Food insecurity among WA children: local context and practical classroom strategies

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HEIA WA Keynote Presentation
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Plan for this morning

• About me
• Food security
• WA research findings
• Discussion of classroom strategies
What was my research journey?

- Public Health Nutritionist and researcher (10 years)
- Worked in regional/rural/remote WA
- Key issues of food insecurity and inadequate fruit and vegetable consumption among children identified
- Personal observations, informal conversations with community members, schools, practitioners, researchers
- PhD study conducted in regional/rural/remote WA
What is food security/insecurity?
‘Food security exists when all people at all times have physical, social and economic access to food, which is safe and consumed in sufficient quantity and quality to meet their dietary needs and food preferences for a healthy and active life.’

2009 Committee on World Food Security, FAO
The determinants of food security - influences on food choice
A multitude of food influences

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Food security in Australia – what we know to date nationally

Food security monitored nationally every 3 years – Australian Health Survey

“In the last 12 months did you run out of food and couldn’t afford to buy more?”

4% (approx. 1 million) Australians living in a household are food insecure
(Australian Health Survey 2011-2012)

This single item question underreports food security by 5-10%

No prevalence among children (as reported by the child) – little known in R&R WA
What is the impact on health, wellbeing and development?

• Social issues
  – Theft
  – Social skills
  – Scholastic achievement
  – Impact on education and employment

• High consumption of cheap, energy-dense foods can lead to:
  – Nutrient deficiencies and obesity
  – Chronic diseases
WA research findings – children’s food security/insecurity
What was the study all about?

- Fruit and vegetable consumption among regional and remote WA children
- The relationship between food security and fruit and vegetable consumption among regional and remote WA children
- Food security among regional and remote WA children
Edith Cowan University
School of Medical and Health Sciences

**QUALITATIVE**
- Health workers
- School and youth workers
- Food supply workers

**METHODS**

Across WA regions and ASGS remoteness areas

**QUANTITATIVE**
- Parent-child Dyads - recruited through WA schools (n=256)
- Surveys with Parent-child Dyad
- Food diaries
- Descriptive statistics, Chi-square tests, Multivariable logistic regression analyses

Barriers and enablers to F&V intake
Motivators of F&V intake
Strategies to increase F&V intake

Semi-structured interviews (n=20). Thematic analysis (NVivo 10)
Determinants of food security among WA children

Food Availability Dimension

- **Availability**
  - Disparity between R&R locations.

- **Price**
  - Farmers’ markets, direct retail, multiple outlets decreased prices.

- **Quality**
  - Local/regional food supply increased quality.

- **Promotion**
  - Junk foods in high view vs weekly specials, point-of-purchase prompts, recipe ideas.
“I mentioned the carrots growing a bit of mould…but *you buy it because you need it and you cut off the mouldy bit.*”

*(School/Youth Worker)*

“And then the kids try and take what they learn from school and we have posters… about healthy eating in the store … that the kids made.”

(School/Youth Worker)
Food Access Dimension

- **Social support**
  - Inequities in formal options
  - Schools sometimes only formal support available
  - Informal initiatives filling gap – produce swapping groups

- **Financial resources**
  - Impact of mining sector downturn.
  - Families choosing ‘cheap foods’ to bulk out meals
“The top tier of economy is the farmers and business owners and the people who work in fly in fly out roles that have higher disposable incomes... The other sector of the community, the majority of these people are on benefits or are working and on lower level incomes.” (Health Worker)
Food Utilisation Dimension

- **Nutrition knowledge and cooking skills**
  - Schools significantly contributed to knowledge, filtered through to home environment
  - Kitchen gardens discussed favourably
  - Experiential learning critical.

- **Storage facilities**
  - Frequent power outages impacted cooking and storage
Experiential learning – school gardens/markets

Farmers’ markets on school sites, after-school markets: partnerships and services link in Health Promoting Schools Framework

School and community gardens: health-promoting spaces and health messaging
Prevalence and socio-demographic predictors of child food insecurity

Child food insecurity in WA

14.6% of children reported that their meals contained cheap foods

21.2% of children were concerned food would run out before their family could afford to buy more

Establishing predictors of child food insecurity in WA

In our analyses, we considered:

- Caregiver highest level of educational attainment
- Caregiver employment status
- Total number of household residents
- Number of resident children
- SEIFA Index of Relative Socio-Economic Disadvantage
- Family receipt of government financial assistance
- Caregiver age
- Caregiver gender
- Child age
- Child gender
- Remoteness

Predictors of child food insecurity in WA

- Living in a location classified as medium socio-economic disadvantage
- Child twice as likely to be food insecure compared to those in high socio-economic disadvantage areas
- Family receipt of government income support
- Child twice as likely to be food insecure compared to those whose family did not receive assistance
Impacts of food security determinants on dietary quality

FOOD AVAILABILITY
Key inequities across regional and remote WA locations relating to:
- Availability
- Price
- Promotion
- Quality
- Location of outlets
- Variety in outlets

FOOD ACCESS
Key differences across WA relating to:
- Social support
- Household finances
- Transport to outlets
- Distance to outlets
- Mobility

FOOD UTILISATION
Key differences across WA relating to:
- Nutrition knowledge and cooking skills
- Taste preferences
- Storage facilities
- Cooking facilities
- Time to purchase and prepare food
Food supply key predictor of veg consumption among WA children

**Location of food outlets**

Enough food outlets in towns = children 10 times more likely to eat enough vegetables

**Variety**

Eating 4-5 types/forms of vegetables (i.e. fresh, frozen, tinned, dried, juice) = children 10 times more likely to eat enough vegetables

**Promotion**

Caregiver recall a vegetable promotional message = children five times more likely to eat enough vegetables

**Price**

Perception that healthy food did not cost more than other towns = children 3 times more likely to eat enough vegetables
What are some potential teaching strategies?
Intercepting the food system to increase equity

- Local food supply
- Build agricultural areas

- Placed-based need for EFR

- Food literacy programs
- Teach food guidance systems in context – frozen/tinned

- Local food supply – sustainability

- Promote nutritious foods in store (point-of-purchase)
- Social marketing

- Waste

- Production
- Distribution

- Marketing

- Retail and Purchasing

- Preparation and consumption
- Town planning - multiple food outlets, gardens, markets
What are they?

Evidence:
- Contribute to increased fruit and vegetable intake
- Community empowerment key factor in success
- Can act as catalyst for broader changes to food system


Promotion of healthy food: Mass media

Promotion of healthy food: In-store

Go for 285

Carrots will improve your sight by day and night!

Town planning

Retail and Purchasing
Healthy built food environments

**HEALTHY FOOD**

**A FOCUS ON HEALTHY FOOD**
Planning for food recognises the importance of food and improving the availability and accessibility to healthy food through built environment characteristics. This includes considering retail types and locations, transport infrastructure to food retailers, food advertising, and potential for public open space to be used for food production and education. It also includes the provision of community amenities, such as water fountains, community gardens and breastfeeding facilities.

Food literacy

Preparation and consumption


http://www.dhhs.tas.gov.au/mwefn/hipabou/what_is_a_health_promoting_school, Gilles et al., 2011

www.refreshedschools.health.wa.gov.au
Food waste

Fast Facts on Food Waste

https://erconnect.dropin.org.au/?s=1


Research translation: 
**WA Food Security Living Lab**

The WA Food Security Living Lab will serve as a user-centred platform to support the food security workforce. Proposed website target groups include health promotion, environmental health, food supply, youth and family support, and education professionals. A Facebook page linked to the website will provide information for community members.

For more information, or to get involved, contact Dr Stephanie Godrich on s.godrich@ecu.edu.au
Research translation: presentations to stakeholder agencies

The 'Food Secure and Healthy Children across Regional and Remote Western Australia' Study.
Results-sharing Presentations Available

1. Using a socio-ecological perspective to understand children’s fruit and vegetable consumption.
   - This presentation investigates the determinants of children’s fruit and vegetable consumption, across levels of influence. The impact of individual, interpersonal, institutional, community and public policy factors on children’s fruit and vegetable consumption behaviours will be explored and potential strategies to increase adherence to the Australian Dietary Guidelines discussed.

2. Children’s fruit and vegetable intake behaviours: quantities, types, varieties consumed across regional and remote WA.
   - To date, much of the evidence relating to regional and remote Australian children’s fruit and vegetable consumption behaviours has been grouped into broad ‘rural’ or ‘non-metropolitan’ results. This presentation takes new evidence further, to compare fruit and vegetable consumption behaviours (amounts, types, varieties) between regional and remote areas to identify possible areas requiring attention.

3. Exploring the determinants of children’s food security across food availability, food access and food utilisation dimensions.
   - Food security is a complex, ‘wicked’ problem that also affects high-income countries like Australia. This presentation offers the first comprehensive investigation of the determinants of food security in regional and remote WA. Through in-depth interviews with ‘key informants’ working across health, education, social, and food supply sectors, pivotal inequalities relating to food supply, social support and nutrition education were identified. This presentation will offer practical strategies to improve children’s food security.

4. Prevalence and socio-demographic predictors of children’s food security COMING SOON!
   - To book one of these presentations, or a general ‘study overview’ presentation that draws on each of the study findings, please email: s.godrich@ecu.edu.au

5. Part 1: Is there an association between food security determinants and children’s vegetable intake?
   - This presentation showcases the first comprehensive examination of the impact of food security determinants on children’s vegetable consumption in Australia. The key role that aspects of a healthy food supply play in ensuring adequate vegetable consumption among children is highlighted in this presentation. Strategies that could be implemented across sectors are suggested.

   Part 2: This presentation builds on part 1 to explore the impact of food security determinants on children’s fruit consumption. COMING SOON!

Presentations available:
1. Using a socio-ecological perspective to understand children's fruit and vegetable consumption;
2. Children’s fruit and vegetable intake behaviours: quantities, types, varieties consumed across regional and remote WA;
3. Exploring the determinants of children’s food security across food availability, food access and food utilisation dimensions;
4. Prevalence and socio-demographic predictors of children’s food security;
5. Is there an association between food security determinants and children’s fruit and vegetable intake?

To book a presentation in person or via videoconference (regional/remote areas), contact: Stephanie Godrich, Chief Investigator. Email: s.godrich@ecu.edu.au

Is your organisation interested in a particular presentation from today’s ‘taster’?
Thank you to....

Participants:
This study would not have been possible without the time and insights provided by the participants.

Project team:
• Prof Amanda Devine¹
• Dr Christina Davies²,³
• Dr Johnny Lo¹
• Jill Darby¹

¹Edith Cowan University; ²The University of Western Australia; ³Public Health Advocacy Institute of Western Australia.

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Let’s chat!

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