

Appendix: 1.**IDD Prevalence or Endemic goitre determined by following criteria :****IDD Indicators :**

1. Clinical indicators : a) Inspection and palpation
b) Ultrasonography
2. Biochemical indicators : a) Thyroid hormones, TSH,
b) Urinary iodine levels,

1. Clinical indicators :**a) Inspection and palpation :****Classification of goitre :**

Grade 0 : No palpable or visible goitre.

Grade 1 : A mass in the neck that is consistent with an enlarged thyroid that is palpable but not visible when the neck is in the neutral position. It also moves upwards in the neck as the subject swallows.

Grade 2 : A swelling in the neck that is visible when the neck is in a neutral position and is consistent with an enlarged thyroid when the neck is palpated.

Source : WHO / UNICEF / ICCIDD (1993).

2. Biochemical indicators :

b) Urinary iodine levels:

Low urinary excretion of iodine is an indicator of deficiency of this micronutrient. when the median of the excretion values for a community is below 5 micrograms of iodine per decilitre of urine, that community is considered to be at moderate or high risk of suffering iodine deficiency disorders.

Urinary iodine analysis is the most common biochemical method used for assessing the iodine status of populations (May Sandra L. et al. 1997).

Urinary Iodine Levels :

1) < 0.16 micro mol per litre = (Severe IDD)

2) $0.16 - 0.4$ micro mol per litre = (Mod IDD)

3) $0.4 - 0.78$ micro mol per litre = (Mild IDD)

4) > 0.79 micro mol per litre = (Normal)

Source : Kung AWC et al. (1996).

Appendix 2.

Summary of IDD prevalence indicators and criteria for a significant public health problem :

Indicator	T a r g e t population	Severity of	public health	problem
		Mild	(prevalence) Moderate	Severe
Goitre	SAC	5.0 - 19.9 %	20.0 - 29.9 %	>30.0 %
Thyroid volume > 97 th centile by ultrasound	SAC	5.0 - 19.9 %	20.0 - 29.9 %	>30.0 %
Median urinary iodine level (µg / l)	SAC	50 - 99	20 - 49	<20
TSH > 5 ml U / l whole blood	neonates	3.0 - 19.9 %	20.0 - 39.9 %	> 40.0 %
Median thyroglobulin (ng / ml serum)	C / A	10.0 - 19.9	20.0 - 39.9	> 40.0

SAC = School Age Children, C / A = Children and Adults.

Source : WHO (1996).

4 . Would you know any pupil in your school ?

- a) With goitre.
- b) Retarded / Cretins.
- c) Children very slow to learn things.
- d) All of the above.
- e) None of the above.

5 . Why do you think some pupil develop goitre ?

- a) Due to the pollutant water.
- b) Due to the hereditary.
- c) Due to malnutrition.
- d) Due to the lack of iodine in the body.
- e) All of the above.
- f) Do not know.

6 . Why do you think some pupil develop Cretin / very “slow” ?

- a) Do not know.
- b) Due to the pollutant water.
- c) Due to the hereditary.
- d) Due to malnutrition.
- e) Due to the lack of iodine in the body.

7. Do you know about Iodine and its importance to our body ?

- a) It is used as a antiseptic.
- b) It is essential for the thyroid hormone production.
- c) It is used to prevent goitre.
- d) All of the above.
- e) None of the above.

8 . Have you know any relationship between the type of food or salt that people are using, with the incidence of goitre / cretinism in an individual / family ?

.....Yes,No.

9 . If people have a belief that goitre is a god gift can not eliminate it, then what type of suggestions do you provide them?

- a)
- b)
- c)

10. If people do not get sufficient iodine in their diet what might be happened ?

- a) Goitre / Cretinism may developed.
- b) Children's school performance low.
- c) Defects of speech and hearing.
- d) All of the above.
- e) None of the above.

11. What are the natural sources of Iodine ?

- a) Drinking water (surface, pond, well, etc.)
- b) Vegetables, Fruits.
- c) Fish / meat / eggs.
- d) Sea foods.
- e) All of the above.
- f) Do not know.

12 . If lack of those iodine reached foods item in people's diet, what might be happened ?

- a)
- b)
- c)
- d)

13 . If lack of iodine in the people's diet who will be the most affected ?

- a) All women and men
- b) All women only
- c) All children below 15 years only
- d) Child bearing age mothers
- e) Both c) and d)
- f) Both a) and c)

14. What is the colour of iodine ?

- a) Brown
- b) Black
- c) Blue
- d) Violet
- e) Green

15. What kind of salt do you use for your food / use:

- a. Phoda / Bargara only
- b. Powdered salt only (specify brand)
- c. Both phoda / bargara and powdered (specify brand)

For livestock : Phoda / Bargara

16. Were you specifically told what type of salt to buy :

- Yes, I was told to buy ----- by my -----

---No, I was not told what to buy, I bought ----- salt.

17. If you are using bargara / phoda salt for cooking, do you wash them before grinding and why ?

- a)
- b)
- c)

18. What is the nature of iodine ?

- a) Non volatile
- b) Volatile
- c) None of the above

19. Iodine is loss due to

- a) Heat
- b) Direct sunlight
- c) Moisture
- d) All of the above
- e) None of the above

20. Who will be suffered from the cretin or goitre ?

- a) Those who have goitre
- b) Family as a whole
- c) Community
- d) All of the above

21. Iodine is needed for

- a) Man
- b) Only women
- c) Animals
- d) All of the above

22. If animal did not get iodine then what might be happened ?

- a) Abortions
- b) Still births
- c) Low birth weight
- d) Low out put of milk, eggs, meat, wool
- e) All of the above

23. If pregnant women did not get sufficient iodine in their diet what might be happened ?

- a) Still births, miscarriages
- b) Infant deaths
- c) Low birth weight
- d) By birth cretin
- e) All of the above

24. If 15 years children lack iodine in their diet what might be happened ?

- a) Low learning power
- b) Low school performance
- c) Develop a goitre
- d) Loss of speech and hearing

25. For adult lack of iodine in their diet what might be happened ?

- a) Low work output
- b) Look after by others
- c) Burden for family

d) Low income

e) Loss of work opportunity

Short answer questions:

Please answer the following six questions by writing in this paper not more than six sentences.

1. Define the iodine deficiency disorders.
2. List the consequences of iodine deficiency.
3. Explain the causes of iodine deficiency.
4. Explain the importance of iodine.
5. Explain the natural sources of iodine.
6. Name the type of salt found in the market.
7. Describe the symbiotic effects of smoking and goitrogenic foods.
8. What are the socio - economic impacts on community by the iodine deficiency.

Long answer questions :

Please answer the following one questions.

1. If your mother use crystal salt for preparing food after washing salt, how can you suggest your mother not to wash the salt ?
2. If your students have a goitre what type of suggestions do you providing those children and how can it prevented ?

16. Have you heard of / do you know about, 'iodine' and or any connection between the type of salt that people are using, with the incidence of goitre / cretinism in an individual / family ?

17. What do you know about salt and goitre / cretinism ?

18. From whom did you learn about iodine or heard that there is connection between the type of salt people are using and the incidence of goitre / cretinism in an individual / family ?

19. Did you believe what there people / sources of information said about the connection of the type of salt used and the incidence of goitre and cretinism, and why ?

20. [Ask if participants have school - going children]

Has your son / daughter told you anything about what she / he learned in school about 'iodine', goitre, cretinism, iodised salt etc. ? What do you think about this ? How did you react about what you learned from your son / daughter about this matter ?

21. To what extent are you discussing family matters in your family ? Who generally decides in your family about certain health issues (e.g. about type of salt to buy)

22. If you have the opportunity, would you like to know more about ' iodine' , and the relationship / connection of the type of salt used, and the incidence of goitre and cretinism in an individual / family ?

From whom would you be most comfortable in learning / knowing about important health matters for yourself and your family, and why ?

Appendix. 5

Rapid survey questionnaire for child bearing age mothers :

Knowledge, Attitude and practice (KAP) on salt consumption in Rautbesi village, Nuwakot.

Questionnaire no. : Administered by :

Date : Starting time : Completion time :

Name : District / VDC / Ward :

Sex : M F Age : Cast / Ethnic group :

Occupation :

Educational level : Illiterate Literate without going to school

Primary level : Secondary level : Higher level :

1. What kind of salt do you use for your use / food :

- Phoda / Bargara only
- Powered salt only (specify the brand)
- Both Bargara and powered (specify the brand)

for livestock : - Phoda / Bargara

2. If both bargara and powered salt are used in your house, what is the proportion of use :

- bargara most of the time, powered salt only sometime (specify what is sometimes)
- powered salt most of the time, bargara sometimes (specify what is sometimes)
- almost equal use of both (specify)

3. Do you dry the salt in the fire before you use.

Where do you keep the salt at home.

- Kitchen
- near the fire place
- store
- out of the fire place

4. Why are you using this type of salt :

for your use / home : (If more than one answer applies, rate the reasons according to most important, with one being the highest)

- because that is what we have been using for long (specify how long since)
- because that is what easily available
- because it taste better (specify >> compared to what other type of salt)
- because it is cheaper (specify >> how much cheaper compared to what)
- because we can store it for long, without being spoiled (assuming buying in bulk)

For your livestock :

Is there any difference on your livestock if you use bargara, as compared to powered salt

?

- yes, (specify)
- No / I don't know

5. If you are not / have not been using powdered salt at all, or using it only once in a while please tell us why ? (If more than one answer applies, rate the most important reason, with I being the highest)

- because it does not taste as good as bargara
- because it is more expensive
- because it is not easily available to buy in our community (specify)
- because we heard that it causes allergy / scabies
- because that is not what everyone else is using in our community
- because we are already accustomed to using bargara / phoda salt
- because - told me not to buy / use powdered salt (specify for what reason)
- other reason.

6. If you are using bargara / phoda salt for cooking, do you wash / roast / sun dry them before grinding, and why ?

- Yes, because - - -
- No, because - - -

7. Does it matter to you if the sack of bargara salt is left open and in the sunshine for prolong period of time ?

- Yes, it matters because - - -
- No, I don't care / don't know - -

8. Would you know of people in your community :

- with goitre How many of them -- ---

- retarded / cretins How many of them -----

- children / people considered very "slow" to comprehend / learn things

9. Why do you think some people develop goitre or cretin / "slow" children ?

- Don't know

10. Have you heard about any connection between the type of salt that people are using, with the incidence of goitre / cretinism in an individual / family ?

- Yes >> What do you know about it (salt and goitre / cretinism)

- that goitre and cretinism are caused by not taking enough iodised salt

- I heard there is connection, but do not really know how and why

- others (specify)

- No / I don't know

11. Did you believe what your children learned from school and said about the connection of the type of salt used and the incidence of goitre and cretinism, and why ?

- Yes I believe them -----

- Partially only, I still have doubts ---

- No, I don't believe at all (viz. there is no connection between the type of salt used and the incidence of goitre and cretinism) -----

12. From whom would you be most comfortable in learning / knowing about important health matters for yourself and your family :

- from health workers(specify who / position, and where is this person(s) stationed)

- from my own relatives (specify relations)

- from my friends

- from our local leaders(specify who / position)

- from mass media (specify whether radio, newspaper / magazines, other media)

13. If you know that powdered salt is good for health how much willing to pay more for this salt ? If yes

1- 2 Rs. / kg. more

2 - 4 Rs. / kg. more

More than 5 Rs. / kg.

Appendix. 6 Schedule of Activity :

S . No.	Activity	Date	Personnel / Office	Venue
1	Request letter for budget to the sponsor	December first 1997.	WHO / UNICEF	UN building Pulchok, lalitpur.
2	Selection of focus group members	February first 1998.	District Education Office (for teachers name collection)	Trishuli, Nuwakot.
3.	Prior notice to the focus group members	February second 1998.	Secondary and Primary school 's.	Rautbesi village of Nuwakot district.
4.	Selection of moderator, facilitator, and assistance and trained to them.	February third 1998.	District health office,	Trishuli, Nuwakot.
5.	Focus group discussion conduct.	Feb. fourth 1998.	Secondary school's class room.	Rautbesi village of Nuwakot.
6.	Report preparation, analysis and interpretation.	Feb. fifth 1998.	District Health Office,	Trishuli, Nuwakot.
7.	Curriculum development	Feb. 9th 1998.	Nutrition section chief, IDD program chief (researcher), STC / GCP section chief, Nutritionist, CIDA, MI advisor Nepal	Nutrition section, Teku, Kathmandu.

8.	Curriculum printing, learning material preparation, Monitoring procedures, and Training guidelines,	Feb. 11 Th. 1998.	Nutrition section chief, IDD program chief (researcher), STC / GCP section chief, Nutritionist, CIDA, MI advisor Nepal	Nutrition section, Teku, Kathmandu
9.	Teachers training ,	Feb. 15th - 17 Th. 1998.		Trishuli, DHO, Nuwakot.

CURRICULUM VITAE

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Health education counselling, Communication,
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