



Appendices

APPENDICES

APPENDIX I QUESTIONNAIRE TO ELICIT INFORMATION ON MICRONUTRIENT DEFICIENCY

GENERAL INFORMATION:

1. Name of the respondent :

2. Age :

3. Sex :

4. Address :

5. Educational Qualification :

Nil

Primary

Secondary

Higher Secondary

Degree

6. Occupation

Government service

Business

Private organization

House wife

7. Annual Income

Individual – Rs.

Family – Rs.

8. Dietary Habits

Vegetarian

Non- Vegetarian

Ova – vegetarian

9. Family background :

Family type – Nuclear

Joint

S. No	Name	Relation	Age	Education	Occupation

10. Family history

Disease	Relation	Duration
Diabetes		
Heart disease		
Ulcer		
Arthritis		
Goitre		
Iron Deficiency Anemia		
Night blindness		
Corneal scar		
Any other		

Specific information

1. Do you go for regular health check – ups?

Yes No

If yes, how frequently?

2. Do you have any of the following health problems

Problem	Duration	Treatment	Medication
Diabetes Heart disease Ulcer Arthritis Goitre Iron Deficiency Anemia Night blindness Corneal scar Any other			

3. Do you feel tired or fatigued frequently?

Yes No

4. How frequently do you consume the following

Drink	Frequency	Time of consuming
Tea Coffee Alcohol		

5. Are you frequently affected by any of the following frequency

Problem	Frequency
Diarrhoea Respiratory infections Worm infestation	

If yes, what medication / treatment do you follow?

6. Do you consume any of the following food supplements?

Supplement	Duration	Dosage	Reason
Iron Multivitamin Calcium Folic acid Others.			

7. Have you attended any of the mass supplementation camps in the last five years?

If yes, specify

8. Do you face any problem of vision / sight during day time?

Yes No

9. Can you see objects clearly after sunset?

Yes No

If no, since how long?

10. Have you undergone any eye operations?

Yes No

If yes, specify.

11. Do you face any of the following skin problems frequently?

Problem	Duration
Rashes	
Boils	
Scars	
Roughness	
Dryness	
Allergy	
Any other	

12. Do you face any dental problems?

Yes No

If yes, specify.

13. Are you frequently affected by cough, cold or throat irritation?

Yes No

14. Source of potable water

a) Well water b) Deep tube well

c) Pond d) Other sources

15. How much salt do you use daily (per person)

a) 1 tbsp b) 2 tbsp c) 3 tbsp

Nutrition awareness:

1. Are you aware of the government's immunization programme.

Yes No

2. What are the sources through which you gain nutrition information?

a) Mass media d) Primary health centre

b) News paper / magazine e) Other sources (specify)

c) Educational institutions

3. What are the functions and rich sources of the following in diet

Nutrients	Function	Sources
Iron		
Iodine		
Vitamin A		
Vitamin E		
Vitamin C		
Calcium		

4. Where is thyroid gland located?

5. What is goitre? How is it caused?

6. What is anemia? How is it caused?

7. What are the symptoms of vitamin A deficiency?

8. What aspects do you look into while selecting foods?

- a) Taste
- b) Cooking method
- c) Nutritive value
- d) Cost
- e) Availability

9. What type of salt should you buy?

- a) Non branded
- b) Loose salt
- c) Iodised salt
- d) Non -iodised salt

10. What aspects do you look into while buying a food product

- a) Cost price
- b) Ingredients
- c) Nutritive value
- d) Expiry date
- e) Packing

11. What are the foods you eliminate during

- Pregnancy -
- Lactation -

For infants -

Preschoolers -

12. Do you have a kitchen garden?

Yes No

If yes, specify.

13. What is the most common cooking method you follow?

- a) Balancing b) Pressure cooking
c) Shallow fat frying d) Deep fat frying

13. Which salt do you consume at home?

Type	Brand Name
Powdered salt	
Crystal salt	

14. How do you store salt at home?

- a) In covered vessels b) In vessels without cover

15. When do you add salt to food?

- a) At the beginning b) Half cooked
c) At the end

APPENDIX II

CLINICAL ASSESSMENT SCHEDULE

Anthropometric measurements:

Height (cm) :
Weight (kg) :
Chest circumference (cm) :
Mid arm circumference (cm) :
Chest circumference (cm) :
Head circumference (cm) :

Clinical assessment of the subjects

General appearance

Good

Fair

Face

Normal

Depigmentation

Eyes

Pale conjunctiva

Bitot's spot

Night blindness

Mouth

Normal

Angular stomatitis

Tongue

Normal

Red

Pigmentation

Ulceration of the tongue

Teeth

Normal

Discolouration

Dental caries

Gums

Normal

Enlarged (Goitre)

Hair

Normal

Lack of lustre

Easy plucability

Dandruff

Skin

Normal

Lack of lusture

Dermatitis

Nails

Normal

Koilonychia

Frank signs of malnutrition

Marasmus

Kwashiorkor

Vitamin A deficiency

Anemia

APPENDIX III

24 HOUR DIETARY RECALL SCHEDULE

Name:

Date:

Age:

List all the foods you consumed along with the amounts in the following table.

Meal	Food item/ Preparation	Quantity consumed	Ingredients
Breakfast Time:			
Mid-morning Time:			
Lunch Time:			
Evening Time:			
Dinner Time:			
Bed time Time:			
Any others Time:			

APPENDIX IV
SENSORY EVALUATION SCORE CARD

Name :

Date:

Please taste these samples and rate them according to the descriptions provided below.

PRODUCT I (Biscuit)					
Crust colour	Surface characteristics	Crumb texture	Crumb colour	Taste	Flavour
PRODUCT II (Jam)					
Appearance	Colour	Texture	Flavour	Taste	Overall acceptability

Description	Max Score
Like extremely	9
Like very much	8
Like moderately	7
Like slightly	6
Neither like nor dislike	5
Dislike slightly	4
Dislike moderately	3
Dislike very much	2
Dislike extremely	1

Comments:

Signature

**APPENDIX V
PARENT CONSENT FORM**

Date:

We are doing a research programme on the topic 'Prevalence of micronutrient deficiency in Ramanathapuram district and impact of interventions' to assess the nutritional status and impact of providing a micronutrient supplement in the form of biscuits. For the purpose, the biscuits have been hygienically prepared and based on food items only and it is therefore free from any side effects.

For this purpose, we shall require to take 5 ml of blood from the children for analysis purpose twice during the study period. We assure that the data collected will be used purely for research purpose only and you are free to discontinue from participating in the study at any point of time.

I have been counselled and given information concerning the study. I understand the content of the study. I have also been given the opportunity to ask questions. I whole heartedly agree to co-operate with the investigator.

Yes, I agree

No, I decline

Name of the child:

Name of the parent/caretaker:

Relation to child:

Signature of the parent

**APPENDIX VI
MALIN INTELLIGENCE SCALE FOR INDIAN CHILDREN (MISIC)
RECORD FORM**

1. NAME
2. ADDRESS
3. SEX
4. FATHER'S NAME
5. MOTHER'S NAME

	YEAR	MONTH	DAY
Date tested
Date of Birth
Age

TESTS	Raw Score
1. Information
2. Comprehension
3. Arithmetic
4. Vocabulary
5. Digit Span

1. INFORMATION TEST

	Response	Score		Response	Score
1.		11.	.....
2.		12.	.....
3.		13.	.....
4.		14.	.....
5.		15.	.....
6.		16.	.....
7.		17.	.....
8.		18.	.....
9.		19.	.....
10.		20.	.....

Score:

2.GENERAL COMPREHENSION TEST

	Response	Score	Response	Score
1.		9. (a).....	
2.		(b).....	
3.		10. (a).....	
4.		(b).....	
5.		11.(a).....	
6. (a).....			(b).....	
(b).....			12. (a).....	
7. (a).....			(b).....	
(b).....			13. (a).....	
8. (a).....			(b).....	
(b).....			14. (a).....	
			(b).....	

Total score:

3.ARITHMETIC TEST

	Problem	Response	Problem	Response
1.		11.	
2.		12.	
3.		13.	
4.		14.	
5.		15.	
6.		16.	
7.		17.	
8.		18.	
9.		19.	
10.		20.	

Score:

APPENDIX VII

QUESTIONNAIRE TO ELICIT NUTRITIONAL KNOWLEDGE, ATTITUDE AND PRACTICE AMONG THE SUBJECTS

Knowledge

1. What is anaemia?
a) Decreased haemoglobin b) Eye disease c) Hunger
2. What are the symptoms of anaemia?
a) Tiredness b) Stomach ache c) Chest pain
3. What are the reasons to get blister in the mouth?
a) Fat deficiency b) Water deficiency c) Micronutrient deficiency
4. What causes goitre
a) Mumps b) Chicken pox c) Iodine deficiency
5. Is iodine deficiency related to food intake?
a) Yes b) No c) Do not know
6. What is the reason for bleeding of gums?
a) Carbohydrate deficiency b) Vitamin deficiency c) Increased blood level
7. What is the reason for night blindness?
a) Sin b) Heredity c) Vitamin A deficiency
8. Do pregnant women need more Iron?
a) Yes b) No c) Do not know
9. Which of the following nutrients are essential to improve school performance?
a) Iodine b) Fat c) Protein
10. Green leafy vegetables and coloured vegetables are rich in ---
a) Fat b) Protein c) Vitamin A and Iron

Attitude

1. What do you think is essential for a disease-free healthy life?
a) Nutritious food and exercise b) More food and more sleep c) Medicines
2. Is participating in nutritional awareness camps useful?
a) Yes b) No c) No idea
3. Are tiredness and fatigue symptoms of anaemia?
a) No b) Yes c) Do not know
4. What are the main foods essential for improving immunity?
a) Fruits and vegetables b) Carbohydrate rich foods c) Sweets and snacks
5. What causes lustreless and pigmented hair?
a) Vitamin A deficiency b) Exposure to sunlight c) Heredity

6. Is there any relation between salt intake and thyroid problems?
a) Yes b) No c) Do not know
7. Can anaemia be cured through diet?
a) Yes b) No c) Do not know
8. What is the reason for dryness of tongue and skin?
a) Vitamin deficiency b) Fat deficiency c) Protein deficiency
9. What are the beneficial effects of consuming green leafy vegetables?
a) Nerve strength b) Do not know c) Strength for eyes
10. Can vitamin A deficiency cause total blindness
a) Yes b) No c) Do not know

Practice

1. What type of salt does your family consume?
a) Iodised salt b) Non iodised c) Any local salt
2. What are the cheapest food sources of iron?
a) Green leafy vegetables b) Dhal c) Cabbage
3. Jaggery is the rich source of?
a) Heat b) Iron c) Sweetness
4. Do you believe that pregnant women can consume papaya?
a) Yes it is helpful b) No, it is dangerous c) Do not know
5. Is it good to wash vegetables after cutting?
a) Yes b) No c) Do not know
6. How do you cook green leafy vegetables?
a) Boiling and remove water b) With fat and pulse c) With other vegetables
7. Which of the following do you purchase more?
a) Vegetables and fruits b) Roots and tubers c) Snacks
8. Do you follow any nutrition advice given by your doctor?
a) Yes b) No c) No advice has been given
9. Do you discard excess water after cooking vegetables?
a) Yes b) No c) Do not know
10. Do you select foods based on their nutrient content?
a) Yes b) No c) Do not know