

Reaching Optimal Iodine Nutrition in Pregnant and Lactating Women and Young Children

BACKGROUND

In 1994, a special session of the WHO and UNICEF Joint Committee on Health Policy recommended Universal Salt Iodization (USI)¹ as a safe, cost-effective and sustainable strategy to ensure sufficient intake of iodine by all individuals (1). It also suggested that temporary iodine supplementation be considered in areas of severe iodine deficiency where USI cannot be rapidly implemented.

Based on new evidence and lessons learned within the last decade, it appears that the most susceptible groups - pregnant and lactating women, and children less than two years of age - might not be adequately covered by iodized salt where USI is not fully implemented. This situation may jeopardize the optimal brain development of the fetus and young child.

In order to address this issue, WHO convened a technical consultation on the prevention and control of iodine deficiency in pregnant and lactating women and in children less than two years of age. The consultation, held on 24-26 January 2005 in Geneva, Switzerland, made recommendations to ensure optimum iodine nutrition among these groups (2). As a follow-up to the meeting, and in order to provide programmatic guidance to implement these recommendations within the country programme planning process, WHO and UNICEF held a joint meeting on 15-16 November 2005 at UNICEF Headquarters, New York, USA.

This statement presents the conclusions of the joint WHO/UNICEF meeting.

INTRODUCTION

The primary strategy for sustainable elimination of iodine deficiency remains USI. In some countries, however, implementation of salt iodization programmes may not be feasible in all areas, thus resulting in insufficient access to iodized salt for some groups within the population. In these cases, besides strengthening the USI programmes, additional complementary strategies should be considered by the country to ensure optimal iodine nutrition for these susceptible groups. As the first step, countries need to assess and categorize the level of implementation of salt iodization programmes and, based on this analysis, should revisit the strategy for the control of Iodine Deficiency Disorders (IDD), as necessary. Guidance for the categorization and planning process is presented in this statement.

¹Universal salt iodization (USI) means the iodization of salt for consumption by both humans and animals



1. Categorization of country according to level of implementation of salt iodization programmes.

Countries, or areas within countries, can be categorized into four groups based on the proportion of household use of iodized salt at the national level. It is preferable for highly populated countries to use disaggregated data and categorize areas of the country according to sub-national (region, province, district, etc) data.

Group 1: Countries, or areas within countries, in which more than 90% of the households have access to iodized salt.

Group 2: Countries, or areas within countries, in which 50-90% of the households have access to iodized salt.

Group 3: Countries, or areas within countries, in which 20-50% of the households have access to iodized salt.

Group 4: Countries, or areas within countries, in which less than 20% of the households have access to iodized salt.

2. Guidelines for decision making on when and how to plan for additional iodine intake in pregnant and lactating women and children 7-24 months of age.

Group 1: The countries in this group should sustain the achievement of USI and periodically reassess the salt iodization programme and population iodine status.

Group 2: The countries in this group should make efforts to accelerate salt iodization based on the existing operational guidelines (3, 4). If no progress in scaling up is being made within two years, then the feasibility of increasing iodine intake in the form of a supplement or iodine fortified foods by the most susceptible groups – pregnant and lactating women and children 7-24 months of age - would need to be assessed, using the recommended strategy for the countries of group 3.

Group 3: The countries in this group will need to assess the feasibility of increasing iodine intake in the form of a supplement or iodine fortified foods by the most susceptible groups, as described in the following programmatic steps:

a. Assess population iodine nutrition status, household iodized salt coverage (preferably disaggregated) and salt iodization programmes in order to identify a national or sub-national problem. An initial rapid assessment will be needed for advocacy and for future monitoring if no assessment has yet been made. The methodology of assessments is described in the WHO/UNICEF/ICCIDD guidelines on "Assessment of Iodine Deficiency Disorders and Monitoring their Elimination" (4).

b. Develop new plans to strengthen salt iodization that include increasing political commitment, advocacy, capacity-building of the salt industry for production and quality assurance, adoption and enforcement of appropriate regulations/legislation, and an effective iodized salt monitoring system at production (or importation), retail and community levels.

c. If a country does not succeed in scaling up its salt iodization programme within two years, the feasibility of increasing the iodine intake of susceptible groups by means of supplements or iodine-fortified foods will need to be explored as a temporary measure while strengthening the salt iodization programme. In areas of moderate and severe iodine deficiency (median urinary iodine less than 50 µg/l or total goitre rate more than 20%), the objective should be to provide additional iodine in the form of a supplement to all pregnant and lactating women, and in the form of a supplement or complementary food fortified with iodine for children 7-24 months of age.

d. Assessing the feasibility of providing additional iodine should include: (i) costing of supplementation, (ii) existing channels for distribution to reach the target groups, (iii) likely duration of supplementation, and (iv) potential compliance.

Group 4: Each country in this group should assess the current situation of its salt iodization programme to identify national or sub-national problems and to update its strategies and action plans. The most vulnerable groups, pregnant and lactating women, should be supplemented with iodine, and children 7-24 months of age should be given either a supplement or complementary food fortified with iodine until the salt iodization programme is scaled up.

3. Guidelines for decision making on when and how to plan for additional iodine intake in pregnant and lactating women and children 7-24 months of age in specific situations.

Irrespective of where countries, or areas within countries, are categorized there are specific situations such as in emergencies, among displaced people, and geographically remote areas where additional iodine intake should be considered. If iodized salt is not accessible in these specific situations, increasing iodine intake is required in the form of iodine supplements for pregnant and lactating women, and a supplement or complementary food fortified with iodine for children 7-24 months of age. In cases where it is difficult to reach pregnant women, supplementation to all women of reproductive age is advised.

4. Recommended dosages of iodine supplement.

The consultation agreed on two main approaches for administering iodine supplements - either on a daily basis or on an annual basis using an iodized oil preparation - and an endorsement of the WHO-recommended dosages (2) as described in Table 1.

Table 1. WHO-recommended dosages of daily and annual iodine supplementation.

Population Group	Daily dose of iodine supplement (µg/d)	Single annual dose of iodized oil supplement (mg/y)
Pregnant women	250	400
Lactating women	250	400
Women of reproductive age (15-49 y)	150	400
Children < 2 y ^{2,3}	90	120

²For children 0-6 months of age, iodine supplementation should be given through breast milk. This implies that the child is exclusively breastfed and that the lactating mother received iodine supplementation as indicated above.

³These figures for iodine supplements are given in situations where complementary food fortified with iodine is not available, in which case iodine supplementation is required for children of 7-24 months of age.

5. Monitoring

Monitoring of IDD prevention and control programmes is crucial - whether they are based on fortification or supplementation - in order to ensure that additional iodine intake is effective in reducing the deficiency while preventing excessive intake that may lead to adverse health consequences. The monitoring process should include the assessment of coverage and iodine nutrition status. The detailed methodology of monitoring is given in WHO/UNICEF/ICCIDD guidelines (4).

REFERENCES

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4. WHO/UNICEF/ICCIDD. Assessment of IDD and Monitoring their Elimination. World Health Organization, Geneva, 2001.

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