

### Community Access to Adequately Iodized Salt in Rural Amhara, Ethiopia

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**Objectives:** To assess community access to adequately iodized salt in rural Amhara, Ethiopia.

**Methods:** We collected market and household salt samples from December 2020-January 2021 in West Gojam and South Gondar, Amhara, Ethiopia. A total of 24 salt samples were collected from markets randomly chosen in proximity to six rural health centers prior to the Enhancing Nutrition and Antenatal infection Treatment (ENAT study). 12 salt samples were unpackaged salt sold in open markets and 12 samples were packed samples procured from local shops. Household salt samples were also collected among mothers consecutively enrolled in the ENAT study over a one-month period at baseline. Quantitative assessment of iodine content was performed by iodometric titration at a central referral laboratory. In addition, a rapid qualitative salt assessment (MBI rapid test, Chennai, India) was done for 238 randomly

selected households in walking proximity to the study health centers. The MBI test used rapid qualitative colorimetric methods, to test for adequacy of iodization (no color change: 0 ppm, light purple: <15 ppm, dark purple >15 ppm).

**Results:** The median iodine titration level for local market salt was 37.1 ppm (range: 14.3–116.4). Fifteen (62.5%) samples were at recommended levels (15–40 ppm), 8(33.3%) were >40 ppm and one sample <15 ppm. The median iodine titration test for household samples was 42.7 ppm (range: 10.1–89.8); with 19 (33.3%) samples at the recommended levels, 33(57.9%) >40 ppm, and 5(8.8%) of samples <15 ppm. On the other hand, among the community based, household-level samples (n = 238) tested by MBI rapid kits, 8(3.4%) had no iodization, 116 (48.7%) were inadequately iodized (<15 ppm), and 114(47.9%) were >15 ppm.

**Conclusions:** There is heterogeneity in the level of iodization in salts available in the markets in Amhara, with the majority of samples were iodized >15 ppm; though almost 40% were above WHO recommended levels. At the household level, iodine content in nearly half of community-based samples were inadequate. Standardization of quality of market salt and optimal storage of iodized salt to prevent degradation at the household level are needed.

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