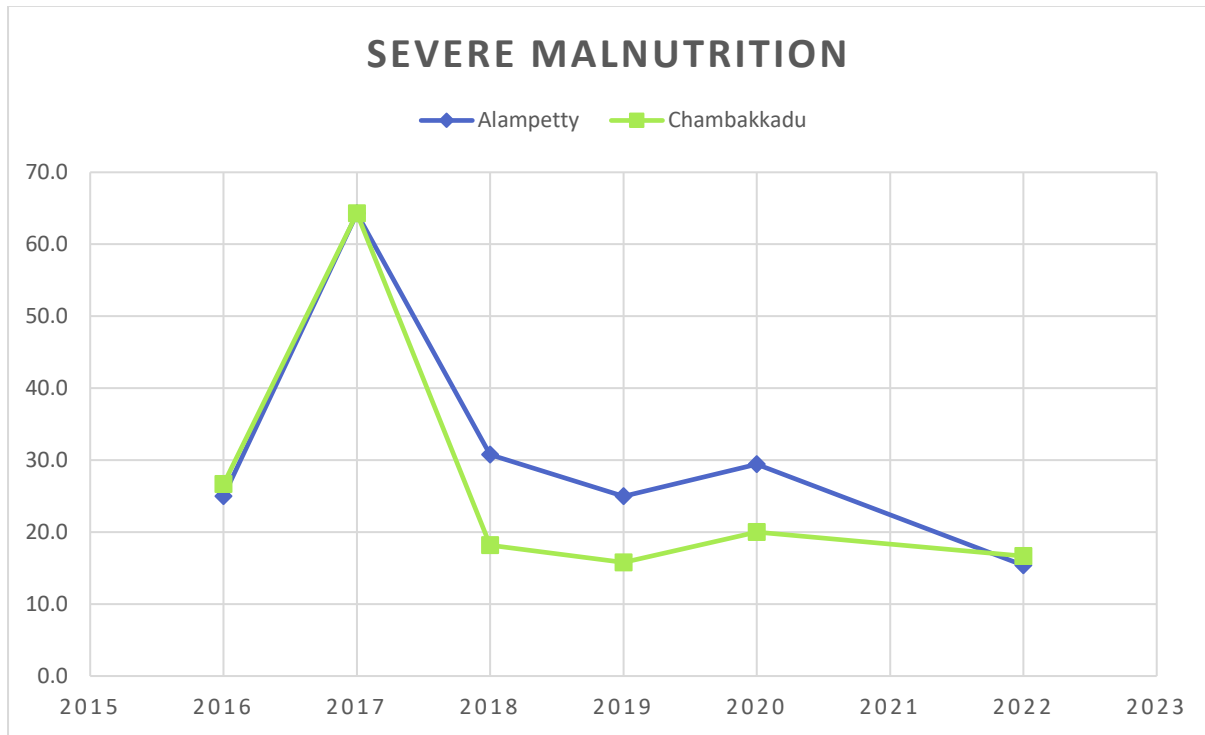
Table showing the status of malnutrition of children under 5 years of age in Alampetty

CHAMBAKKADU	MODERATE MALNUTRITION	SEVERE MALNUTRITION	TOTAL MALNUTRITION (AGE UNDER 5)
2016	46.7%	26.7%	73.3%
2017	0.0%	64.3%	64.3%
2018	36.4%	18.2%	54.5%
2019	52.6%	15.8%	68.4%
2020	56.0%	20.0%	76.0%
2022	44.4%	16.7%	61.1%

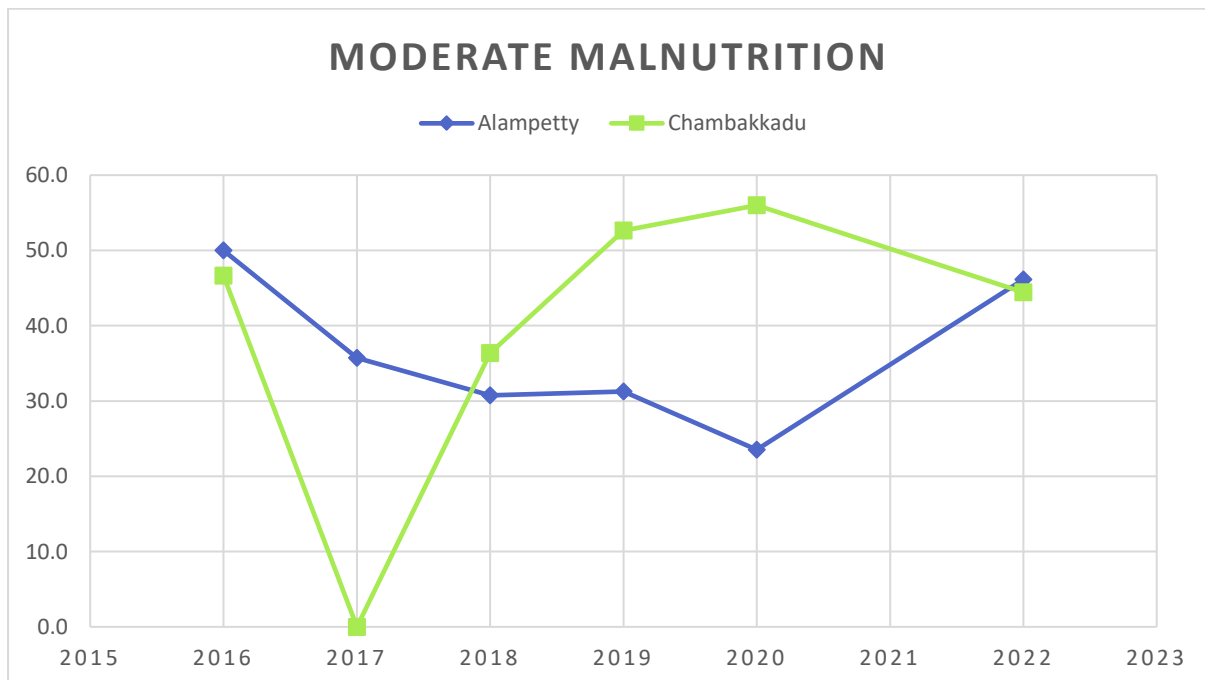
Table showing the status of malnutrition of children under 5 years of age in Chambakkadu

From 2018 onwards, the percentage of malnutrition has started declining. The good news is, severe malnutrition has reduced drastically from 64.3% in 2017 to 15.4% in 2022. A word of caution is that, moderate malnutrition has increased from 23.5% in 2020 to 46.2% in 2022. It simply means if constant care is withdrawn, these moderately malnourished children may worsen at any time and may become severely malnourished. We must focus on bringing these children to normal growth parameters.

In Chambakkadu, total malnutrition remains almost same. But severe malnutrition has reduced from previous years to 16.7 %



Graph showing the status of children with severe malnutrition under 5 years of age group



Graph showing the status of children with moderate malnutrition under 5 years of age group
See Annexure 1 for details

b. School going children (5-18 years of age group)

Malnutrition among school going children was very high in Alampetty. In 2016 and 2017 nearly half the children in the age group were malnourished. It was reported during the paediatric medical camps and the daily food supplement arranged by the Forest Department through EDC made drastic difference in the coming years. In 2018 and 2019, the percentage of malnourished children reduced drastically to around 10%. Unfortunately, the percentage of malnourished children in the age group is slowly increasing after the food supplements were stopped in two years of time.

At the same time, percentage of malnourished children in Chambakkad remains nearly same except for a spike exhibited in 2018. After that the percentage shows a reducing trend.

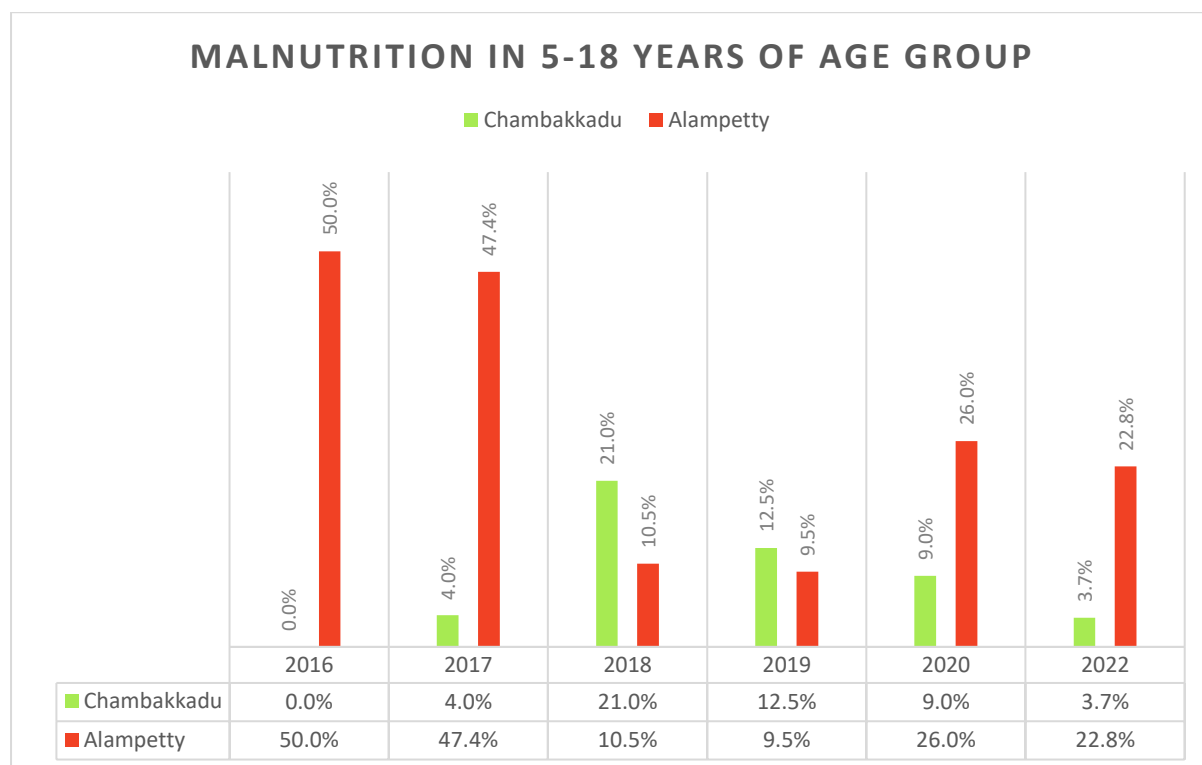


Table showing the status of malnutrition in children among 5-18 years of age group

SUGGESTIONS BASED ON ABOVE FINDINGS

1. Measures to correct malnutrition: Since 45.3% of children under 5 years of age are malnourished and 9.3% having severe malnutrition, urgent measures are required to improve nutrition. This is necessary to avoid unexpected increase in mortality in children under 5 years of age. Special care is to be given to children of Alampetty, Champakkadu, Palapetty, Eechampetty and Ollavayalkudy where severe malnutrition cases are reported
 - a. Proper implementation of food supply through Anganwadis
 - b. It is better food be cooked and fed there in Anganwadi itself at least twice daily to ensure beneficiaries are receiving the food rations distributed,
 - c. Double feeding of children with severe malnutrition
 - d. Provide eggs and milk daily to these children in addition to food supplements from Anganwadi.
 - e. Proper weaning practices (Starting semisolid food in addition to breast milk) after 6 months of age are to be encouraged. We observed mothers in these settlements have a tendency to avoid weaning up to 1 year.
 - f. Many babies are found to have low birth weight. In order to overcome the situation, nutrition of adolescent girls and pregnant mothers is to be improved.
 - g. Educate mothers regarding breast feeding, proper weaning, and healthy food habits.
2. Measures to correct malnutrition in age group 5 - 18 years
 - a. Provide 3 meals per day to all children under 15 years of age through schools. Morning and evening snacks in the form of eggs, milk, Uppuma etc. may be provided.
 - b. Encourage people to include green leafy vegetables, pulses and ragi in diet.
3. All Severe Acute Malnutrition cases should undergo basic workup and further follow-up from near-by CHC.
4. Anaemia correction: Medical team has provided iron supplements as far as possible
 - a. Ideally, hemoglobin estimation should be done for all children in these settlements with the help of CHC
 - b. Iron supplements must be given if found anaemic for 3 months.
 - c. Iron syrups must be provided to small children as they can't tolerate iron tablets.
 - d. De-worming must be done in every 6 months. Make sure all children are covered as part of National Deworming Day.
 - e. Cultivation and consumption of Iron rich foods like Ragi, leafy vegetables, jaggery etc. should be encouraged as a long-term solution for the problem.
5. Dental caries: No signs of improvement are shown in this regard from last year. Hence it is better to conduct dental checkup for all the children and fluoride estimation of water sources. Ensure proper dental hygiene and supply of micronutrients. Importance of dental hygiene should be propagated in the community.
6. Goitre: Showed drastic reduction from previous years. Use of iodised salt may be encouraged among tribal people.

7. Many medical camps are conducted in these areas by various agencies. Better co-ordination of these camps and agencies will make it beneficial for people in the area.
8. Health checkups by a pediatrician, at least once in a year is absolutely necessary, but once in 6 months is advised.
9. Health education to parents regarding proper vaccination, proper diet and feeding habits.
10. **Follow up cases:** Proper follow up and transport facilities must be provided to children requiring evaluation in medical colleges. They must be accompanied by someone to provide necessary assistance and essential financial support to both the family and support person be provided. *See Annexure 9*
11. Provide educational facilities up to a minimum of 10th standard.

This camp was conducted by Dr. Lola Paulose, Consultant Paediatrician of St. Joseph's Mission Hospital, Anchal with the help of Josin C Tharian, Assistant Professor of Zoology and students of St. John's College, Anchal, Kollam with support from Kerala Forest Department and various EDCs.

Report prepared by



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25 June 2022

Annexure 1

List of children under 5 years of age with severe malnutrition

No	Child Name	Father's Name	Location	Age
1	Sidharth	Siju	Chambakkadu	3 Y 4 M
2	Janani	Manikandan	Chambakkadu	4 Y 7 M
3	Varshid	Biju	Chambakkadu	2 Y 8 M
4	Arjun	Selvan	Echampetty	2 Y 2 M
5	Sruthy	Murukan	Alampetty	3 Y 2 M
6	Kavin V	Viju Kumar	Alampetty	0 Y 10 M
7	Subash	Suresh	Ollavayalkudy	1 Y 11 M
8	Vaishal	Vinoj Kumar	Palappetty	0 Y 10 M

Annexure 2

List of children under 5 years of age with moderate malnutrition

No	Child Name	Father's Name	Location	Age
1	Sreevishnu	Puthran	Thayannankudy	0 Y 2 M
2	Manjunath	Satheeshkumar	Chambakkadu	4 Y 4 M
3	Bibin	Babu	Chambakkadu	1 Y 0 M
4	Arya binu	Binu	Chambakkadu	1 Y 3 M
5	Abhinesh	Ravikumar	Chambakkadu	3 Y 8 M
6	Kaushik	Karthikeyan	Chambakkadu	2 Y 9 M
7	Bhavanya	Babu	Chambakkadu	2 Y 9 M
8	Ajith	Mahesh	Chambakkadu	2 Y 9 M
9	Vishak	Biju	Chambakkadu	0 Y 8 M
10	Ajitha	Anandharaj	Puthukkudy	1 Y 1 M
11	Sabari	Karuppan	Echampetty	0 Y 3 M
12	Shivanya	Mariyappan	Echampetty	2 Y 4 M
13	Vetrivel B	Baby	Echampetty	3 Y 5 M

14	Madhu M	Mariyappan	Echampetty	3 Y 10 M
15	Selvaraj	Selvam	Echampetty	4 Y 1 M
16	Sanjeev	Raju	Echampetty	1 Y 3 M
17	Bhavana	Palraj	Iruttalakudy	1 Y 6 M
18	Dhanya Hariraj	Hariraj	Iruttalakudy	3 Y 6 M
19	Naveen	Pradeep	Iruttalakudy	3 Y 3 M
20	Adhisivan	Mayakrishnan	Iruttalakudy	1 Y 10 M
21	Sachin	Shankar	Iruttalakudy	1 Y 7 M
22	Thasmitha	Manikandan	Alampetty	3 Y 1 M
23	Renjith	Rajesh	Alampetty	2 Y 11 M
24	Anamika	Murugan	Alampetty	4 Y 9 M
25	Kaushika K	Kumarashan	Alampetty	1 Y 4 M
26	Madhan B	Biju	Alampetty	0 Y 5 M
27	Varunya V	Vijay	Alampetty	3 Y 5 M
28	Priyadarshini	Maheshwaran	Ollavayalkudy	4 Y 2 M
29	Deepika	Mariyappan	Palappetty	2 Y 8 M
30	Midhuna Murugan	Murugan	Palappetty	1 Y 9 M
31	Parvathy	Palaniswami	Palappetty	1 Y 6 M

Annexure 3

List of children under 5 years of age with stunting

No	Child Name	Father's Name	Location	Age	Height For Age
1	Ajitha	Anandharaj	Puthukkudy	1 Y 1 M	-4 and -3 SD
2	Arjun	Selvan	Echampetty	2 Y 2 M	-4 and -3 SD
3	Sruthy	Murukan	Alampetty	3 Y 2 M	-4 and -3 SD
4	Kavin V	Viju kumar	Alampetty	0 Y 10 M	-4 and -3 SD
5	Subash	Suresh	Ollavayalkudy	1 Y 11 M	< -4 SD
6	Sreevishnu	Puthran	Thayannankudy	0 Y 2 M	-3 and -2 SD

7	Abhinesh	Ravikumar	Chambakkadu	3 Y 8 M	-3 and -2 SD
8	Sidharth	Siju	Chambakkadu	3 Y 4 M	-3 and -2 SD
9	Bhavanya	Babu	Chambakkadu	2 Y 9 M	-3 and -2 SD
10	Janani	Manikandan	Chambakkadu	4 Y 7 M	-3 and -2 SD
11	Varshid	Biju	Chambakkadu	2 Y 8 M	-3 and -2 SD
12	Prasanth	Mani	Chambakkadu	3 Y 3 M	-3 and -2 SD
13	Divya Vijayan	Vijayan	Vellakkal	2 Y 2 M	-3 and -2 SD
14	Selvaraj	Selvam	Echampetty	4 Y 1 M	-3 and -2 SD
15	Sanjeev	Raju	Echampetty	1 Y 3 M	-3 and -2 SD
16	Bhavana	Palraj	Iruttalakudy	1 Y 6 M	-3 and -2 SD
17	Dhanya Hariraj	Hariraj	Iruttalakudy	3 Y 6 M	-3 and -2 SD
18	Naveen	Pradeep	Iruttalakudy	3 Y 3 M	-3 and -2 SD
19	Adhisivan	Mayakrishnan	Iruttalakudy	1 Y 10 M	-3 and -2 SD
20	Sachin	Shankar	Iruttalakudy	1 Y 7 M	-3 and -2 SD
21	Sandheep R	Ratheesh	Alampetty	1 Y 2 M	-3 and -2 SD
22	Arun	Thangaraj	Ollavayalkudy	0 Y 10 M	-3 and -2 SD
23	Priyadarshini	Maheshwaran	Ollavayalkudy	4 Y 2 M	-3 and -2 SD
24	Ratheesh	Rajesh	Ollavayalkudy	3 Y 4 M	-3 and -2 SD
25	Vishnu	Ramakrishnan	Ollavayalkudy	1 Y 10 M	-3 and -2 SD
26	Deepika	Mariyappan	Palappetty	2 Y 8 M	-3 and -2 SD
27	Vaishal	Vinoj kumar	Palappetty	0 Y 10 M	-3 and -2 SD
28	Midhuna Murugan	Murugan	Palappetty	1 Y 9 M	-3 and -2 SD

Annexure 4

List of children with Malnutrition in the age group 5 -18 years
Weight less than 3rd percentile

No	Child Name	Father's name	Location	Age
1	Ahalya	Selvakumar	Alampetty	6 Y 8 M
2	Ratheesh	Ramesh	Chambakkadu	13 Y 8 M
3	Sanmugaraj	Rasaimani	Vellakkal	12 Y 8 M
4	Vishnupriya P	Paramashivan	Echampetty	14 Y 8 M
5	Sanjay S	Sasidharan	Alampetty	6 Y 9 M
6	Sathyadeepika	Chandran	Alampetty	7 Y 6 M
7	Vinith	Murukan	Alampetty	12 Y 7 M
8	Dhanya V	Bijukumar	Alampetty	7 Y 8 M
9	Remya	Rangan Gopalan	Alampetty	16 Y 11 M
10	Amala	Sudan	Alampetty	16 Y 3 M
11	Malu	Mani	Alampetty	14 Y 7 M

Annexure 5

List of children with Developmental delay or Mental Retardation

No	Child Name	Father's name	Location	Age
1	Adwaith nikhil	Nikhil	Chambakkadu	2 Y 3 M
2	Rithika	Baiju	Chambakkadu	2 Y 11 M
3	Archana Ashokan	Ashokan	Chambakkadu	11 Y 5 M
4	Janani	Manikandan	Chambakkadu	4 Y 7 M
5	Aravind		Chambakkadu	13 Y 9 M
6	Jobinu	Kannappan	Chambakkadu	10 Y 6 M

Annexure 6

List of children detected with Goitre

No	Child	Father	Location	Age
1	Dharanya	Rangaswamy	Iruttalakkudy	10 Y 2 M

Annexure 7

List of children with Incomplete Vaccination

No	Child	Father	Location	Age
1	Janaki	Karuppaswami	Chambakkadu	10 Y 2 M
2	Janu	Chinnaswamy	Puthukkudy	4 Y 1 M
3	Ajitha	Anandharaj	Puthukkudy	1 Y 1 M

Annexure 8

List of children requiring External Evaluation and follow up

No	Child Name	Father's Name	Location	Age	Referred To	Referred Condition
Vision Problems						
1	Ahalya	Selvakumar	Alampetty	6 Y 8 M	Aravind Eye Hospital	Defective vision
2	Anjana	Ashokan	Chambakkadu	9 Y 1 M	Aravind Eye Hospital	Defective vision
3	Aravind		Chambakkadu	13 Y 9 M	Aravind Eye Hospital	Defective vision
4	Vismaya	Biju	Chambakkadu	6 Y 5 M	Aravind Eye Hospital	Defective vision
5	Akash		Chambakkadu	12 Y 2 M	Aravind Eye Hospital	Defective vision
6	Aishwaryalakshmy	Balamurukan	Echampetty	5 Y 9 M	Aravind Eye Hospital	Defective vision
7	Sreekrishnan S		Echampetty	7 Y 1 M	Aravind Eye Hospital	Defective vision
8	Manikandan R	Raju	Echampetty	8 Y 6 M	Aravind Eye Hospital	Defective vision
9	Vinod C	Chinnappan	Echampetty	11 Y 6 M	Aravind Eye Hospital	Defective vision
10	Ponnuthai	Andi	Echampetty	12 Y 8 M	Aravind Eye Hospital	Defective vision
11	Vijayakumar	Ravi	Mangappara	6 Y 4 M	Aravind Eye Hospital	Defective vision
12	Vidhya A		Ollavayalkudy	12 Y 0 M	Aravind Eye Hospital	Defective vision

13	Vennila Devi	Raju	Ollavayalkudy	7 Y 11 M	Aravind Eye Hospital	Defective vision
14	Sanjay	Suresh	Palappetty	5 Y 8 M	Aravind Eye Hospital	Defective vision
15	Arun K	Kashiraman	Puthukkudy	4 Y 10 M	Aravind Eye Hospital	Defective vision
16	Kavitha S		Puthukkudy	7 Y 0 M	Aravind Eye Hospital	Defective vision
17	Lekshmi Shanmugan	Shanmugan	Vellakkal	1 Y 10 M	Aravind Eye Hospital	Left eye Dacryocystitis
Cardiac Problems						
13	Sanjay S	Sasidharan	Alampetty	6 Y 9 M	Cardiologist(Screening ECHO)	Under Weight
14	Sathyadeepika	Chandran	Alampetty	7 Y 6 M	Sree Chithra,TVM	VSD
15	Gauri	Gopalan	Chambakkadu	10 Y 0 M	Sree Chithra,TVM	Follow-up evaluation
16	Nivedhika	Manu	Chambakkadu	7 Y 0 M	Cardiologist	
ENT Problems						
17	Sandhya	Sanyasi	Palappetty	13 Y 2 M	ENT Surgeon, Kottayam Medical College	Chronic CSOM
Severe Anaemia						
18	Krishnapriya P	Paramashivan	Echampetty	14 Y 8 M	CHC Marayoor.Recheck Hemoglobin	Severe anaemia with a flow murmur

Annexure 9

List of children requiring evaluation and follow up from CHC

1. Goitre case (Annexure 6) should be evaluated with Thyroid Function Tests from nearby CHC and is advised use of iodised salt.
2. All children with incomplete vaccination (Annexure 7) should be traced and appropriate vaccines to be given.

REPORT OF
PAEDIATRIC MEDICAL CAMP
IN THE TRIBAL SETTLEMENTS OF
CHINNAR WILDLIFE SANCTUARY – MAY 2023

Date: 16th to 19th May 2023

Organized by: Kerala Forest Department & St. John's College, Anchal

This report presents the findings of the paediatric medical camp organized in 11 tribal settlements of Chinnar Wildlife Sanctuary from 16th to 19th May 2023 in collaboration with the Kerala Forest Department and St. John's College, Anchal, Kollam with the assistance of Dr. Lola Paulose. It was conducted as a follow-up to similar camps held consecutively for the past 7 years. The primary objective of the camp was to provide medical care and examine the health status of children in the tribal communities.

Participation and Demographics

During the four-day camp, a total of 184 children were examined. Out of these, 87 children were under the age of 5 years, while 97 children fell within the age group of 5 to 18 years. The following table provides a breakdown of the children's participation based on gender and age group in each settlement.

SETTLEMENT	TOTAL EXAMINED	MALE	FEMALE	UNDER 5	5 TO 15 YEARS
ALAMPETTY	31	11	20	14	17
CHAMBAKKADU	38	16	22	15	23
ECHAMPETTY	35	19	16	17	18
IRUTTALAKUDY	16	8	8	9	7
MANGAPPARA	8	5	3	4	4
MULANGAMUTTY	5	1	4	4	1
OLLAVAYALKUDY	8	6	2	7	1
PALAPPETTY	15	7	8	7	8
PUTHUKKUDY	9	3	6	1	8
THAYANNANKUDY	10	4	6	6	4
VELLAKKAL	9	3	6	3	6
TOTAL	184	83	101	87	97

Major Findings

1. Malnutrition in children under 5 years of age:

1. a Underweight:

Malnutrition in children under 5 years of age was assessed using WHO MGRS Charts 2006. Malnutrition is assessed as low weight for a particular age (underweight). Based on the assessment, children between -2 SD to -3 SD are categorised as Moderate Malnutrition and those less than -3 SD as severe malnutrition. The following table presents the status of malnutrition in various settlements. See *annexure 1 & 2*.

SETTLEMENT	MODERATE MALNUTRITION (UNDERWEIGHT -2 SD TO -3 SD)	SEVERE MALNUTRITION UNDERWEIGHT < -3SD	TOTAL UNDER 5 CHILDREN EXAMINED
ALAMPETTY	4	3	14
CHAMPAKKADU	4	6	15
EECHAMPETTY	8	1	17
IRUTTALAKUDY	4	1	9
MANGAPPARA	0	0	4
MULANGAMUTTY	1	0	4
OLLAVAYALKUDY	2	0	7
PALAPETTY	4	0	7
PUTHUKUDY	0	0	1
THAYANNANKUDY	1	0	6
VELLAKKAL	0	0	3
TOTAL	28	11	87

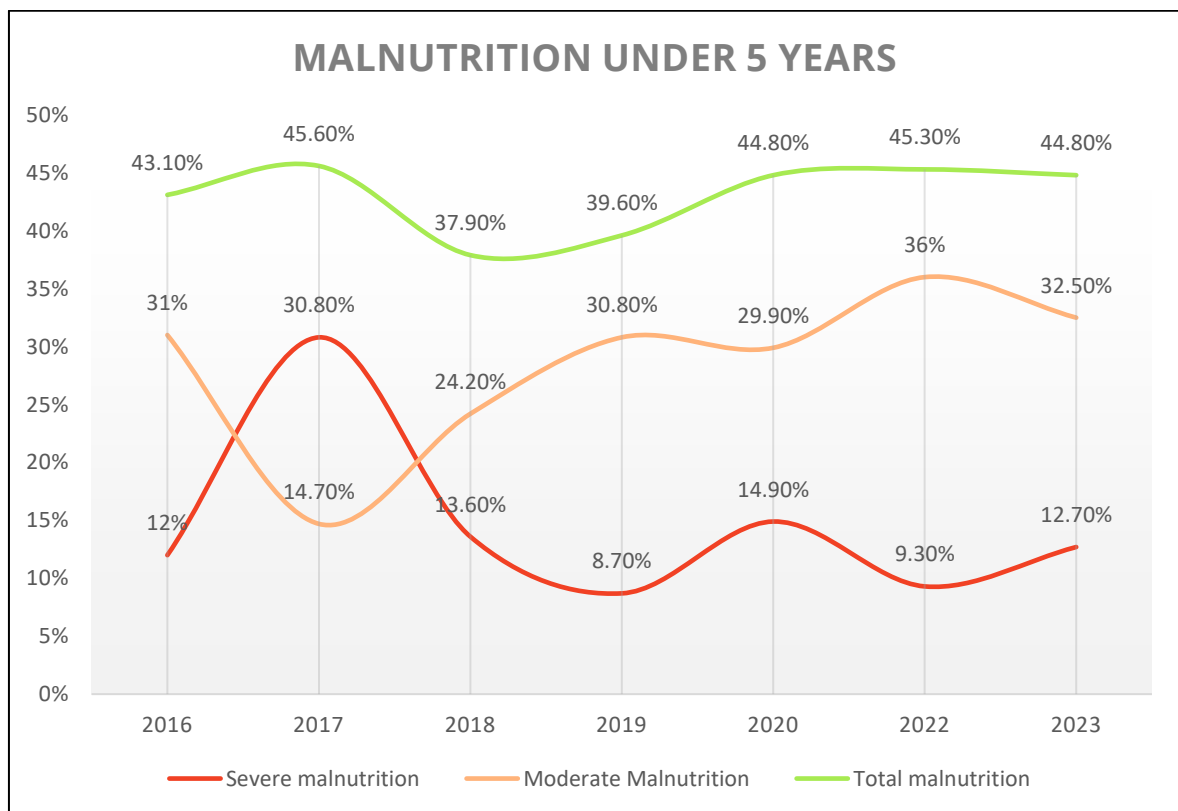
The status of malnutrition of children under 5 years of age in various settlements

Out of the 87 children under 5 years of age, 28 (32.2%) were moderately malnourished, and 11 (12.6%) exhibited severe malnutrition. A comparison of malnutrition rates with previous years revealed that the total prevalence of malnutrition doesn't change, while the percentage of severe malnutrition decreased. Notably, there has been a trend of children transitioning from severe malnutrition to moderate malnutrition since 2017, which is attributed to the efforts of the Forest officials through EDCs (Eco-Development Committees) and various other Government agencies like Anganwadis (ICDS scheme).

Severe Acute Malnutrition (SAM): Among the 87 children examined under 5 years of age, three children were reported to exhibit Severe Acute Malnutrition and it falls to 3.5%. Thankfully, no child was presented with oedema. *See Annexure 4.*

Comparison of malnutrition in children under 5 years of age with previous years

	SEVERE MALNUTRITION	%	MODERATE MALNUTRITION	%	TOTAL MALNUTRITION
2016	7 out of 58	12%	18 out of 58	31%	43.1%
2017	21 out of 68	30.8%	10 out of 68	14.7%	45.6%
2018	9 out of 66	13.6%	16 out of 66	24.2%	37.9%
2019	8 out of 91	8.7%	28 out of 91	30.8%	39.6%
2020	13 out of 87	14.9%	26 out of 87	29.9%	44.8%
2022	8 out of 86	9.3%	31 out of 86	36%	45.3%
2023	11 out of 87	12.6%	28 out of 87	32.2%	44.8%



1.b Stunting

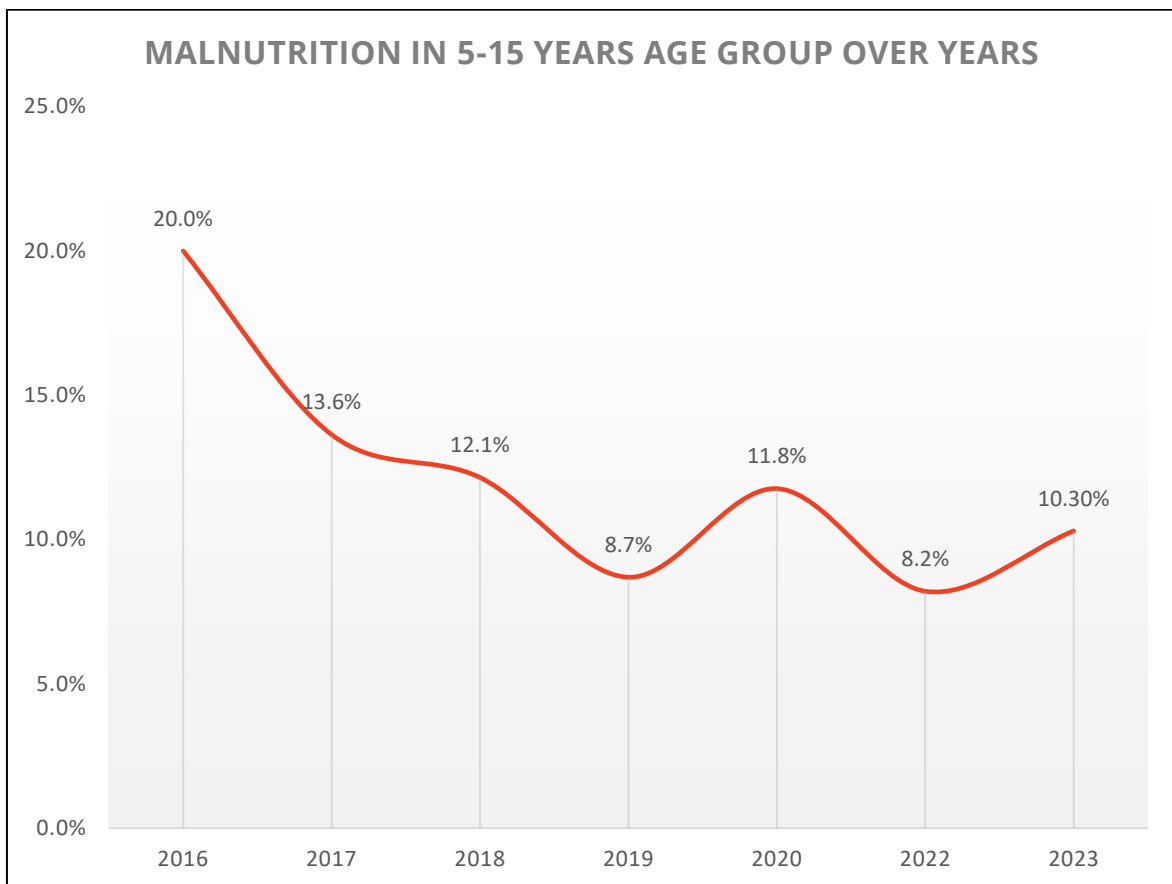
Stunting, indicating low height for age, was assessed using WHO MGRS Charts 2006. Out of the 84 children under 5 years of age, 6 children fall below -3 SD. See *annexure 3*.

2. Malnutrition in the age group of 5-15 years (School-going children):

A total of 94 children in the age group of 5-15 years were examined. Using the revised Indian Academy of Paediatrics (IAP) charts, 10 (10.3%) children were identified as malnourished, based on weight falling below the 3rd percentile. Additionally, 16 (16.5%) children were categorized as borderline, between the 3rd and 10th percentiles, necessitating close monitoring of their weight.

The following table summarizes the number of malnourished children in the age group of 5-18 years in each settlement: See *annexure 5* for details.

SETTLEMENT	SEVERELY MALNOURISHED (WEIGHT < 3 RD PERCENTILE)	TOTAL CHILDREN EXAMINED (5-18 AGE GROUP)
ALAMPETTY	5	17
CHAMPAKKADU	3	23
EECHAMPETTY	1	18
IRUTTALAKUDY	0	7
MANGAPPARA	0	4
MULANGAMUTTY	0	1
OLLAVAYALKUDY	0	1
PALAPETTY	0	8
PUTHUKUDY	0	8
THAYANNANKUDY	0	4
VELLAKKAL	1	6
TOTAL	10	97



2. Anaemia:

The primary method employed for detection of anaemia was clinical assessment. The results indicate that 28.3% of the total children examined were clinically diagnosed with anaemia. More specifically, within the age group of 0-5 years, 45.4% (39 out of 87) of children and within the age group of 5-15 years, 13.9% (13 out of 97) were suspected with anaemia. The prevalence of anaemia may vary due to mild cases being potentially missed as clinical manifestation usually appears only when Hb levels are below 7-8 g/L.

Hence, this year we have introduced haemoglobin estimation using the Biosense Hb check meter. Haemoglobin estimation was done only on persons who were willing to participate. Most of the parents and children are scared of injections and blood drawing. Hence, we used skin prick method and portable hemoglobinometer which was more acceptable and feasible in this population. We have estimated the Hb levels of 40 children, which included a few from clinically diagnosed cases and a few enthusiastic ones who volunteered to test. We tested Hb of 16 adults also (mostly

mothers of children who participated in the camp) from various settlements. The findings suggest a significant prevalence of anaemia among the studied population, particularly in younger children. Iron syrups/tablets were provided for 3 months to anaemic children.

Anaemia is defined as Hb below 11 gm% in less than 5 years of age and pregnant women; Hb less than 12 gm% for non-pregnant women and adolescent girls, and less than 13 for men as stated by WHO. It is further classified as mild anaemia for 10-10.9 gm%, moderate anaemia for values between 7-9.9 gm% and severe anaemia for Hb less than 7 gm%. Anaemia values change according to age and gender and so this classification is just a simplified version. So Hb values of the most children tested is in moderate anaemia group. *See annexure 8*

3. Cardiac Cases:

No new cases with cardiac problems were reported in the current camp, even though four cases were reported last year. The medical team examined Gauri from Alampetty, who was a cardiac case reported in previous years and had undergone corrective surgery from Sreechitra Institute of Medical Science, Trivandrum. The girl is doing well, but special attention should be given for her follow-up check-ups.

4. Vision Problems:

Screening using the Snellen vision chart revealed nine children with defective vision. These children require further evaluation and corrective measures under the supervision of an Ophthalmologist. *See annexure 9*

5. Developmental Delay and Mental Retardation:

Our examination identified two cases of developmental delay, highlighting the need for appropriate interventions and support.

6. Goitre:

We are really happy to inform that no cases of goitre have been reported in the current examination. Only one case was reported last and compared to previous years, this is a drastic change which may be attributed to the increased use of iodised salt as strictly promoted during previous camps

7. Dental Caries:

Poor oral hygiene was observed in most of the examined children, with 46 children under 5 years and 44 children in the age group of 5-18 years found to have dental caries. This represents approximately 52.9% of the children under 5 years and 45.4% in the 5-18 years age group.

8. Skin Conditions:

Dry skin was a prevalent issue among the examined children. Some cases of atopic dermatitis, pyoderma, and fungal infections were detected and treated with appropriate medications.

9. Respiratory Infections:

Several cases of acute respiratory infections, along with a few cases of acute suppurative otitis media (ASOM), were reported and treated with the necessary medications.

10. Incomplete Vaccination:

Nine cases of incomplete vaccination were identified based on the provided history. These children were advised to contact nearby CHC. Details regarding these cases are given in *annexure 7*.

SUGGESTIONS BASED ON THE ABOVE FINDINGS

Based on the findings of the medical camp conducted in the tribal settlements of Chinnar Wildlife Sanctuary, the following recommendations are proposed to address the identified health issues:

1. Measures to Correct Malnutrition:

Given the high prevalence of malnutrition, with 45.3% of children under 5 years affected and 9.3% experiencing severe malnutrition, immediate actions are necessary to improve nutrition and prevent a rise in child mortality. The following measures are suggested:

- a) Ensure proper implementation of food supply through Anganwadis.
- b) Consider on-site cooking and feeding at Anganwadis at least twice daily to ensure beneficiaries receive the distributed food rations.
- c) Implement double feeding for children with severe malnutrition.
- d) Provide daily eggs and milk in addition to food supplements from Anganwadis for severely malnourished children.
- e) Promote proper weaning practices, encouraging the introduction of semisolid foods alongside breast milk after 6 months of age. Mothers in these settlements tend to delay weaning until 1 year.
- f) Focus on improving the nutrition of adolescent girls and pregnant mothers to address the issue of low-birth-weight babies.
- g) Educate mothers about breastfeeding, proper weaning practices, and healthy food habits.
- h) Ensure proper food supplements and anaemia correction of pregnant mothers as most children born here are underweight(less than 2.5 kg).It will affect the growth of their children.

2. Measures to Correct Malnutrition in the Age Group 5-18 Years:

- a) Provide three meals per day to all children under 15 years of age through schools, with morning and evening snacks consisting of items such as eggs, milk, and Uppuma.
- b) Encourage the inclusion of green leafy vegetables, pulses, and ragi (finger millet) in the diet.

Adolescent girls are future mothers.If their health and nutrition is taken care of ,it will lead to better health of their offspring and future generations.

3. Severe Acute Malnutrition (SAM) Cases:

All cases of severe acute malnutrition should undergo basic diagnostic workup and receive follow-up care from the nearest Community Health Center (CHC).See Annexure.

4. Anaemia Correction:

- a) Provide iron supplements for three months to children diagnosed with anemia.

- b) Administer iron syrups to young children who may have difficulty tolerating iron tablets.
- c) Ensure regular deworming every six months, covering all children as part of the National Deworming Day campaign.
- d) Promote the cultivation and consumption of iron-rich foods like ragi, leafy vegetables, and jaggery as a long-term solution.

5. Dental Caries:

Since there were no signs of improvement from the previous years, efforts should be made to conduct dental checkups for all children and assess fluoride levels in water sources. Emphasize the importance of dental hygiene and provide micronutrient support. Community-wide awareness campaigns on dental hygiene should be initiated.

6. Goitre:

With the disappearance of goitre cases compared to previous years, continue to encourage the use of iodized salt among tribal communities.

7. Coordination of Medical Camps:

Improve coordination among different agencies conducting medical camps in the area to maximize the benefits for the local population.

8. Health Checkups:

Ensure that children receive regular health checkups by a pediatrician, preferably at least once a year

9. Health Education:

Provide health education to parents, focusing on proper vaccination, balanced diet, and appropriate feeding practices.

10. Follow-up Cases:

Arrange proper follow-up and transportation facilities for children requiring evaluation in medical colleges. Accompanying support persons should be provided

with necessary assistance and essential financial support for both the family and the support person. Refer to *annexure 9* for detailed information on follow-up cases.

11. Educational Facilities:

Ensure access to educational facilities up to a minimum of the 10th standard for children in the tribal settlements. Practise of discontinuing school education once menarche is attained in adolescent girls should be discouraged.

In conclusion, the paediatric medical camp organized in 11 tribal settlements of Chinnar Wildlife Sanctuary from 16th to 19th May 2022, aimed to provide healthcare services to children in the region. The camp revealed significant findings related to malnutrition, stunting, anaemia, cardiac cases, vision problems, developmental delay, mental retardation, goitre, dental caries, skin conditions, respiratory infections, and incomplete vaccination. The data collected during the camp will be instrumental in formulating appropriate interventions and strategies to address the identified health issues among the children in the Chinnar Wildlife Sanctuary.

This medical camp was conducted by Kerala Forest Department in association with Dr. Lola Paulose, Consultant Paediatrician of St. Joseph's Mission Hospital, Anchal, and Department of Zoology, St. John's College, Anchal, Kollam. The camp received assistance from various Eco-Development Committees (EDCs) and Anganwadis of the area.

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Annexure 1

List of children under 5 years of age with severe malnutrition

No	Child's Name	Father's Name	Location	Age
1	Hasini	Sulendran	Iruttalakudy	0 Y 3 M
2	Deepika	Baby	Echampetty	0 Y 6 M
3	Neeraj	Shaji	Chambakkadu	1 Y 10 M
4	Malini	Murali	Chambakkadu	1 Y 2 M
5	Ashwik	Makeesh	Chambakkadu	0 Y 6 M
6	Athul	Ravikumar	Chambakkadu	3 Y 3 M
7	Vishak	Biju	Chambakkadu	1 Y 9 M
8	Kaveri	Karuppuswami	Chambakkadu	1 Y 9 M
9	Chaithra	Vishnu	Alampetty	0 Y 1 M
10	Kavin V	Viju kumar	Alampetty	1 Y 11 M
11	Kaushika K	Kumarashan	Alampetty	2 Y 4 M

Annexure 2

List of children under 5 years of age with moderate malnutrition

No	Child's Name	Father's Name	Location	Age
1	Dhanya Hariraj	Hariraj	Iruttalakudy	4 Y 6 M
2	Naveen	Pradeep	Iruttalakudy	4 Y 3 M
3	Adhisivan	Mayakrishnan	Iruttalakudy	2 Y 10 M
4	Bhavana	Palraj	Iruttalakudy	2 Y 6 M
5	Arjun	Selvan	Echampetty	3 Y 2 M
6	Shivanya	Mariyappan	Echampetty	3 Y 4 M
7	Madhu M	Mariyappan	Echampetty	4 Y 11 M
8	Manassa	Murukesh	Echampetty	1 Y 5 M

9	Vetrivel B	Baby	Echampetty	4 Y 5 M
10	Vanshika	Kannan	Echampetty	0 Y 5 M
11	Soumya	Murugesan	Echampetty	3 Y 3 M
12	Radhika	Maruthamuthu	Echampetty	1 Y 5 M
13	Deepika	Perumalswami	Mulangamutty	1 Y 5 M
14	Priya	Kanakaraj	Thayannankudy	1 Y 2 M
15	Arya Binu	Binu	Chambakkadu	2 Y 3 M
16	Mavya	Kannan	Chambakkadu	4 Y 1 M
17	Abhinesh	Ravikumar	Chambakkadu	4 Y 8 M
18	Varshid	Biju	Chambakkadu	3 Y 8 M
19	Sreediviya	Ramar	Alampetty	3 Y 2 M
20	Sree Lekshmi	Ramar	Alampetty	4 Y 7 M
21	Renjith	Rajesh	Alampetty	3 Y 11 M
22	Varunya V	Vijay	Alampetty	4 Y 5 M
23	Parvathy	Palaniswami	Palappetty	2 Y 6 M
24	Vaishak	Vinoj Kumar	Palappetty	1 Y 10 M
25	Deepika	Mariyappan	Palappetty	3 Y 8 M
26	Midhuna Murugan	Murugan	Palappetty	2 Y 10 M
27	Vishnu	Ramakrishnan	Ollavayalkudy	2 Y 10 M
28	Santhosh	Mani	Ollavayalkudy	0 Y 1 M

Annexure 3

List of children under 5 years of age with stunting

No	Child's Name	Father's Name	Location	Age
1	Hasini	Sulendran	Iruttalakudy	0 Y 3 M
2	Arjun	Selvan	Echampetty	3 Y 2 M

3	Neeraj	Shaji	Chambakkadu	1 Y 10 M
4	Sreedivya	Ramar	Alampetty	3 Y 2 M
5	Kavin V	Viju kumar	Alampetty	1 Y 11 M
6	B/O Achiyamma	Ramakrishnan	Ollavayalkudy	0 Y 3 M

Annexure 4

List of children with Severe Acute Malnutrition (SAM)

No	Child's Name	Father's Name	Location	Age	Weight	Height
1	Malini	Murali	Chambakkadu	1 Y 2 M	6 kg	68.9 cm
2	Kavin V	Viju kumar	Alampetty	1 Y 11 M	7.3 kg	74.8 cm
3	Kaushika K	Kumarashan	Alampetty	2 Y 4 M	8.4 kg	83.9 cm

Annexure 5

List of children with Malnutrition in the age group 5 -18 years

Weight less than 3rd percentile

No	Child's Name	Father's Name	Location	Age
1	Vishnupriya P	Paramashivan	Echampetty	15 Y 8 M
2	Sanmugaraj	Rasaimani	Vellakkal	13 Y 8 M
3	Bhavana	Shaji	Chambakkadu	7 Y 10 M
4	Anusree	Palaniswami	Chambakkadu	10 Y 6 M
5	Janaki	Karuppaswami	Chambakkadu	11 Y 2 M
6	Ajanya	Selvakumar	Alampetty	11 Y 3 M
7	Ahalya	Selvakumar	Alampetty	7 Y 8 M
8	Dhanya V	Bijukumar	Alampetty	8 Y 8 M
9	Malu	Mani	Alampetty	15 Y 7 M
10	Amala	Sudan	Alampetty	17 Y 3 M

Annexure 6

List of children with Developmental delay or Mental Retardation

No	Child's Name	Father's Name	Location	Age
1	Shiva Lekshmi	Ramakrishnan	Puthukkudy	2 Y 7 M
2	Aravind		Chambakkadu	14 Y 9 M

Annexure 7

List of children with Incomplete Vaccination

No	Child's Name	Father's Name	Location	Age
1	Sathya	Murugan	Echampetty	11 Y 9 M
2	Madhumitha	Murukesh	Echampetty	1 Y 5 M
3	Manassa	Murukesh	Echampetty	1 Y 5 M
4	Vishnupriya P	Paramashivan	Echampetty	15 Y 8 M
5	Krishnapriya P	Paramashivan	Echampetty	15 Y 8 M
6	Abhinaya C	Chandran	Echampetty	9 Y 2 M
7	Deepika	Perumalswami	Mulangamutty	1 Y 5 M
8	Eniya	Ponnappan	Thayannankudy	2 Y 2 M
9	Varshika K	Kannan	Alampetty	1 Y 8 M

Annexure 8

List of children whose haemoglobin level was estimated

No	Child's Name	Father's Name	Location	Age	Hb
1	Adhisivan	Mayakrishnan	Iruttalakudy	2 Y 10 M	7.5
2	Deepika	Baby	Echampetty	0 Y 6 M	8.2
3	Parvathy	Palaniswami	Palappetty	2 Y 6 M	8.5
4	Deepika	Perumalswami	Mulangamutty	1 Y 5 M	8.8

5	Varunya V	Vijay	Alampetty	4 Y 5 M	8.8
6	Naveen Krishnan	Unnikrishnan	Palappetty	3 Y 5 M	8.9
7	Bhavana	Palraj	Iruttalakudy	2 Y 6 M	9.1
8	Arjun	Selvan	Echampetty	3 Y 2 M	9.3
9	Vaishak	Vinoj kumar	Palappetty	1 Y 10 M	9.4
10	Midhuna Murugan	Murugan	Palappetty	2 Y 10 M	9.4
11	Pranav	Manikandan	Iruttalakudy	4 Y 10 M	9.4
12	Kaushika K	Kumarashan	Alampetty	2 Y 4 M	9.7
13	Vishak	Biju	Chambakkadu	1 Y 9 M	9.9
14	Thaivaraj	Pulendran	Mangappara	4 Y 4 M	9.9
15	Neeraj	Shaji	Chambakkadu	1 Y 10 M	10.2
16	Ashwik	Makesh	Chambakkadu	0 Y 6 M	10.3
17	Malini	Murali	Chambakkadu	1 Y 2 M	10.3
18	Kavin V	Viju kumar	Alampetty	1 Y 11 M	11.3
19	Sreedivya	Ramar	Alampetty	3 Y 2 M	11.3
20	Athul	Ravikumar	Chambakkadu	3 Y 3 M	12
21	Radhika	Maruthamuthu	Echampetty	1 Y 5 M	12.3
22	Dhanya Hariraj	Hariraj	Iruttalakudy	4 Y 6 M	12.6
23	Subhashini	Sundareshan	Palappetty	8 Y 9 M	7.8
24	Malu	Mani	Alampetty	15 Y 7 M	8.3
25	Malavathy	Raghu	Iruttalakudy	7 Y 1 M	9
26	Nivitha		Chambakkadu	7 Y 0 M	9.5
27	Nivya Krishnan		Palappetty	6 Y 8 M	9.9
28	Viji	Murugan	Alampetty	18 Y 7 M	10.1
29	Ahalya	Selvakumar	Alampetty	7 Y 8 M	10.2

30	Ajanya	Selvakumar	Alampetty	11 Y 3 M	10.5
31	Abhinaya	Chaply	Palappetty	6 Y 2 M	10.6
32	Selvaraj	Selvam	Echampetty	5 Y 1 M	11.3
33	Gauri	Gopalan	Alampetty	11 Y 0 M	11.3
34	Suresh Krishna	Ramar	Alampetty	13 Y 1 M	11.3
35	Bhavana	Shaji	Chambakkadu	7 Y 10 M	11.8
36	Karthik K	Kannan	Echampetty	8 Y 5 M	11.8
37	Vishnupriya P	Paramashivan	Echampetty	15 Y 8 M	11.8
38	Amala	Sudan	Alampetty	17 Y 3 M	11.9
39	Krishnapriya P	Paramashivan	Echampetty	15 Y 8 M	12.3
40	Saranya	Saseendran	Alampetty	13 Y 0 M	12.4

Annexure 9

List of children requiring External Evaluation and follow up

No	Child's Name	Father's Name	Location	Age	Referred to	Condition
1	Aravind		Chambakkadu	14 Y 9 M	Ophthalmologist	Defective vision
2	Anjana	Ashokan	Chambakkadu	10 Y 1 M	Ophthalmologist	Defective vision
3	Shyam	Mahendram	Iruttalakudy	5 Y 2 M	Ophthalmologist	Defective vision
4	Abhiram	Sreeraman	Iruttalakudy	5 Y 1 M	Ophthalmologist	Defective vision
5	Vinod C	Chinnappan	Echampetty	12 Y 7 M	Ophthalmologist	Defective vision
6	Vaishak	Vinoj kumar	Palappetty	1 Y 10 M	CHC	AF OPEN.TFT, VITAMIN D3 ESTIMATIO N
7	Manassa	Murukesh	Echampetty	1 Y 5 M	CHC	Incomplete Vaccination
8	Sathya	Murugan	Echampetty	11 Y 9 M	CHC	Incomplete Vaccination
9	Madhumitha	Murukesh	Echampetty	1 Y 5 M	CHC	Incomplete Vaccination

10	Vishnupriya P	Paramashivan	Echampetty	15 Y 8 M	CHC	Incomplete Vaccination
11	Krishnapriya P	Paramashivan	Echampetty	15 Y 8 M	CHC	Incomplete Vaccination
12	Abhinaya C	Chandran	Echampetty	9 Y 2 M	CHC	Incomplete Vaccination
13	Varshika K	Kannan	Alampetty	1 Y 8 M	CHC	Incomplete Vaccination
14	Radhika	Maruthamuthu	Echampetty	1 Y 5 M	CHC	Incomplete Vaccination
15	Eniya	Ponnappan	Thayannankudy	2 Y 2 M	CHC	Incomplete Vaccination

Children included in **Annexure 4** also should be evaluated in nearby CHC and their growth parameters be monitored.