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Tooty Fruity Vegie: results from phases I & II

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Publication details
Tooty Fruity Veggie
Results from Phase I and II

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Tooty Fruity Veggie: Overview

Result of extensive planning, prioritising, consultation & literature review process

- positive health message
- broad range of health benefits
- targets children when F & V intakes traditionally decline
- whole-of-school approach
- multiple school, family & community based strategies

10 volunteer intervention primary schools (n = 1589)

6 matched control primary schools (n = 1272)
Project Goal

To increase fruit & vegetable (F & V) consumption among primary school children in the Northern Rivers (NSW) region.
Intermediate aims

**Improving children’s:**
- F & V knowledge
- F & V attitudes
- access to F & V at home & school
- F & V preparation skills

**Improving parents’:**
- F & V knowledge
- F & V preparation skills
- involvement in F & V promotions in the school

**Improving teachers’:**
- F & V knowledge
- F & V attitudes
- skills & confidence towards teaching about F & V
Whole-of-school, Multistrategic Approach

School Environment

Children Knowledge, Skills and Attitudes

Networks
- Teachers
- Canteen managers
- Project Volunteers

Family Orientated Strategies

Policy

Classroom Based Strategies

Peers

Canteen Orientated Strategies

Community Based Strategies

School Environmental Based Strategies

Health Promotion Unit - Northern Rivers Area Health Service - Lismore NSW
School Policy

- Commitment of school to promoting good nutrition
  - curriculum
  - experiential activities
  - canteen policy
    - rewards
    - May or may not be documented
Family Oriented Strategies

- Good nutrition promoting activities/ events for families at school
- School calendars with information, Fridge magnets
- Newsletter articles
- Homework
- Community Promotions
  - Media, retail outlets etc
Involving Volunteers
Canteen Oriented Strategies

- Membership of NSW School Canteen Association
- Promotion of nutritious choices through special events and general presentation
- Networking, training and supporting canteen staff
- Reviewing F & V content/price on menus
Classroom Based Strategies

- Curriculum materials and training
- Web sites for teachers and children
- Cooking classes for children (KIK)
- Fruit breaks
Evaluation Plan

Process evaluation
- Rates & quality of strategy implementation
- Parents’, children’s, volunteers’ & teachers’ reactions

Impact evaluation
- Children’s, parents’ & teachers’ knowledge, attitudes & behaviours

Outcome evaluation
- Children’s fruit & vegetable consumption
Data Collection Instruments

Process & Impact Evaluation (post-test only)
- Schools’ participation indexes
- Children’s surveys
- Parents’, Teachers’ & Volunteers’ surveys
- Principals’ & Other Health Professionals’ surveys

Outcome Evaluation (pre- & post-test)
- Prospective 24 hour food records
Response rates

Completed surveys from:
- 613 parents (59%)
- 392 Year 3 - 6 children (65%)
- 50 teachers (81%)
- 36 volunteers (34%)
- 10 intervention school principals (100%)
- 3 health/education professionals (100%)

Completed Participation Indexes from:
- 10 intervention schools (100%)

Completed 24 hour food records from:
- 1400 children (68%) at pre-test
- 1282 children (65%) at post-test
Process & Impact Results

Tooty Fruity Veggie …

- was well implemented & overwhelmingly positively received
- ↑ quality, diversity & frequency of classroom F & V promoting activities
- ↑ teachers’ attitudes to school-based F & V promotions & their perceived skills & support for doing them
- ↑ amount, range & utilisation of F & V promotions to parents
- ↑ parental interest & involvement in & enjoyment of F & V promoting activities in schools, & beyond
- ↑ children’s F & V knowledge, attitudes & preparation skills
- ↑ children’s access to F & V at home & at school
Outcome Results
Coding the Food Records

- Comprehensive F & V coding tool developed
- Coders thoroughly trained & monitored
- 388 Food Records double-coded independently
  - All correlations > 0.95, indicating very high level of agreement (reliability) between coders
- 241 reported lunchbox contents compared with observations
  - All correlations > 0.9, indicating high level of accuracy (validity) of parents' reported lunchbox contents
### Outcome Results: Fruit Intake

<table>
<thead>
<tr>
<th></th>
<th>Controls</th>
<th>TFV</th>
<th>signif</th>
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<tbody>
<tr>
<td>Pre-test (serves)</td>
<td>1.18 (n=609)</td>
<td>1.29 (n=791)</td>
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<tr>
<td>Post-test (serves)</td>
<td>1.04 (n=581)</td>
<td>1.43 (n=701)</td>
<td>p&lt;0.0001</td>
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<tr>
<td>Post-test – fully exposed</td>
<td>1.02 (n=336)</td>
<td>1.52 (n=384)</td>
<td>p&lt;0.0001</td>
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<td>(serves)</td>
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<tr>
<td>Mean change (serves)</td>
<td>- 0.20 (n=240)</td>
<td>+ 0.14 (n=308)</td>
<td>p&lt;0.005</td>
</tr>
<tr>
<td>Intake adequacy (pre)</td>
<td>53%</td>
<td>59%</td>
<td>ns</td>
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<tr>
<td>Intake adequacy (post)</td>
<td>53%</td>
<td>65%</td>
<td>p&lt;0.0001</td>
</tr>
<tr>
<td>Increased by 1+ serve</td>
<td>15%</td>
<td>29%</td>
<td>p&lt;0.0005</td>
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**Fruit Results: Boys v Girls**

- **mean serves**
- **fruit**

<table>
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<tr>
<th></th>
<th>I - boys</th>
<th>I - girls</th>
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<th>C - boys</th>
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<td>post</td>
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<td>post (fully exposed)</td>
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NB: 1 serve of fruit = 150g
Fruit Results: Age groups

Mean serves of fruit

NB: 1 serve of fruit = 150g
## Outcome Results: Vegetable Intake

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<th>Controls</th>
<th>TFV</th>
<th>signif</th>
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<tr>
<td>Pre-test (serves)</td>
<td>1.72 (n=609)</td>
<td>1.92 (n=791)</td>
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<td>Post-test (serves)</td>
<td>1.63 (n=581)</td>
<td>2.07 (n=701)</td>
<td>p&lt;0.0001</td>
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<tr>
<td>Post-test – fully exposed</td>
<td>1.65 (n=336)</td>
<td>2.18 (n=384)</td>
<td>p&lt;0.0001</td>
</tr>
<tr>
<td>(serves)</td>
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<td>p&lt;0.05</td>
</tr>
<tr>
<td>Intake adequacy (pre)</td>
<td>24%</td>
<td>31%</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Intake adequacy (post)</td>
<td>24%</td>
<td>33%</td>
<td>p&lt;0.0005</td>
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<tr>
<td>Increased by 1+ serve</td>
<td>28%</td>
<td>37%</td>
<td>p&lt;0.05</td>
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Tooty Fruity Veggie

Vegetable Results: Boys v Girls

Mean serves vegetables

Baseline (March/April 1999) - post (March/April 2001) - post (fully exposed)

NB: 1 serve of vegetables = 75g; figures shown exclude hot chips & highly processed vegetables.
Vegetable Results: Age groups

NB: 1 serve of vegetables = 75g; figures shown exclude hot chips & highly processed vegetables
Summing Up

- Project very popular with all groups
- Not methodologically perfect but comprehensive & triangulated evaluation process
- Broad range of positive impacts on the children’s, parents’ & teachers’ F & V knowledge & attitudes
- Increased children’s F & V intakes
- All schools continuing with strategies - now 18 months post intervention
- Won 2001 Baxter Better Health Good Health Care Awards
What Next?

- Further multivariate analyses on F & V intake data
  - adjust for impact of clustering & baseline differences
  - compare impact of different intervention strategies
- NCNP funding for 18 new schools (2002 - 2003)
- Hoping for statewide rollout of project