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Tooty Fruity Vegie: getting children to eat their fruits and vegetables

Sallie Newell
Southern Cross University

Jillian K. Adams
Northern Rivers Area Health Service

Anna D. Huddy
Northern Rivers Area Health Service

Libby Holden
Northern Rivers Area Health Service

Uta C. Dietrich
Northern Rivers Area Health Service

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Tooty Fruity Vegie

Getting Children to Eat their Fruits & Vegetables

Sallie Newell,
Jillian Adams, Anna Huddy, Libby Holden, Uta Dietrich

Health Promotion Unit
Northern Rivers Area Health Service
Lismore NSW

1st Australasian Nutrition, Physical Activity & Cancer Conference (June 2002)
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)
Tooty Fruity Vegie

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
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

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<thead>
<tr>
<th></th>
<th>Controls</th>
<th>TFV</th>
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</thead>
<tbody>
<tr>
<td>Pre-test (serves)</td>
<td>1.18 (n=609)</td>
<td>1.29 (n=791)</td>
<td>ns</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>
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<tr>
<td>Intake adequacy (pre)</td>
<td>53%</td>
<td>59%</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

NB: 1 serve of fruit = 150g
Fruit Results: Age groups

NB: 1 serve of fruit = 150g
<table>
<thead>
<tr>
<th>Outcome Results: Vegetable Intake</th>
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Vegetable Results: Boys v Girls

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
‘ Toothy Fruity Veggie ’

Sallie Newell
Research & Evaluation Coordinator
Health Promotion Unit
Northern Rivers Area Health Service

Phone: 07 3904 8300
Email: sallien@nrhs.health.nsw.gov.au