The Salt - Still Killer

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Abstract

Natrium is one of the risk factors of hypertension and some neoplastic processes (4). Arterial hypertension is observed in over 8 millions people and in other 8 millions is no -ndiagnosed. The risk factors of hypertension are modified mainly by style of life and in minor degree - some gens mutation. World Health Organisation recommended NaCl intake of less than 5 g per day and 30% reduction in salt intake by 2025. WHO Member States have agreed to reduce the global population’s intake of salt by a relative 30% by 2025. In the United Kingdom in 1996 Action on Salt was set up - known as Consensus Action on Salt & Health (CASH). In the majority of European countries daily intake of NaCl is much higher 8,2-11,7 in Poland 11,5 g/day. In 1994 international organizations: WHO,UNICEF and ICCIDD indicated salt - Natrium Chloride as a main carrier of iodine in the prophylactic systems in the iodine deficient areas over the world. Following this recommendaion 24 European countries introduced the model of iodine prophylaxis based on the salt iodization. In Poland – salt iodization is mandatory - as the most effective model on the population level.

Around 10 years after implementation of the model of iodine prophylaxis, the prevalence of goiter in children aged 6-12 years fell from 24,5 % to 4,7 % - below endemic levels, in pregnant women from 80 % to 19%, frequency of TSH, over 20 uUI/ml in neonates fell from 2,0 % to 0,14 %, increase of thyroid and stomach cancer were inhibited. Iodized salt is the main carrier of iodine in the prophylaxis systems. Following WHO recommenation on salt intake reduction to 5 gr/day, additional carriers of iodine should be introduced on the food market - mineral water and caws milk after iodization of the caws licks. Up to 80% of the salt comes from food industry. A very important factor it is a proper information and education on the population level. Reduction of daily intake of Na Cl is under control of the Polish Council for Control of Iodine Deficiency Disorders (PCCIDD) established in 1991 following the example of the International Council for Control of Iodine Deficiency Disorders (ICCIDD) (24). The Polish model of iodine prophylaxis adopted in 1996 is still acting, is very effective and has been accepted by the International Council for Control of Iodine Deficiency Disorders (ICCIDD).

Key words: References, Article, Salt, Still, Killer

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**Introduction**

In the lights of the last publications, style of life and nutrition are most important risk factors of the civilization diseases (1,2,3). Arterial hypertension is one of the risk factors of hypertension and some neoplastic processes (4). Arterial hypertension is observed in over 8 millions people and in other 8 millions is undiagnosed.

The risk factors of hypertension are modified and depend on increased daily intake of sodium, alcohol, cigarettes smoking and obesity and - another words - depend on the style of life. Are also - in minor degree - nonmodified risk factors and depend on some genes mutation and may be observed in the family members. Arterial hypertension creates a risk of danger complications like brain stroke or heart failure.

**Salt Intake**

World Health Organisation recommended NaCl intake of less than 5 g per day and 30% reduction in salt intake by 2025. WHO Member States have agreed to reduce the global population’s intake of salt by a relative 30% by 2025. In the United Kingdom in 1996 Action on Salt was set up known as Consensus Action on Salt & Health (CASH) based at Queen Mary University of London and supported by 25 scientific experts. Action on Salt cooperates with the food industry and Government to reduce the amount of salt in processed foods as well as salt added to cooking, and to the table (5). Similar situation is observed in Poland (6,7). However in the majority of European countries daily intake of NaCl is much higher (Table no 1).

**Iodine Prophylaxis**

In 1994 international organizations: WHO, UNICEF and ICCIDD indicated salt - Natrium Chloride as a main carrier of iodine in the prophylactic systems in the iodine deficient areas over the world. Following this recommendation 24 European countries introduced the model of iodine prophylaxis based on the salt iodization (8,9).

In Poland – salt iodization is mandatory as the most effective model on the population level (Table 2).

**The model of iodine prophylaxis in Poland**

1. Obligatory iodization of table salt (30+/–10mg KI/1 kg).
2. Obligatory iodization of neonatal formula (10 ug KJ/100 ml).
3. Recommended additional daily dose of iodine 100-150 ug for pregnant and breast feeding women.
4. Recommended increased consumption of iodine carriers: see fish, eggs, milk fruits and vegetables.

**Table 2**

This model covers daily iodine requirement on the population level (Table 3).

**Daily Iodine Requirement Population Groups (ug/day)**

<table>
<thead>
<tr>
<th>Group</th>
<th>Iodine Requirement (ug/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery children 0 – 55 months</td>
<td>90</td>
</tr>
<tr>
<td>Schoolchildren 6 – 12 years</td>
<td>120</td>
</tr>
<tr>
<td>Adults &gt; 12 years</td>
<td>150</td>
</tr>
<tr>
<td>Pregnant and breast feeding women</td>
<td>250</td>
</tr>
</tbody>
</table>

**Table 3**

One of the most danger consequences of iodine deficiency on the population level was endemic goiter (10). Around 10 years after implementation of the model of iodine prophylaxis, exceptional improvement of the basic markers was found. For example, the prevalence of goiter in children aged 6-12 years fell from 24,5% to 4,7% below endemic levels (11,12,13,14), in pregnant women from 80% to 19% (15), frequency of TSH, over 20 uUI/ml in neonates fell from 2,0% to 0,14% (16), sharp increase of thyroid cancer observed between 1991-1998 was stopped (17) and decrease of stomach cancer incidence rate was also (18).

Salt intake of less than 5 grams per day for adults helps to reduce blood pressure and risk of cardiovascular disease, stroke and coronary heart attack. The principal benefit of lowering salt intake is...
a corresponding reduction in high blood pressure. However most people consume too much salt—on average 9–12 grams per day. When global prevalence of iodine deficiency disorders is observed (19), iodized salt became the main carrier of iodine in the prophylaxis systems. Following WHO recommendation on salt intake reduction to 5 gr/day, additional carriers of iodine should be introduced on the food market (20,21). The most accessible products recommended by the National Program for the Elimination of Iodine Deficiency Disorders (22) are iodized mineral water and caws milk after iodization of the caws licks (23). The source of salt is salt from the salt shaker. However up to 80% of the salt comes from salt present in processed, packaged food such as bread, breakfast cereal or ready meals. A very important factor is a proper information and education on the population level. This action is under control of the Polish Council for Control of Iodine Deficiency Disorders (PCCIDD) established in 1991 following the example of the International Council for Control of Iodine Deficiency Disorders (ICCIDD) (24).

The Polish model of iodine prophylaxis adopted in 1996 is still acting, is very effective (25), and is very well appreciated by the International Council for Control of Iodine Deficiency Disorders (ICCIDD) (26).

**Final Conclusions**

1. NaCl is one of the most important risk factor of the cardiovascular diseases and some neoplastic processes. World Health Organisation recommended NaCl intake of less than 5 g per day and 30% reduction in effective salt intake by 2025.
2. Following to WHO,UNICEF and ICCIDD recommendations Sodium Chloride as a main carrier of iodine in the iodine deficient prophylaxis programmes in the areas over the world.
3. In Poland in 1996 a very effective model of iodine prophylaxis was introduced—based on iodization of household salt 20-40 mg KI/kg.
4. In the lights of the WHO recommendation on necessary daily salt intake reduction, additional carriers of iodine have been introduced in Poland on the food market: iodized mineral water and milk—after introducing iodization of the salt licks for milky caws.

**References**


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