Puerto Rican pregnant women are iodine sufficient but their iodine awareness is low


Puerto Rican pregnant women have sufficient iodine for healthy pregnancy

The United States (US) has been considered iodine-sufficient since the 1940s. However, National Health and Nutrition Examination Surveys have demonstrated a reemergence of mild ID in pregnant US women over the last decade (1). There are only very limited data from the Caribbean islands regarding iodine nutritional status. Barbados, Dominica, Jamaica Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Grenada, Cuba, and the Dominican Republic have been found to be iodine-sufficient; Trinidad and Tobago was found to have excessive iodine intake, whereas Haiti remains iodine-deficient (2–4).

Based on the most recent data available to the Iodine Global Network, none of the Greater Antilles islands have data regarding iodine status during pregnancy. There is no information regarding iodine status in the US territories, and iodine status does not appear to be monitored on a continuous basis in the US territories. No legislation exists in Puerto Rico to mandate fortification of foods with iodine or the use of iodized salt, and the iodine status of Puerto Rico has not been studied.

The primary objective of this study was to assess the iodine status in the pregnant women of Puerto Rico. It also aimed to assess their knowledge about iodine during pregnancy, the use of prenatal vitamins, and the use of iodized salt.

Methods
A convenience sample of 125 subjects was enrolled. All the subjects were recruited from a high-risk obstetric clinic of the University of Puerto Rico in the Adult University Hospital, located in the Medical Center of Puerto Rico in San Juan, a referral center for all of Puerto Rico. The inclusion criteria included Puerto Rican women aged 21 years or older who were pregnant at the time of the study.

The study subjects completed a written survey that included questions regarding demographics, personal or family history of thyroid disorders, use of topical iodine, smoking status, use of prenatal vitamins in the last 24 hours, or use of prenatal vitamins known to contain iodine. The subjects who had added table salt to their food in the last 24 hours had a higher median UIC of 211.2 (46.3–2179.0) µg/L compared to those who had not added salt to their food, who had a median UIC measured at 153.9 (15.3–944.7) µg/L. Surprisingly, women who reported taking prescription prenatal vitamins had a lower median UIC of 148.6 (15.3–1188.6) µg/L compared to those who were not taking prescription prenatal vitamins, measured at 249.7 (47.8–2179.0) µg/L.

Results
The mean age of the 125 pregnant women was 29 ± 5.29 years. 78% reported taking a prenatal multivitamin in the last 24 hours prior to the collection of the urine specimen, 74% of whom did not know the iodine content of their vitamins. Only 6% of the participants recalled being educated by a health care professional about adequate dietary iodine during pregnancy. Only 2% of the participants reported that they believed that pregnant women need more dietary iodine than nonpregnant adults. 93% reported buying table salt to use at home. 55% reported having added salt to their food in the last 24 hours prior to providing their urine sample. When asked about factors taken into consideration when selecting salt bought at stores, 20% reported that iodization was an important factor, 40% considered cost to be important, and 36% reported that the brand was a consideration.

The median (range) UIC in the sample was 189 (15.3–2179.0) µg/L. UIC did not differ by age, education, birthplace, family history of thyroid disease, use of topical iodine, smoking status, use of prenatal vitamins in the last 24 hours, or family history of thyroid disease, use of topical iodine, smoking status, use of prenatal vitamins in the last 24 hours, or use of prenatal vitamins known to contain iodine. The subjects who had added table salt to their food in the last 24 hours had a higher median UIC of 211.2 (46.3–2179.0) µg/L compared to those who had not added salt to their food, who had a median UIC measured at 153.9 (15.3–944.7) µg/L. Surprisingly, women who reported taking prescription prenatal vitamins had a lower median UIC of 148.6 (15.3–1188.6) µg/L compared to those who were not taking prescription prenatal vitamins, measured at 249.7 (47.8–2179.0) µg/L.

Conclusions
This sample of pregnant women in Puerto Rico were iodine-sufficient based on their median UIC. This is the first study to measure UIC in this population. The population had higher UIC compared to pregnant women in the mainland US (144 [120–190] mg/L) according to the most recent data (1). The results are encouraging in that the study population had adequate UIC despite the lack of a national iodine fortification program on the island. There was a substantial knowledge gap regarding iodine nutritional needs during pregnancy.

References