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## Abstract

### **Iodine Status of Women in Reproductive Age of Durres City**

Afrim Tabaku<sup>1\*</sup>, Rezarta Shkreli<sup>2</sup>

<sup>1</sup> Pharmacotherapeutics Research Centre, Faculty of Medical Sciences, Aldent University, Tirana, Albania

<sup>2</sup> Department of Pharmacy, Faculty of Medical Science, Aldent University, Tirana, Albania

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#### **Abstract**

**Background and aim:** Iodine, a micronutrient that plays a pivotal role in thyroid hormone synthesis, is essential for proper health at all life stages. An estimated 35% of the world's population has insufficient iodine intake and continues to live at risk for iodine deficiency and associated iodine deficiency disorders. Iodine deficiency poses a threat throughout the life-cycle and has been associated with mental impairment and goiter in older children and adults and complications with pregnancy, including stillbirth and congenital anomalies. Inadequate iodine intake during pregnancy may lead to irreversible fetal brain damage. Indeed, an insufficient iodine intake may determine a thyroid dysfunction also with goiter, or it may be associated to clinical features such as stunted growth and mental retardation, referred as iodine deficiency disorders (IDDs). Iodine deficiency and related disorders are still a public health problem that affects most countries, including industrialized and developing regions. Measurement of iodine in urine is the most sensitive indicator of current iodine intake because more than 90% of dietary iodine is excreted in the urine.

**Materials and methods:** Urinary iodine is a well-accepted, cost-efficient and easily obtainable indicator for iodine status. Since the majority of iodine absorbed by the body is excreted in the urine, it is considered a sensitive marker of current iodine intake and can reflect recent changes in iodine status. However, this indicator does not provide direct information about thyroid function. Although an individual's urinary iodine concentration can vary daily, or even within the same day, these variations tend to even out within populations, providing a useful measure of the iodine status of populations. Urinary iodine concentrations are, therefore, not useful for the diagnosis and treatment of individuals. Because urinary iodine values tend not to be normally distributed, the median is the preferred measure of central tendency, and percentiles, rather than standard deviations, are most commonly used to describe the distribution of data.

We have carried out a survey on 85 urine samples randomly collected in women 18-45 years of age living in Durres City. The purpose of this survey was the measurement of iodine levels in urine of women in reproductive age, as well as measurements of iodine in 5 sample of iodized salts collected in supermarkets of this city.

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**\*Corresponding author:** Afrim Tabaku, Pharmacotherapeutics Research Centre, Faculty of Medical Sciences, Aldent University, Tirana, Albania.

**E-mail address:** [afrim.tabaku@ual.edu.al](mailto:afrim.tabaku@ual.edu.al)

24 hours urine samples are collected in plastic bottles and were storage in refrigerator before analysis. Iodine content were determined by colorimetric method.

Statistical processing of results in done by statistical package SPSS 20 (Statistical Package of Social Sciences, version 20)

**Results:** Data obtained from this survey have shown that iodine content in urine had varied from 12.5  $\mu\text{g/L}$  to 158.3  $\mu\text{g/L}$  According to this survey 28.23% of women suffer by severe iodine deficiency, 43.52% by moderate iodine deficiency, 16.47% by mild iodine deficiency and 11.76% have optimal iodine intake. Iodine content in iodized salts were oscillated between 3.18 – 92.30 mg/kg.

**Conclusion:** The results of this survey have shown that majority of women in reproductive age in Durres City, including in our survey, are iodine deficient.

**Keywords:** *Iodine, Iodine deficiency, Iodine status, Women of reproductive age, Urinary iodine*