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Overcoming the Curse of Malnutrition in India,
ERADICATING MALNUTRITION: AN AGENDA FOR ACTION
Foreword

India’s greatest national treasure is our people. We cannot afford to neglect their well being and allow so many of our citizens to face hunger and malnutrition.

After more than sixty years as an independent nation, we still have large numbers of women and children who are suffering from malnutrition. The cost to our nation in terms of health, well-being and economic development is tremendous.

In recognition of the urgency of ensuring the opportunity for every child and citizen to have a healthy and productive life, we have formed a Mother and child health Project in Rural area of Ratnagiri district of Maharashtra.

Mother & Child Health

Malnutrition is more common in India than in Sub-Saharan Africa. One in every three malnourished children in the world lives in India. About 50 per cent of all childhood deaths are attributed to malnutrition.

Malnutrition needs to be understood as reflecting both protein-calorie undernutrition and micronutrient – iron, iodine, Vitamin A, zinc, etc. – deficiency, which affects many aspects of children’s development. Physical and cognitive development is impaired by malnutrition, which also increases susceptibility to diseases. Over time, there is also an impact on
educational attainment and work productivity as also increased risk of proneness to adult disorders.

Malnutrition, therefore, needs to be approached from a life-cycle perspective. The vicious cycle of Malnutrition starts with an underweight expectant mother, often burdened with pregnancy in her teens, inadequate spacing between successive issues, excessive work and lack of appropriate nutrition and health care. A low birth weight baby who is exposed to poor health, hygiene and nutrition practices develops into an underweight and stunted adolescent. The new cycle of early marriage and pregnancy condemns yet another generation to this vicious cycle of malnutrition. Interventions across a number of sectors are required to address this problem. In this paper, we look at the measures required in the health and nutrition sectors with specific emphasis on the critical role of the anganwadi centre (AWC) and the anganwadi worker (AWW) in bringing about permanent changes in the health and nutrition status of populations.

NFHS-3 shows that 56 per cent of severe wasting happens before the age of two. Their nutritional status deteriorates rapidly over the first two years of life and once this damage is done, catch up and recovery are almost impossible. Therefore, improving the quality of foods, feeding practices, and the nutrition situation of children in the first two years of life, represent a critical window of opportunity to break the inter-generational cycle of malnutrition. If this critical opportunity is missed, child malnutrition will continue to self-perpetuate: malnourished girls will become malnourished women, who give birth to low birth weight infants, who suffer from poor nutrition in the first two years of life. The best opportunity to break this vicious inter-generational cycle is to concentrate efforts on improving the nutrition of infants and young children from conception through the first two years of life.

For over last 40 years, Shree Vithalarao Joshi Charities Trust is engaged in helping the people in the Konkan region to meet their Socio-Economic needs. The basic Objectives of the Trust are - Health for all, Education for all & Self-Respect for all. The trust believes that the achievement of these will lead to Social & Economic transformation in the area.

As a part of this vision, B.K.L. Walawalkar Hospital provides state-of-the-art medical care under one roof at affordable rates. Thousands of families in Konkan have been benefited & scores of lives have been saved through this project.

As a natural extension of this activity in Healthcare area, the trust has developed the necessary Educational infrastructure to train the manpower needed to spread the Healthcare initiatives in the rural area. Thus, today at Dervan, we have a Nursing College with Post-BSc Diploma courses being conducted in Paramedical subjects.

One of the major problems in rural India has been malnutrition of children below 6 years of age. With the aim of countering this problem in the vicinity of Ratnagiri & Sindhudurg Districts, children below 6 years of age & Antenatal & post natal mothers in the area were approached. This Malnutrition irradication project is implemented since year 2003. Specially trained teams from the Hospital/Trust imparted information on Health & Healthy-Diet to this group. For the target group, parameters like Height, weight, Hemoglobin, serum proteins were monitored periodically & Nutritious food (in the form of “Ladoo”, prepared by the Hospital/Trust) was supplied to them on a weekly basis. Beneficiaries total 5981 children and
1695 antenatal mothers are being benefited through this project. The project has created a positive impact on the beneficiaries. This project is materialized only because of active support from the Government Authorities from Ratnagiri District, so we would like to acknowledge our immense gratitude to C.O. Mr. Shingare, DHO Dr. Solave, ADHO Dr. Kulkarni, who have kindly & willingly contributed in the project.

Our Hospital will continue to evolve & implement such community-based programs in our quest for better health for everybody through community participation.

**Aim:**

- To Study the nutritional status of children (0-6 Years), Antenatal and nursing women in selected rural areas of Ratnagiri District.
- To prevent the malnutrition among this vulnerable group by dissemination of information, education, communication and provision of Promotive, Preventive & Curative services.

**Objectives:**

- To assess & Improve the nutritional status of children (0-6 Years), Antenatal and nursing women.
- To detect infections and diseases and undertake referral to hospital
- To enhance the capability of the mother and family to look after the health, nutritional and development needs of the child
- To achieve effective coordination of policy and implementation among various departments to promote child development
- To Lay the foundation for proper psychological development of the child
- To reduce the morbidity and mortality amongst these Targeted group.

**Packages of Services include:**

- Health Check-up
- Treatment of major and minor illness
- Supplementary Nutrition (Laddoo), Vitamins and Iron and Folic acid.
- Nutritional health education to parents.
- Referral Services
- Training for grass root level workers.
- Free ambulance services to ANC Mothers
- Free First Hospital Delivery
- Subsequent delivery at subsidized rates
- Free NICU treatment
- Diagnosis and free treatment of congenital anomalies.
- Caesarian section in subsidized rates.
- Bal Vikas Kendra.

A) Services to the children:

- Health Check-up
- Assessment of age
- Weighing of Children
- Breast Feeding
- Weaning Food
- Immunization
- Growth and Development
- Malnutrition
- Anaemia in children
- Vitamin B complex deficiency
- Vitamin D Deficiency
- Supplementary Nutrition
- Therapeutic Nutrition
- Worm Infestation
- Acute Respiratory Infection

B) Services to the Women

- Supplementary Nutrition (Laddoo)
- Antenatal and Postnatal Services
- Tetanus Toxoid
- Lactation
- Nutritional requirements for Mother and child

C) Health and Nutrition Education
Implementation Stages

Registration of Child & ANC Mothers
Children below 6 years of age, Antenatal & Lactating mothers

Physical Examination & Investigations
Height, Weight, Mid Arm, Head & Chest Circumference

Nutritious Ladoos Supply
Daily supply of packets of nutritious ladoos

Medicine Supply
Hematinics, Vit.D, Vit.A, Calcium, Antihelminthics & Hospital Visit on Monthly Basis

Patho Investigations
Hb%, Serum Proteins, Urine, MT - Every 3 Monthly

Corrective Surgeries
If Required

Free 1st Hospital Delivery
& subsequent two deliveries at subsidized rates

Post Natal Baby Care
Well Equipped NICU

Bal Vikas Kendra
For the children with no significant weight gain are admitted in Bal Vikas Kendra in hospital.
Chemical Analysis of Ladoos:

Test Conducted: To Determine Na, Fe, Ca, Mg, Pb, Moisture by Oven drying at 105 Degree C, Carbohydrate, Fat, Protein, Ash, Crude Fibre, and Nutritional Value

Results

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Parameters</th>
<th>Nutritious Ladoo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Protein (%)</td>
<td>15.1487</td>
</tr>
<tr>
<td>2.</td>
<td>Fat (%)</td>
<td>14.7069</td>
</tr>
<tr>
<td>3.</td>
<td>Carbohydrate (%)</td>
<td>72.0528</td>
</tr>
<tr>
<td>4.</td>
<td>Calories (kcal / 100 g.)</td>
<td>484.82</td>
</tr>
<tr>
<td>5.</td>
<td>Sodium (Na) mg/100g</td>
<td>47.1</td>
</tr>
<tr>
<td>6.</td>
<td>Zinc (mg / 100 g.)</td>
<td>1.15</td>
</tr>
<tr>
<td>7.</td>
<td>Calcium (mg / 100 g.)</td>
<td>48.3</td>
</tr>
<tr>
<td>8.</td>
<td>Iron (mg / 100 g.)</td>
<td>4.21</td>
</tr>
<tr>
<td>9.</td>
<td>Total Yeast &amp; Mold Count / g</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>Magnesium (mg) mg/100g</td>
<td>122.0</td>
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<tr>
<td>11.</td>
<td>Crude fibers</td>
<td>1.2695</td>
</tr>
<tr>
<td>12.</td>
<td>Ash (at 1000 degree C)</td>
<td>1.6536</td>
</tr>
<tr>
<td>13.</td>
<td>Nutritional Value Kcal/One ladoo</td>
<td>142.092</td>
</tr>
<tr>
<td>14.</td>
<td>Sodium (mg / 100 g.)</td>
<td>47.1</td>
</tr>
<tr>
<td>15.</td>
<td>Magnesium (mg / 100 g.)</td>
<td>122</td>
</tr>
</tbody>
</table>
Examination Sessions of Malnourished children:

1] REGISTRATION

Hospital Organizes Village level Camps for examination of 0-6 Yrs age group Children & ANC Mothers
2] EXAMINATION OF CHILD
Height, Weight, Mid Arm, Head & Chest Circumference periodically

Examination by Pediatrician

Weight Measurement

Head Circumference

Height Measurement

Chest Circumference Measurement

Mid Arm Circumference Measurement
3] INVESTIGATIONS

Hb%, Serum Proteins, Urine, MT - after 3 Months
Patho Investigations – Blood Collection of malnourished child.

4] CLINICAL EXAMINATION:

Clinical Examination of children is done by Paediatrician
Physiotherapist
in the hospital.
Dr. Limaye – Leading Gynecologist from USA Delivering Lecture to ANC and Lactating Mothers in Community.

ANC Check-up at Anganwadi Centre
5] HEALTH AWARENESS

Health awareness by Health talk, using A/V aids like Posters, Street Play, Videos, Counseling at camp

Dietician Advice

Role Play by nursing students

Advice about personal Hygiene & Healthy Environment to prevent Malnutrition.

Dr. Limay - (Dietician): Delivering session to Supervisor and anganwadi Sevika
6] DISTRIBUTION OF MEDICINE

Hematinics, Vit.D, Vit.A, Calcium, Antihelminthics are distributed

7] DISTRIBUTION OF NUTRITIOUS LADOOS AT ANGANWADI CENTRE:

8] BAL VIKAS KENDRA: (Child Development Centre)
   It is Centre for the children of moderate to severe degree of malnutrition and those who are not gaining the weight because of inadequate food.
Inauguration.

- **WORKSHOP FOR ANGANWADI SEVIKA:**
  - HEALTH AWARENESS WORKSHOP

- **WORKSHOP FOR ANM SISTERS:**

- **DAI TRAINING PROGRAMME:**
WORKSHOP FOR GOVERNMENT OFFICERS OF RATANAGIRI DISTRICT:

Blood Check-Up Camp FOR ADOLESCENT GIRLS:
School Health Check-up Camp:

WORKSHOP FOR PREGNANT WOMEN & THEIR MOTHER IN LAWS
MALNOURISHED CHILDREN PHOTOGRAPHS - PRE & POST LADOOP CONSUMPTION

Diya Kashinath Sangare
Pre-
Weight- 1.715 kg
Post-
3.885 kg

Hirshprung Disease
Shubham Lingayat
Operated case
CONGENITAL ANOMALIES CORRECTION

HOSPITAL N.I.C.U. – Equipped with Ultra Modern Facilities

Very Low Birth Weight Baby
Maher Ghar Yojana: Admission of the ANC mother 4-5 days prior to delivery under the observation of Gynecologist and for safe mother and Child health.
Geographical Area of Three District:

Showing Area under Project.

Ratnagiri District: Sindhudurga (Maharashtra)

Satara District:
Mother had consumed nutritious ladoos throughout pregnancy. Delivered a Baby of more than 2.5 kg of Birth weight.