

# 1st Mediterranean Forum for PhD Students and Young Researchers

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## Dietary intake profile among Tunisians school children having iodine deficiency or excess

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# Dietary intake profile among Tunisians school children having iodine deficiency or excess

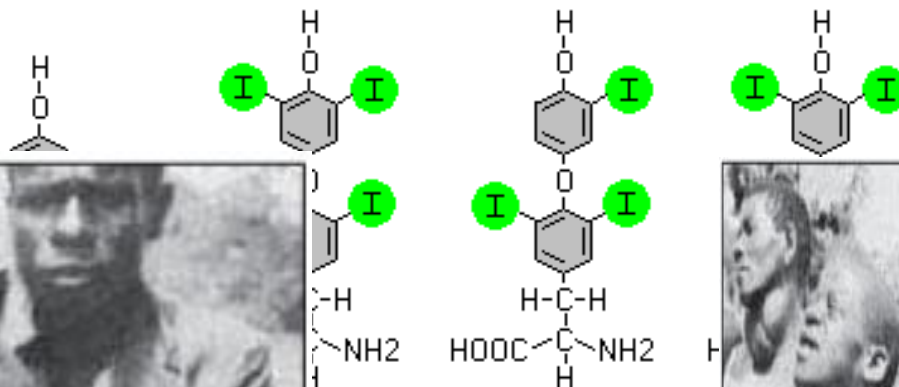


## 1- Introduction

- Iodine is an essential trace element for thyroid hormones synthesis

- Iodine deficiency is a public health problem

a public health problem



Thyroxine (T4) Triiodothyronine (T3)

Iodine is obligatory and potassium iodate (KIO<sub>3</sub>) is added to salt in 2012 among Tunisians. 50% had iodine deficiency.

the relation between dietary intake patterns and urinary iodine concentration

Ukinga, Tanzania

FAO, 2001.

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## 2- Methods

- 24 hours dietary recall (three pass) for **150** ID children (urinary iodine concentration or UIC < 100 µg/l) and **68** having excess of iodine (UIC ≥ 500 µg/l).
- A specific Tunisian food composition database and the Food Processor software SQL
- statistics (mean ± s.e.; student test) by STATA 9.0 software;
- Dietary reference intakes for French population were used.

## 3- Results & Discussion

### Macronutrients and energy

Variables	Recommandations (g/d)		Percent of coverage	UIC < 100 µg/l	UIC ≥ 500 µg/l	P- value
	7 – 9 y	10 – 12 y		Absolute intake	Absolute intake	
<i>Energy (kcal/d)</i>	1912	2365/2080 (Boys/Girls)	84.2	1830 (31)	1940 (49)	0.130
<i>Proteins (g/d)</i>	62.5	76/67.5 (Boys/Girls)	85.8	60.5 (1.9)	62.3 (2.4)	0.296
<i>Carbohydrates (g/d)</i>	251	310/273 (Boys/Girls)	85.3	242.5 (5.0)	257.3 (8.1)	0.300
<i>Total fats (g/d)</i>	69	85.5/75 (Boys/Girls)	81.9	64.7 (3.1)	69.5 (2.5)	0.061



### 3- Results & Discussion

- **Micronutrients**

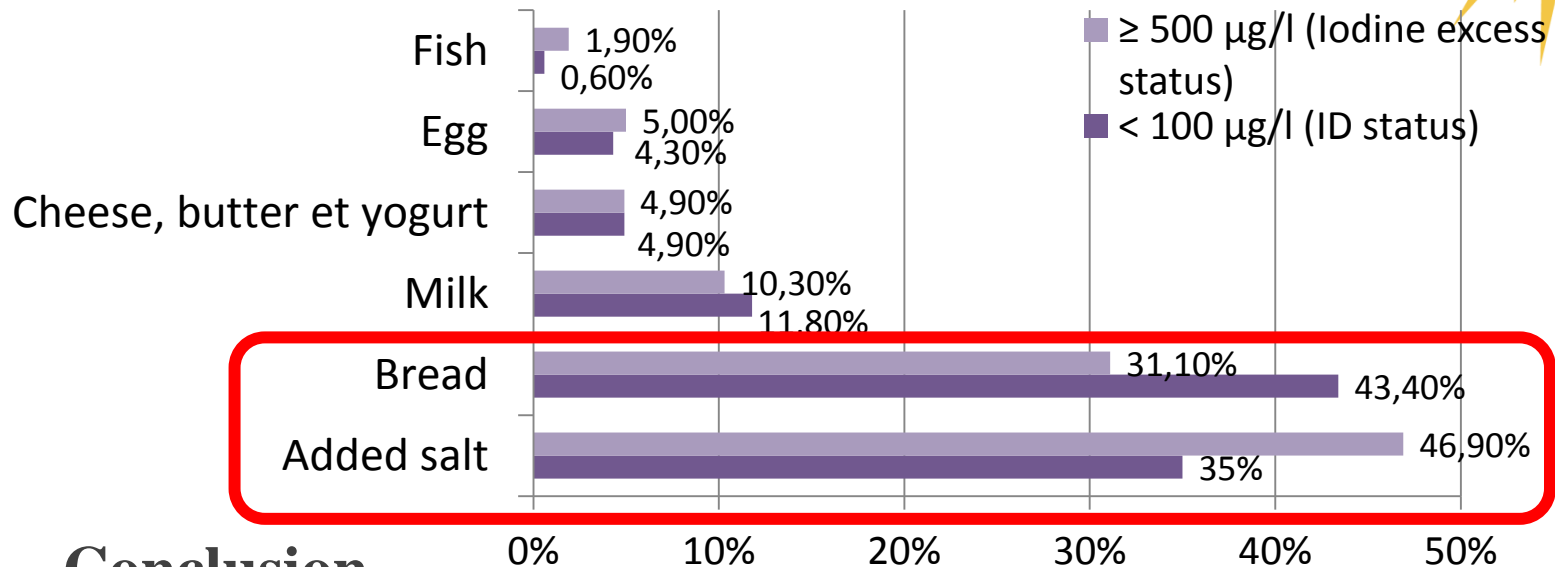
Variables	Recommandations (g/d)		Percent of coverage	UIC < 100 µg/L	UIC ≥ 500 µg/L	P- value
	7 – 9 y	10 – 12 y		Absolute intake	Absolute intake	
<i>Iodine (µg/d)</i>	120	150	109.4	133.3 (4.7)	181.4 (8.2)	<b>&lt;0.0001</b>
<i>Iron (mg/d)</i>	7	10	124.4	12.0 (0.2)	11.9 (0.5)	0.575
<i>Selenium (µg/d)</i>	30	40	<b>43.7</b>	14.7 (2.0)	17.2 (4.6)	0.881
<i>Vitamin A (ER)</i>	500	550	86.8	500.7 (51.3)	424.2 (34.5)	0.791

- Similar intakes for minerals and vitamins were found **except for iodine**;
- Prevalence of **low iodine intake** was 60.1% among **ID group**.
- **low selenium intake** was reported which may contribute to **goiter formation**;

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## CONTRIBUTION OF IODINE RICH FOODS TO THE DAILY INTAKED IODINE



## 4. Conclusion

- No differences were found for nutrients intake as regard to the iodine status;
- knowing that salt and bread were the decisive sources of iodine and also **only 55.8% of Tunisian households** consume adequately iodized salt, **strengthening the monitoring system** of salt iodization programme to ensure the sustainability of IDD elimination
- Supporting technically the private salt producers to ensure regular **quality control** of iodized salt.



**Thank you**

**Any question ?**