

As iodized salt coverage in Belize drops, is it time for action?

Belize is a country on the eastern coast of Central America, with a population of about 390,000. In the north and south are low coastal plains covered with mangrove swamps. The low Maya Mountain range stands in between, occupying much of the country's central section. Belize has a very rich political history, it is ethnically diverse and with a young population (almost 40% are below the age of 18) (1). Formerly a British colony, Belize has been self-governing since 1964 and was granted independence in 1981.

Commitment to eradicating malnutrition

Through its National Plan of Action for Children and Adolescents (2004–2015), Belize is a signatory of the Millennium Declaration and the World Fit For Children (WFFC). As part of this commitment, the government undertook measures to improve maternal and child nutrition, and to monitor the progress towards this goal. Since 2006, the Multiple Indicator Cluster Survey (MICS) has been an important source of representative, comparable data on women and children in Belize and will continue to play a role in the implementation of the 2030 Sustainable Development Agenda (1). Yet, despite the commitment to eradicating malnutrition, Belize appears to have no policies designed specifically to target micronutrient malnutrition and has never implemented a program of IDD prevention and elimination (2, 3).

In 1995, iodized salt imports covered the country's need for iodine

In 1994–95, the Government of Belize carried out a National Iodine Survey in school-age children (7 to 14 years, $n=1'656$), which reported a median urinary iodine concentration (UIC) of 184 $\mu\text{g/L}$, well within the optimal range (2, 4). At the time, all of Belize's salt was imported, and the survey found that 97.5% of the salt in the households contained some added iodine

(4, 5). Perhaps unsurprisingly, the report concluded that the risk of iodine deficiency in Belize was low, which may have set the government on a course of no action.

In 2015 not all households have iodized salt

Twenty years on, the latest Multiple Indicator Cluster

Survey (MICS) reveals a shift in the iodine landscape. MICS-5 was carried out from September 2015 to January 2016 by the Statistical Institute of Belize in collaboration with UNICEF, for the first time including salt iodization (1). The sample was designed to provide estimates at the national level, separately for urban and rural areas, and for all the regions. Salt used in meal preparation was tested in 82% of households using the IODIDE salt kits, which test for the presence or absence of iodine.

Overall, iodine was detected in salt from 85% of households (11% of households had no salt, and 4% had salt with no detectable iodine) (Table 1). Although the rapid test kits cannot accurately quantify the level of iodine detected, based on the extent of color change it is estimated that around 20% households were using salt that was under-iodized. Access to iodized or poorly-iodized salt was not dependent on the socio-economic status or urban/rural residence. Use of iodized salt was lowest in Belize (excluding Belize City South) at 79%, and the highest in Corozal (92.6%). In most districts, the coverage was greater than 80% (Table 1). However, this is lower than the coverage in 1995, and it is impossible to confirm how much salt is being iodized adequately without using a quantitative method like titration.

TABLE 1 Proportion (%) of households without salt, with non-iodized salt, and iodized salt in Belize according to MICS-5 (2015-2016)

	No salt in household (%)	Non-iodized salt	Iodized salt	Number of households
All	10.6	4.4	85.0	4242
Belize (Excluding Belize City South)	14.7	6.4	79.0	753
Cayo	11.8	6.5	81.8	922
Belize City South Side	11.5	4.0	84.4	552
Stann Creek	11.3	3.2	85.4	506
Toledo	9.8	3.2	87.1	395
Orange Walk	7.4	3.2	89.4	584
Corozal	5.5	1.9	92.6	529

A path forward

The MICS was developed by UNICEF in the 1990s as an international household survey program that allows countries to generate data for use in policies and programs, monitor progress made in national priority areas, and assist in evidence-based policymaking. The latest MICS report in Belize highlights a research-to-policy gap that can only be bridged with political will and government commitment to dedicated micronutrient policies and action on USI.

References

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