



POSITION PAPER ON THE CONSUMPTION OF IODINE AND IODIZED SALT IN CHILDREN OF NEPAL

**ADDRESSING THE DUAL BURDEN OF IODINE DEFICIENCY & EXCESS IN CHILDREN OF
NEPAL**



NEPAL PAEDIATRIC SOCIETY-2025

Nepal Paediatric Society (NEPAS)

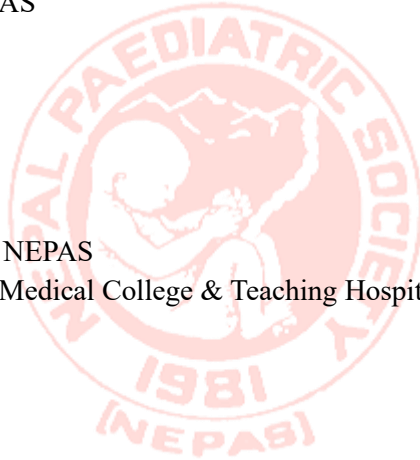
Position Paper on the Consumption of Iodine and Iodized Salt in Children of Nepal. Endorsed by Nepal Paediatric Society (NEPAS)

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Position Paper on the Consumption of Iodine and Iodized Salt in Children of Nepal

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Subject: Addressing the Dual Burden of Iodine Deficiency and Excess in Children of Nepal

Background

Iodine is a vital micronutrient for thyroid hormone production, essential for brain development and metabolic health, particularly in infants and children. Universal Salt Iodization (USI) has been the cornerstone of global and national strategies to prevent iodine deficiency disorders (IDDs). Nepal has achieved commendable progress in salt iodization since the 1990s; however, recent data indicate a growing concern of **dual burden**—both iodine deficiency and iodine excess—in children across different regions.

Salt Iodine fortification is based on assumption of average intake of 5 to 10 grams in household, but salt intake in general has increased with junk and fast-food intake. NDHS 2022 indicated that more than 98% households have access to iodized salt. Similarly, Goiter prevalence cannot be used as indicator of iodine deficiency once iodine supplementation has started at community level. Thus, Iodine fortification needs regular review in relation with average salt intake and urinary iodine excretion so that appropriate recommendations could be suggested for different geographical regions of country as salt intake per say may be different at household and outside-like in hotels, roadside vendors, junk food etc.

Iodine and Child Health

Implications of Iodine Deficiency

1. Neurocognitive impairment, reduced IQ
2. Goiter and hypothyroidism
3. Increased risk of stillbirth and developmental delay when deficient during pregnancy

Implications of Iodine Excess

1. Iodine-induced hyperthyroidism
 2. Autoimmune thyroid disease
 3. Subclinical thyroid dysfunction
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Current Status in Nepal

According to the **Nepal National Micronutrient Status Survey (NNMSS) 2016 & Nepal Demographic and Health Survey 2022**

- a. Median urinary iodine concentration (UIC) in school-aged children was **314 µg/L**, exceeding the optimal range (100–299 µg/L), suggesting **excess iodine intake** at the national level.
- b. Despite national iodization policy, a substantial number of **households still used inadequate or no iodized salt** (<15 ppm). Similarly, a few households had negligible iodine (<5 ppm) in their salt. However, the majority had adequate (15-40 ppm) to excess (>40 ppm) iodine levels.
- c. Wide inter-regional variations exist, with some mountain and hill areas still reporting inadequate intake.

WHO Recommended Iodine Intake

Age Group	Recommended Daily Iodine Intake
Infants (0–6 months)	110 µg
Infants (7–12 months)	130 µg
Children (1–8 years)	90 µg
Children (9–13 years)	120 µg
Adolescents (14+ yrs)	150 µg
Pregnant and lactating women	250 µg

Public Health Concerns

Underconsumption

1. Linked with poor iodized salt coverage or loss of iodine due to improper storage.
2. More common in remote, low-income, or food-insecure households.

Overconsumption

1. May result from overly iodized salt, high consumption of processed foods, or poor regulation.
 2. Linked with increased risk of thyroid dysfunction in children.
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Role of Paediatricians in Nepal

The **Nepal Paediatric Society (NEPAS)** recognizes the critical role that paediatricians play in addressing this double-edged public health issue. NEPAS encourages its members to:

- a. **Screen and identify thyroid-related symptoms** in children, especially in areas with known iodine issues.
 - b. **Promote education among caregivers** about proper salt usage and storage.
 - c. **Advocate for optimal iodine intake** in clinical settings, schools, and community programs.
 - d. **Collaborate with local and national health authorities** to ensure regular surveillance and accurate reporting of iodine-related disorders.
 - e. **Participate in policy dialogues** to refine national iodization standards based on emerging evidence.
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Policy Recommendations

1. **Strengthen Monitoring of Iodized Salt**
 - Enhance quality control at production, importation, and distribution points.
 - Introduce **regional iodization targets** to address local dietary patterns and needs.
 2. **Routine Surveillance of Iodine Status**
 - Conduct periodic UIC surveys, focusing on vulnerable groups including school-aged children and pregnant women.
 - Disaggregate data by geography to better identify at-risk regions.
 3. **Promote Appropriate Salt Usage at Household Level**
 - Encourage proper storage (airtight containers, away from heat and light).
 - Educate households about choosing adequately iodized salt (>15 ppm).
 4. **Regulate Processed Foods**
 - Monitor iodine content in commercial and processed foods.
 - Consider salt reduction strategies to avoid unintentional iodine excess.
 5. **Integrate Iodine Education in Health Programs**
 - Include iodine-related counseling in paediatric visits, immunization campaigns, and school health programs.
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Alternative Sources of Lower Iodine Salt

In certain medical or regional contexts, reduced iodine intake may be indicated. While the use of non-iodized salt for general consumption is restricted by law in Nepal under the Iodized Salt Act (2055/1998), some less iodized or naturally non-iodized salts may be available for **special dietary purposes**. These include:

1. Non-Iodized Table Salt

2. Himalayan Pink Salt
3. Rock Salt (Sidhae Nun)
4. Natural Sea Salt (Unfortified)

Note: The use of these salts should be carefully considered and guided by healthcare professionals and nutrition specialists; particularly in children, to avoid risk of iodine deficiency. Their legal availability for regular dietary use remains limited and subject to national regulations.

Conclusion

The Nepal Paediatric Society reaffirms its commitment to improving child health by addressing both the deficiency and excess of iodine through evidence-based strategies. Paediatricians are in a unique position to monitor iodine status, educate families, and support policy enforcement. Ensuring salt intake with optimal iodine is crucial to safeguarding the neurodevelopment and overall well-being of Nepal's future generations.

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