

Child Nutrition Projects

Nutrition & Dietetics, Flinders University

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SA Nutrition Network Workshop

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The Nourish randomised control trial

Positive feeding practices and food preferences in early childhood – a primary prevention program for childhood obesity.

Lynne A Daniels, Anthea Magarey, Diana Battistutta,
Jan M Nicholson, Ann Farrell,
Geoffrey Davidson and Geoffrey Cleghorn.

BMC Public Health 2009;9:387



Why target early feeding practices?



- Mothers 'gate-keepers' of early feeding environment
- Feeding practices strongly influence child eating patterns that lay foundation for adult eating habits
- Feeding practices and intakes in early childhood fall well short of ideal (parent survey)
- Current practices evolved in time of food scarcity – major current issue is food excess



Key determinants of child eating behaviour



- **Exposure and acceptance**

- Neophobia normal adaptive response but readily modified by experience - familiarity
- repeated exposure ≥ 10 times \Rightarrow acceptance: healthy **and** unhealthy foods
- children like what they know and eat what they like
 - healthy AND unhealthy
- exposure \rightarrow preferences; ? nutrition



Key determinants of child eating behaviour (2)



- **Self regulation** – response to innate hunger and satiety cues
 - ‘parent provide; child decide’
 - general food refusal = satiety
 - neutral response to intake
 - no praise or coaxing, pressure
 - avoid use of rewards, alternatives
 - structured choice



Participants



- Recruitment: major public & private hospitals (Adelaide and Brisbane)
- Eligibility:
 - First time mothers, ≥ 18 yrs, English speaking, metropolitan dwelling Adel/Bris
 - Infants: medically healthy, ≥ 37 wks gestⁿ, ≥ 2500 g
- Intervention group: 223 (Bris), 129 (Adel)
- Control group: 220 (Bris), 126 (Adel)



The intervention



- Co-facilitated by dietitian and psychologist
- Module 1: contact with new foods
“learning to like, liking to eat”
Positive exposure: type, amount, timing, variability, trust
babies 4-7 months
- Module 2: managing toddler eating
“parent provides, child decides”
– Positive feeding environment: managing food refusal, division
of responsibility, role modelling
babies 13-16 months
- Each module = 6 fortnightly 1.5hr sessions
30min coffee and chat after



Outcomes



Infant

- Food intake – 24h recall + 2x24h records
- Prevalence F&V, non-core foods
– nutrient intake/d
- Food preferences (Wardle)
- Feeding behaviour – satiety, responsiveness, enjoyment, emotional use of food
- Weight; growth



Outcomes (2)



Maternal

- Feeding style and practices
- Parenting skills and efficacy - LSAC
- BMI

Covariates

- Socio-demographic data
- Maternal: food preferences, dietary restraint, weight concern
- Infant: temperament, child care - LSAC



Current status



- Two stage recruitment process
- Two cohorts in Adelaide & Brisbane
 - 2171 interest at infant birth → 698 randomised
- Intervention group: 223 (Bris), 129 (Adel)
- Control group: 220 (Bris), 126 (Adel)



Current status



- Cohort 1
 - completed both modules,
 - Time 3 assess May 2010

- Cohort 2
 - Completed module 1
 - Time 2 assess Dec – Feb 2010
 - Time 3 assess Dec 2010 – Feb 2011



The future



- Funding to continue to track the infants to 5 years of age
- Funding for additional dental outcomes
- NHMRC applications
 - Unsuccessful 2009
 - Lack of data to show any effect



South Australian Infants Dietary Intake (SAIDI)



- SA Health funding
- Additional ~750 mothers recruited at metropolitan and regional hospitals
- Similar assessment to Nourish
 - questionnaires, intake
- Time 1: 6 months, T2 14 months, T3 24 months



Outcomes




- Feeding intention at birth (n = 2085)
- Actual feeding practices in first 6 months
 - precise age depends on withdrawal/assessment
 - N ~ 1100 (includes those withdrawing)
- 3-days of intake (1x 24 h recall, 2x24 h record)
- Infant growth



Current status



- Time 1 assessment complete (N~280)
 - Entry of 3 days of record near complete
 - Total sample SAIDI + Nourish ~ 540
- Time 2 assessment started
- Time 3 assessment complete ~March 2011
- Anticipate longitudinal data on 250 or more
 - SAIDI, Nourish A  controls



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- Recruitment, assessment, diet analysis staff



PEACH™

- Translating research to practice
- Key considerations and challenges



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PEACH™ Success

- significant relative weight loss at end of 6 month program
- weight loss maintained for subsequent 18 months without further intervention
- significant improvements in dietary intake (CDQ) and reduction in small screen time
- improvements in parent reported child quality of life
- no change in body dissatisfaction, normal growth

Obesity Rev 2006;7(suppl 2): 118-352 (325). IJO 2008; 32 (Suppl 1): S20

Magarey et al Pediatrics in revision

PEACH™ Program Aim



•To support parents to manage their children's weight by taking a whole-of-family approach to child weight management and incorporating information and skills regarding:

- nutrition and activity
- parenting
- problem solving

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PEACH™ Theoretical Framework



‘aims to facilitate and support parental capacity to initiate and maintain healthy family eating and activity behaviours conducive to changing energy balance’



Parents are the ‘agents of change’

PEACH™ Program principles

- work as a family for children's health
- be role models
- be balanced and consistent when parenting
- base family meals on the AGHE
- be active often in a variety of way
- make healthy choices easy choices

Program outline

- 10 x 90min group sessions fortnightly
- 3 x individual phone calls
- 6 month assessment



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Group session topics

- 1: Program introduction
- 2: Healthy lifestyle behaviours
- 3: Relationships with food & eating
- 4: Changing family lifestyle behaviour
- 5: Overcoming resistance
- 6: Pulling it all together
- 7: Nutrition skills
- 8: Affordable healthy eating at home
- 9: Active bodies, healthy minds
- 10: Review of progress and where to from here

Research to practice – getting started

- Key: DH funding (2008-11)
 - modify program in response to parent and facilitator feedback
 - add graphic design to parent workbook
 - develop facilitator training and all associated materials, web site
 - support practitioners in regions to implement the program
- Mazda Foundation funding via Flinders Found'n (2008-9)
 - supports PEACH™ IC staff and practitioners

PEACH™ IC Progress

- 3 facilitator workshops (25 participants) overall very positive response to format, resources provided, learning experiences participants challenging, enthusiastic and engaged
- 2 PEACH™ groups currently running
 - Data collection
 - On-going support
- More training workshops in 2010
Feb 5 & 8, Apr 22 & 23, Jul 7 & 8, Oct 14 & 15

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How to participate



Health professional critical to achieving this process of research to practice

- What is involved
 - Attend 2-day facilitator training (free)
 - Recruit and assess families
 - Run a 10 week program & 3 f/u phone calls to 10-15 parents
 - Debrief with other facilitators using EDNA (on-line Education Network Australia)

How to participate

What is involved (continued)

- Collect evaluation data @ 0 & 6 months
- Estimated ~3 h per week over 8 months
- What support is provided
 - All materials to recruit, implement and evaluate provided free of charge
 - Peer and FU support through EDNA
 - Financial support through regional funding
 - agreements with DH
 - small grants (up to \$3500) via tender process (Mazda Foundation)

Who can participate

- health professionals
 - experience running groups
 - experience working with families
 - an understanding of the issues re childhood obesity
 - a working knowledge of the AGHE
 - able to collect evaluation data including child height, weight and waist measures
 - access to dietetic and/or psychology support

Conclusion

- PEACH™ IC: research to real world
- Important issues, potential barriers, challenges
- Ultimate goal: implementation of PEACH™ in the wider community

“supporting positive parenting approaches to achieve behaviour change for improved health outcomes and quality of life”



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