Salt - Why we should reduce salt intake in South Africa?

Hettie Schönfeldt, Nicolette Hall & Beulah Pretorius
Associates of the Institute of Food, Nutrition and Well-being
Overview of Presentation

1. What do South Africans eat?
2. What do South Africans look like?
3. What is the burden of disease?
4. Why is salt intake important?
5. What can be done?
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South Africa

Population of 52 million people
Experiencing rapid urbanization & acculturation
The average South African

The SA population is classified according to **LSM** (Living standards measure) groups:

– A marketing research tool to gain better understanding of the socio-economic status of individual / group

– SA is segmented into 10 LSM groups (10 being the highest standard and 1 the lowest)
Introducing the SA consumer

% of SA adult population

49% of adult population

19% of adult population

32% of adult population

Average h/h income (R’000/month)

LSM 1

LSM 2

LSM 3

LSM 4

LSM 5

LSM 6

LSM 7

LSM 8

LSM 9

LSM 10

% of SA Adult population

Average monthly income (R’000)

BUREAU FOR FOOD AND AGRICULTURAL POLICY

BFAP
South African population is shifting towards higher LSM groups
Class Mobility
Movement from low socio-economic groups to higher socio-economic groups

-77%  -67%  -51%  +27%  +59%  +48%  +52%  +46%  +7%

% of SA adult population

LSM 1  LSM 2  LSM 3  LSM 4  LSM 5  LSM 6  LSM 7  LSM 8  LSM 9  LSM 10

2005  2012
South Africa

• Considered **nationally food secure** because agricultural production is high
  – There is **enough food available** for the whole population (>3 000kcal/capita/day (>13 800kJ) (FAOSTAT, 2012)
  – More than the average daily dietary energy requirements of 2 400kcal/capita/day (10 000kJ)

**YET:**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Individual Food Security</td>
<td>25</td>
<td>20</td>
<td>48</td>
<td>46</td>
</tr>
<tr>
<td>(% of population)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At risk of hunger</td>
<td>23</td>
<td>28</td>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>(% of population)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience hunger</td>
<td>52</td>
<td>52</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>(% of population)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Food Security

Enough food & energy? Or enough nutrients?

Food & Nutrition Security
## South African Food System

### Top Food Exports (2012)
- Citrus fruit, fresh or dried
- Wine of fresh grapes
- Grapes, fresh or dried
- Apples, pears and quinces, fresh
- Maize (corn)
- Fruit & vegetable juices, unfermented
- Sugar
- Preserved fruits
- Nuts
- Food preparations, nes
- Ethyl alcohol & other spirits
- Soya-bean oil & its fractions
- Cigars, cheroots, cigarillos & cigarettes
- Alcohol
- Apricot, peach, nectarine, plum
- Soya beans, broken or not
- Dates, fig, pineapple, mango, avo, guava
- Safflower, sunflower/cotton-seed oil
- Pipe, chewing & snuff tobaccos
- Other

### Top Food Imports (2012)
- Rice
- Wheat and meslin
- Meat & edible offal of poultry meat
- Palm oil & its fraction
- Spirits, liqueurs, other spirit beverages
- Soya-bean
- Soya-bean oil & its fractions
- Safflower, sunflower/cotton-seed oil
- Food preparations
- Tobacco
- Sugar
- Animal feed preparations, nes
- Dried vegetables, shelled
- Fruit & vegetable juices, unfermented
- Chocolate and cocoa
- Meat of swine, fresh, chilled or frozen
- Coffee
- Non-alcoholic beverages
- Meat Offal
- Maize (corn)
- Other
Need to rethink our food system

Need to aim for self sufficiency, yet:

- Only 12% of our land is suitable for crop production
- Only 22% of this is high-potential arable land

How can we make available enough nutritious food to assist in alleviating nutritional issues?

- Increase food security
- Increase nutritional exposure
- Decrease anti-nutrient exposure
- Decrease excessive consumption of empty energy
• Many SA households live in poverty
• Limited food variety (mainly staples) available in the home

White maize porridge, brown bread, sugar, milk & tea (NFCS, 1999)

In general:
• Energy dense
• Nutrient poor (↓ in essential nutrients)
Many SA households live in poverty

Limited food variety (mainly staples) available in the home

White maize porridge, brown bread, sugar, milk & tea

(NFCS, 1999)

In general:

• Energy dense

• Nutrient poor (↓ in essential nutrients)

Is this still the food intake pattern of South Africans?
What is procured?

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own production</td>
<td>0.7</td>
<td>0.1</td>
</tr>
<tr>
<td>Unprocessed</td>
<td>9.4</td>
<td>14.9</td>
</tr>
<tr>
<td>Informally Processed</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Formally processed</td>
<td>89.7</td>
<td>84.8</td>
</tr>
</tbody>
</table>

BFAP, 2013
What is procured?

The vast majority of foods procured by South Africans are formally processed products – highlights the importance of the food industry in nutrition & health.

BFAP, 2013
Where do households get their food?

- Supermarket: 25%
- Informal market / Street food: 22%
- Own production: 21%
- Food aid: 7%
- Remittances (food): 1%
- Shared meals with neighbours: 3%
- Food provided by neighbours: 7%
- Community food kitchens: 7%
- Borrow food: 1%
- Other source: 1%
The average South African

Lowest income: High intake of staple foods, low dietary diversity

Middle income group = highest growing % of population

↑ Urbanization & westernized dietary habits

Procure mostly formally processed foods

Street foods NB in addition to supermarkets & shops
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The average South African child

Despite relatively high mean per capita income, stunting rates in SA are comparable to lower income countries in the region (DoH, 2013)
Over almost a decade, the prevalence (sexes combined) of overweight and obesity has increased from 15% to 23%.

Nearly a quarter of South African children are either overweight or obese.
The majority of South African women were overweight or obese (56%) according to the SADHS (2003) & nearly 30% of men
The average South African female in 2013...

- Nearly the same proportion of the female population are either overweight or obese in 2012 compared to 2003, but obesity incidence significantly increased...
The average South African

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Increasing incidence of OBESITY
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<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>% of all deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 HIV/AIDS</td>
<td>26.3</td>
</tr>
<tr>
<td>2 High blood pressure</td>
<td>9.0</td>
</tr>
<tr>
<td>3 Tobacco smoking</td>
<td>8.5</td>
</tr>
<tr>
<td>4 Alcohol harm</td>
<td>7.1</td>
</tr>
<tr>
<td>5 High BMI (Excess weight)</td>
<td>7.0</td>
</tr>
<tr>
<td>6 Interpersonal violence</td>
<td>6.7</td>
</tr>
<tr>
<td>7 High cholesterol</td>
<td>4.6</td>
</tr>
<tr>
<td>8 Diabetes</td>
<td>4.3</td>
</tr>
<tr>
<td>9 Physical inactivity</td>
<td>3.3</td>
</tr>
<tr>
<td>10 Low fruit and veggie intake</td>
<td>3.2</td>
</tr>
</tbody>
</table>

8 risk factors related to diet

6 risk factors related to obesity

Norman et al., 2007
SAMJ 97:7
High Blood Pressure & Disease Risk

• South Africa has one of the highest hypertension rates in the world, especially among our black population

• In 2000 nearly 47 000 deaths (9% of total mortality) were attributed to hypertension:
  – 50% of stroke,
  – 42% of ischaemic heart disease,
  – 72% of hypertensive disease,
  – and 22% of cardiovascular diseases could be attributed to high blood pressure
Rates (%) of self-reported personal history of NCDs by sex and age, SA 2012

Males (n=6405)

Females (n=9061)

- High blood pressure
- Heart disease
- Stroke
- High blood cholesterol
- Diabetes
Prevalence of hypertension by age (SANHANES, 2012)
Prevalence of measured hypertension by province, SA 2012

(n=7030)

<table>
<thead>
<tr>
<th>Province</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Free State</td>
<td>17.3</td>
</tr>
<tr>
<td>North West</td>
<td>13</td>
</tr>
<tr>
<td>Gauteng</td>
<td>11.4</td>
</tr>
<tr>
<td>Northern Cape</td>
<td>10.8</td>
</tr>
<tr>
<td>Eastern Cape</td>
<td>10.4</td>
</tr>
<tr>
<td>Western Cape</td>
<td>9.4</td>
</tr>
<tr>
<td>Mpumalanga</td>
<td>9.1</td>
</tr>
<tr>
<td>KwaZulu-Natal</td>
<td>8.4</td>
</tr>
<tr>
<td>Limpopo</td>
<td>6.6</td>
</tr>
<tr>
<td>Total</td>
<td>10.2</td>
</tr>
</tbody>
</table>
The average South African

- Lowest income: High intake of staple foods, low dietary diversity
- Middle income group = highest growing % of population
- Urbanization & westernized dietary habits
- Procure mostly formally processed foods
- Street foods NB in addition to supermarkets & shops

Increasing incidence of OBESITY

High rates of hypertension

Increasing risk of death

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High Blood Pressure & Salt

[Graph showing the correlation between average daily NaCl intake (gm) and the percentage of hypertensives (Eskimos, Marshall Islanders, Americans, Japanese)]

High salt intake of South Africans

South Africans exceed the WHO guidelines of < 5g salt/day

• Studies indicate that on average, South Africans consume 8.1g salt per day

• Urinary Na equates to salt intake of:
  – Black: 7.8g/day
  – Coloured: 8.5g/day
  – White: 9.5g/day

(Carlton et al., 2005)
High Blood Pressure & Salt

South Africans
- 8.1g salt /person/day
- 10.2% hypertensive

The average South African

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High salt intake
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Treat the consequence
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Or manage the cause
Behavior change

Consumer education

Food industry for changes in supply chain

Government for national dietary guidelines and recommendations

International fraternity (agriculture, social and industrial sectors) for prioritization, global food standards and policy

Research institutes for scientific data as foundation

Consumer driven

Science driven
1. Need the "SCIENCE"

- Research institutes for scientific data as foundation
- International fraternity (agriculture, social and industrial sectors) for prioritization, global food standards and policy
- Government for national dietary guidelines and recommendations
- Food industry for changes in supply chain
- Consumer education
- Behavior change

Consumer driven

Science driven
Science: Where does the salt come from?

• A study among different South African ethnic groups living in Cape Town found that between 33% and 46% of total sodium intake is discretionary.

• The rest – inherent in food.
Contribution of Na intake from foods in different population groups

Carlton et al., 2005
Urban vs. Rural salt intake

• Rural black South Africans:
  – More than 70% of total non-discretionary sodium provided by bread and cereals

• Urban Dweller:
  – 49% to 54% provided by breads and cereals

(Charlton et al., 2005)
2. Consider international alignment
COUNTRIES THAT HAVE INTRODUCED SALT REDUCTION PROGRAMMES

- FINLAND, JAPAN AND MOST RECENTLY UK BY MEANS OF ENLISTING HELP OF THE FOOD INDUSTRY, EITHER VOLUNTARILY OR ENACTING LEGISLATION – MARKED REDUCTIONS IN BP.

- AUSTRALIA, CANADA, IRELAND AND THE NETHERLANDS HAVE INITIATED STEPS TO REDUCE SALT INTAKE

- WORLD ACTION ON SALT AND HEALTH (WASH) STARTED IN 2005.
2. **Governmental interventions**

- Research institutes for scientific data as foundation
- International fraternity (agriculture, social and industrial sectors) for prioritization, global food standards and policy
- Government for national dietary guidelines and recommendations
- Food industry for changes in supply chain
- Consumer education
- Behavior change

Consumer driven

Science driven
Availability of healthy food is a right of each South African


• Everyone has the right to have access to sufficient food and water, and the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each right (Section 27)

• Every child has the right to basic nutrition, shelter, basic health care services and social services (Section 28).
Examples of recent SA regulatory developments influencing the food system

1. Revised Food-based dietary guidelines (2012)
   - Use salt and foods high in salt sparingly
2. Food Fortification and Supplementation Program
   - Iodization of salt (1995)
   - Vitamin A supplementation
   - Food Fortification Program (2003) Mandatory fortification of maize and wheat flour
3. Updating South African Food Composition Tables - continuous
4. Legislation
   - Trans-fat regulation in processed foods (2011)
   - Developing a Nutrient Profiling Model for South Africa (current draft)
   - Salt reduction in foods (current)
Reduction of the mean population intake of salt to < 5g per day is a **NCD Target** set for 2020 by the Department of Health.

- Executed through a **public health campaign & regulation of the food industry**

Regulations Relating to the Reduction of Sodium in Certain Foodstuffs and Related Matters

“Reducing the sodium content of processed, fast, takeaway and restaurant food will lead to a healthier population as it addresses at least 50 % of sodium intake which consumers have no control over (Department of Health).”
4. Changes in the food system

- Behavior change
- Consumer education
- Food industry for changes in supply chain
- Government for national dietary guidelines and recommendations
- International fraternity (agriculture, social and industrial sectors) for prioritization, global food standards and policy
- Research institutes for scientific data as foundation
Population salt intake

Dietary choice

1. Consumer Education

Food availability

2. Industry Legislation
5. Public Health Campaign on salt reduction
salt is killing south africans and it is time to take action

A new lobby group to educate South Africans on the dangers of salt is being launched this week: Salt Awareness Week.

The Heart and Stroke Foundation South Africa is launching a new lobby group this week to alert South Africans to the fact that too much salt could be killing them.

With 6.3 million people living with high blood pressure, South Africa has one of the highest rates of hypertension worldwide. This makes South Africans more susceptible to life-threatening diseases like stroke and heart disease. Statistics show that about 130 heart attacks and 240 strokes occur daily in South Africa. This means that 10 people will suffer a stroke and five people will have a heart attack every hour.
With a combined effort...

- Behavior change
- Consumer education
- Food industry for changes in supply chain
- Government for national dietary guidelines and recommendations
- International fraternity (agriculture, social and industrial sectors) for prioritization, global food standards and policy
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Urbanization & westernized dietary habits

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Increasing incidence of OBESITY

High rates of hypertension

Increasing risk of death

High salt intake

...we could manage the cause
The average South African

- Procure mostly formally processed foods
- Street foods NB in addition to supermarkets & shops
- Urbanization & westernized dietary habits
- Procure mostly formally processed foods

...we could manage the cause

- Lowest income: High intake of staple foods, low dietary diversity
- Increasing incidence of OBESITY
- High rates of hypertension
- Increasing risk of death
- High salt intake
The average South African

Lowest income: High intake of staple foods, low dietary diversity.

Procure mostly formally processed foods.

Street foods NB in addition to supermarkets & shops.

Urbanization & westernized dietary habits.

Increasing incidence of OBESITY.

High rates of hypertension.

Increasing risk of death.

High salt intake.

Reduce salt intake.

Minimize the risk.

...we could manage the cause.
Thank you

Nicolette Hall

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