South African Food sensitisation and Food Allergy study (SAFFA) Cape Town 2013/2014

Principal Investigators
Dr Claudia Gray
Prof Mike Levin

Researchers
Dr M Botha
Wisdom Basera
Heidi Facey-Thomas
Introduction

• The prevalence of allergic disorders such as asthma, allergic rhinitis and eczema has been rising rapidly in rapidly urbanising communities in several African countries.

• Food allergy traditionally perceived to be rare in Africa.

• There is emerging evidence however that this might be changing and that we might be seeing the start of the “second wave” of allergic diseases especially in rapidly developing countries on the continent – mirroring what has happened in high income countries over the last few decades.
FA Prevalence in Preschool children (< 5yrs)

Published data only available from 16/89 countries (those with not data not shown)

Country

- Australia
- Finland
- Canada
- Norway
- China
- USA
- Hong Kong
- Korea
- UK
- Taiwan
- Japan
- France
- Denmark
- Sweden
- Iceland
- Thailand

OFC proven food allergy
Symptoms and sensitisation
Parental reporting
Objectives

To determine the prevalence of IgE-mediated Food sensitisation and Food Allergy in unselected 12-36 month old children in Cape Town.
Adverse reaction to food

Non toxic (food hypersensitivity)

Immune mediated (food allergy)

IgE mediated

Non IgE mediated

Non immune mediated (Food intolerance)

Enzymatic

Pharmacological

Other

Toxic (microbiological Pharmacological)
Methodology

Sampling

Tools

• Questionnaire
• Skin Prick Test
  Peanut, egg, cow’s milk, soya, wheat, fish, hazelnut
• Open Oral Food Challenge
  SPT≥1mm; NOT proven tolerant to age appropriate portion

Non-participants

sex, age, ethnicity, history of atopy
470 eligible children

310
66% response rate

291
94% participation rate

284
98% completed

19 nonparticipants

160 Non-responders

7 incomplete
SAFFA Demographics: Ethnicity

SAFFA study participants
N=284

- Black African 46%
- Mixed Race/Coloured 42.4%
- Caucasian 11.6%

Cape Town census 2011:
Children 0-4 years

- Black African 46.4%
- Mixed Race/Coloured 45.4%
- Caucasian 8.2%
Results

284 Participants

245 SPT -ve

39 SPT≥1mm

26 Tolerant

13 Not tolerant

8 OFC -ve

5 OFC +ve

- 86.3% Not Allergic
- 12% Sensitised but not allergic
- 1.8% Food Allergic
<table>
<thead>
<tr>
<th>Spectrum of sensitisation and Food Allergy</th>
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<tbody>
<tr>
<td><strong>Overall</strong></td>
</tr>
<tr>
<td><strong>n</strong></td>
</tr>
<tr>
<td>95% CI</td>
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<tr>
<td>SPT≥1mm</td>
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<td>SPT≥3mm</td>
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<td>SPT≥7mm</td>
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<tr>
<td>OFC positive</td>
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<tr>
<td>Total number of foods sensitised to</td>
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<tr>
<td>0</td>
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<tr>
<td>245</td>
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<tr>
<td>SPT Any Food</td>
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<td>≥1mm</td>
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<td>≥3mm</td>
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<td>≥7mm</td>
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Summary (1)

- Food allergy point prevalence in unselected urban South African children in a representative sample of 12-36 month old children = 1.8%

- Provides a basis for further monitoring of a population possibly only at the beginning of the food allergy epidemic.

- High sensitisation rates in Black African and Mixed race children are similar to the high rates of aeroallergen sensitisation seen in unselected and allergic populations.
Summary (2)

• **Further objectives for the SAFFA study**
  – **Describe** prevalence of socio-demographic, environmental and family related risk factors in study population
  – **Compare** prevalence of sensitisation and food allergy between
    • urban Caucasian, Mixed race and black African children with more power in larger sample size.
    • rural and urban Black African Xhosa children
  – **Generate population-specific cut-off levels** for SPT and Immunocaps with 95% positive predictive values.
Thank you