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Boosting USI in PH

DOST-ITDI addresses household iodized salt adequacy

Did you know that only half of Philippine households are adequately iodized, discounting a 2011 world report of 82.1 percent?

A May 2017 issue of The Journal of Nutrition (JN), published results of a study on household coverage with adequately iodized salt in 10 countries, including the Philippines. Published since 1928, JN is a publication of the American Journal of Clinical Nutrition.

In its 147th issue, it reported results of a study conducted by Knowles et al on *"Household Coverage with Adequately Iodized Salt Varies Greatly between Countries and by Residence Type and Socioeconomic Status within Countries: Results from 10 National Coverage Surveys."*

The study included eight of 10 of the Universal Salt Iodization (USI) Partnership Project countries established in 2008 by the Bill & Melinda Gates Foundation, the Global Alliance for Improved Nutrition, and UNICEF. These include Bangladesh, Ethiopia, Ghana, India, Indonesia, Niger, the Philippines, and Senegal during the 2013–2015 period together with data obtained from two national Fortification Assessment Coverage Toolkit surveys in Tanzania and Uganda in 2015.

The goal of the Partnership Project was to increase household iodized salt coverage. Results were varied. National household coverage of adequately iodized salt ranged from 6.2% in Niger to 97.0% in Uganda. For salt with some added iodine, coverage swung from 52.4% in the Philippines to 99.5% in Uganda.

Focusing on the Philippines, it added that socio-economic status (SES) is a risk factor in coverage with adequately iodized salt citing figures of 39.4% in high SES households compared with 17.3% in low SES households. Correspondingly, consumption is higher in urban than in rural households or 31.5% compared with 20.2%, respectively.

The report concluded that *"... Uganda has achieved USI. In other countries, access to iodized salt is inequitable. Quality control and regulatory enforcement of salt iodization remain challenging."*

In addition, it said that, *"Assessing progress toward USI only through household salt does not account for potentially iodized salt consumed through processed foods."*

What's the Fuss?

Iodine deficiency disorder (IDD) is one of the most important causes of preventable mental impairment in older children and adults around the world. It poses a threat throughout one's lifecycle and complications with pregnancy, including stillbirth, congenital anomalies, and irreversible fetal brain damage.

In fact, the Australian Thyroid Foundation Ltd. reports an annual national productivity loss of as much as $250 million each year all attributed to IDD.

While iodine deficiency can be effectively and inexpensively prevented by iodizing all salt for human and animal consumption (known as Universal Salt Iodization or USI), it seems that efforts, at least in the Philippines, have not been enough to turn the tide.

Results of the Eighth National Nutritional Survey (NNS) showed a 5 percent decrease in IDD incidence, from 14% in 2008 to 9% in 2013 among children aged 6 to 12 years old. However, the National Nutrition Council-National Capital Region (NNC-NCR) believes that

there is still need to strengthen implementation of the ASIN Law, or RA 8172, which aims to promote use of iodized salt and requires all salt manufacturers to iodize salts they produce and distribute.

In a newspaper interview, Dr. Amelia C. Medina of the Disease Prevention and Control (DOH-DPC) outlined the challenges of implementing ASIN even after 23 years. A major challenge, Medina cited, is the monitoring of supply and distribution of adequately iodized salt within Metro Manila. Others are:

- Lack of monitoring teams at entry points of salt delivery and at the regional level;
- Irregular supply of salt testing kits which delays submission of LGU reports; and
- Available rapid test kits detect presence of iodine but not their quantity.

More than those, some pass of industrial salt as table salt fit for human consumption; industrial salts are not required to be iodized Medina added.

ITDI Completes SIM (Salt Iodizing Machine) **Set**

Still, not everything is lost. LGUs may opt to re-organize or revitalize the *Bantay Asin* Task Forces (BATF). As lead in managing their respective National Salt Iodization Programs (NSIP), their chief task is to ensure that salt distributed and sold to the public have at least between 30% to 70% parts per million (ppm) of iodine.

Here at DOST-ITDI, an improved technology shows a way to maximize production of high quality, iodized salt in contrast to current traditional solar and cooking technologies. With increased yield and quality, salt farmers may soon be able to suffer less from frequent industrial salt shortage; local workers can also supply the quality of product demanded by local industries.

At the moment, DOST-ITDI offers several ways to aid salt producers and local BATFs in complying with USI and NSIP. These include:

1. Technical assistance for improvement of locally used methods of salt farming;
2. Brine management techniques for iodized salt production;

ITDI's Salt Iodizing Machine (SIM)**.** *Left to right. Frame 1:* **Salt Iodizing Machine – Continuous Type.** *Frame 2:* **Salt Washer.** *Frame 3:* **Spin Dryer.**

3. Design/Fabrication of ITDI's complete SIM set, which consists of the salt iodizing machine either continuous or batch type (tumble mixer), a salt washer, and a spin dryer;
4. Assistance in capacity building for internal quality control/quality assurance (QAQC); and
5. Calibration and training on the use of WYD iodine checker, a device to measure salt iodine.

Other concerned activity is conduct of salt micro-sizing study to support efforts on salt-intake cutback. Reduced salt size and structure result in maximum stimulation of the taste

buds that can encourage decrease in general salt use in commercially prepared foods and individual consumption.

For the self-indulgent, tastant and aroma infusion in salt are now on-trend. In Pangasinan, local producers of solar and cooked salts are soused with extracts from seaweeds like "*lato*," shiitake mushroom, and shrimp heads. Meanwhile, a smoky aroma is infused using young leaves, twigs, and barks from guava, mango, and tamarind.

DOST-ITDI's re-introduction of SIM was part of the core focus of the 2018 National Science and Technology Week (NSTW) Celebration which showcased the agency's "S&T Innovations in the Workplace." The celebration was held from July 17-21, 2018 at the World Trade Center Manila. (AMGuevarra\\ ITDI S&T Media Service)

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