

Child Care Portals of Influence: Interventions

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Childcare Attendance and Obesity Risk?

- Children who receive non-parental childcare are at increased risk of obesity?
 - Evidence is inconclusive.
 - Studies report increased risk for overweight and obesity.
 - Most studies are observational or cross-sectional.
 - Due to unmeasured confounding or selection into different types of childcare.
 - Not known if this association reflects a causal effect of child care attendance on obesity risk.
 - Lack information on contextual factors.
 - Re-analysis shows lack of strong evidence for a significant relationship between non-parental childcare and obesity.

Source: Isong IA, Richmond T, Kawachi I, et al. Childcare attendance and obesity risk. *Pediatrics*, 2016; 138(5):e20161539.



Effectiveness of Interventions Promoting Healthy Eating for Preschoolers

- Improved **dietary intake** and increased mean servings of fruits and vegetables and decreased total fat and saturated fat.
- Improved **food provisions** (centre provisions and parental provisions).
- Overall diet-related interventions did not consistently have a positive impact on **weight status**, despite significant impact on BMI.
- **Multicomponent interventions** on PA and dietary behaviours significantly affected weight outcomes.
- **Environmental and individual level determinants** of healthy eating behaviours including implementation support had more positive outcomes.
- **Parental involvement and engagement** – any kind (low to high engagement) significantly added to the effectiveness of the ECEC interventions.
- **No intervention** improved implementation of all policies to strengthen all policy environments.
- Source: Matwiejczyk L, Mehata K, Scott J, et al. Characteristics of Effective Interventions Promoting Healthy Eating for Preschoolers in Childcare Settings: An Umbrella Review. *Nutrients*.2018.



Rapid Review of Interventions Promoting Healthy Eating in Childcare Centres

- Overall, 75% improved children's dietary intake.
- Interventions that targeted:
 - one level lasted 6 to 7 weeks.
 - >one level lasted 6 months to 4 years.
- Theory versus non-theory – no difference
- Repeated exposure to foods led intake of vegetables and fruits by **~17 g** ; > 6 months.
- Interventions **>1 year duration** had strongest effects in increasing vegetables and fruits.
- Multiple audiences (children, parents, child care staff) **and** the food environment were most effective in improving children's diet in child care centres.
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Source: Arguelles Lopez A, Farmer AP, GDC Ball. 2018 (Manuscript in progress).

Characteristics of Effective Healthy Eating Interventions

Interventions involving Early Childcare Educators

- ECE behaviours and practices and included nutrition education and training sessions.
- Changed ECE knowledge.
- Children's acceptance and intake of health promoting foods increased if ECE modelled healthy eating enthusiastically, used immediate positive verbal reinforcement and served fruits and vegetables in advance to other foods.
- Using non-food rewards, "encouraging to try one more bite" and allowing children to self-select was effective.

Interventions involving Children

- Interactive educational activities as part of curriculum and using children as role models.
- Girls more influential as role models for trying and consuming healthy foods for both genders and younger children by watching older children.
- Children ate more in large peer groups and tended to choose same food as the previous child.

Source: Matwiejczyk L, Mehata K, Scott J, et al. Characteristics of Effective Interventions Promoting Healthy Eating for Preschoolers in Childcare Settings: An Umbrella Review. *Nutrients*.2018.



Early Childcare Educators are Important Change Agents

- ECE role modelling behaviour can have a positive or a negative effect on children's healthy behaviours.
- Children aged 2 to 5 accepted novel foods more quickly and consumed more of that food when child care staff ate similar food.
- ECE may overlook opportunities for promoting healthy eating behaviours at meal times.
- Supportive healthy eating conversations at meal time and encouraging children to listen to their hunger and satiation cues help to support a healthy food environment.
- Training of ECE can positively reinforce healthy eating behaviours in children and promote positive food environments.



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Nibbles&Wiggles: Food Literacy Intervention Program (FLIP) I & II

- Multi-level intervention designed to improve health outcomes in preschool children in the child care setting.
- The FLIP works with child care centres, child care educators, parents and children to reduce the risk of food insecurity and increase food literacy through educational and behavioural strategies.
- There were 1175 children and 147 staff at 15 different child care centres in Edmonton (11 of which are located in low income neighbourhoods) and child care centre staff (child care educators and cooks) through FLIP educational sessions.
- FLIP I focused on educating preschoolers through storytelling and test-tasting vegetables.
- Educational workshops were also developed and implemented for child care educators and cooks focusing on topics such as healthy eating, role modelling, picky eating, food budgeting and food waste.
- FLIP II focused on the parent-child dyads by offering cooking classes for preschoolers and their parents.
- The goals were to increase preschool's food literacy and preference for healthy food (focusing on vegetables), increase the parent's attitudes and behaviours towards healthy eating and healthy food choices and increase positive role modelling behaviours in parents.





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FLIP

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Child Care Level

At the child care level,

- Increased the dietary quality of the menus,
- Increased the adherence to the Alberta Nutrition Guidelines and Eating Well with Canada's Food Guide,
- Improved the nutrient profile of the menus,

childcares



Child Care Educator Level

At the child care educator level, we were seeking to increase the food literacy skills of providers by:

- increased knowledge,
- change in attitudes and role modeling behaviours toward healthy eating and healthy food choices
- increased self-efficacy in communicating with parents about and healthy eating behaviours and picky eating.



Child Level

At the child level, we were seeking to increase food literacy of children to include:









- increased knowledge, attitude and preferences for healthy foods,
- increased intake of fruits and vegetables,
- increased preference for healthy foods, and
- increase opportunities to try new vegetables.



Storytime and Vegetable Taste Testing



Vegetable Passport

Pre taste test questions			
Veggies to Taste	Do you like these vegetables?		
	Like it! 	Don't like it! 	Don't know! 
			



FLIP I

FLIP I was a success and resulted in ECE and cooks feeling more confident and willing to conduct taste sessions with children and incorporating changes in meal plans.

As well, there was an increase in staff knowledge, attitudes and practices in healthy eating opportunities in the centre.



FLIP II



FLIP II Hands-on Cooking Workshops for Preschoolers and Parents

- FLIP II had 3 nutrition focused, hands-on cooking workshops (healthy eating, role modelling and picky eating) provided over the span of 6 weeks.
- Sixteen adults and 16-18 children attended each of the three workshops.
- Pre-intervention, 8% of respondents indicated their child helps a fair bit with cooking at home, whereas post-intervention 42% of respondents indicated the same, representing a 34% increase.
- Overall, there was an increase in the children's cooking enjoyment as well as the frequency to which children help with cooking at home.
- Overall, the FLIP showed that a multi-level multi-component intervention in the child care setting has the potential to influence children's healthy eating preferences and behaviours.



FLIP Take II – Intervention in Action



TOP TIPS TO STAY SAFE IN THE KITCHEN

- 1. ASK FOR PERMISSION**
make sure your little chef asks for permission before starting to cook. Supervise your little chef at all times.
- 2. AVOID CUTS**
teach your little chef proper knife safety by providing age appropriate utensils.
- 3. AVOID BURNS**
teach your little chef which items are hot and should not be touched. As your little chef gets more comfortable in the kitchen, teach them how to use a potholder to hold/carry hot items.
- 4. ASK BEFORE YOU LICK**
your little chef may want to lick plates, spoons and their fingers. To ensure they don't eat raw ingredients, have them ask before they lick anything.
- 5. CLEAN AS YOU GO**
give your little chef their own cloth so they can clean messes as they go. This will prevent any spills and falls and makes cleaning up easier at the end.

Nibbles & Niggles
Food Literacy Intervention Program



POSITIVE MEALTIME EXPERIENCE

- 1 eat together**
sit with your child at meal times and eat the same food. Your child will learn positive behaviours by watching and copying you.
- 2 encourage conversation**
engage in positive conversation about food. Ask questions like "what shapes/colours are on your plate?", "what does ___ taste like?"
- 3 reduce distractions**
remove activities and toys from the table and turn off the TV. This will allow your child to focus on the meal and family time.
- 4 explore food**
allow your child to touch, feel and smell their food. This will help them get used to new foods and textures.
- 5 respect your child's decision**
do not force your child to try foods or finish their plates. This will likely result in negative thoughts about mealtime. Allow your child to leave food on their plates if they are no longer hungry.

Welcome and
icebreaker
game



Mini nutrition
lesson/story
telling



Food and
kitchen safety



Cooking!



Eating
together

FLIP Take II Results

36 participants in total

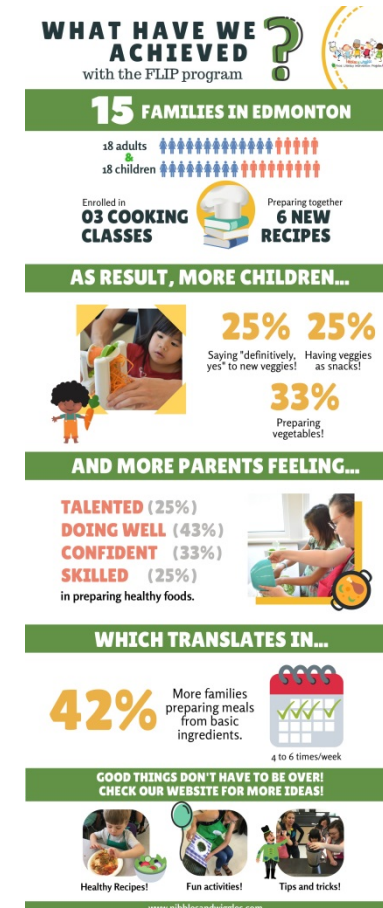
- 18 children
- 18 adults

■ Children outcomes:

- 25% increase in willingness to try new vegetables
- 33% increase in frequency preparing vegetables at home

■ Parent outcomes:

- 33% increase in parent confidence preparing healthy foods
- 42% increase in preparing meals from basic ingredients 4-6 times a week
- Increase in role modelling behaviours (eating veggies at home and at restaurants)



FLIP Take II – Qualitative Results

Overall, the classes were so much fun. As we drove away on the last day, my daughter promptly asked me, 'Mommy, can you sign me up for the next cooking class?' I told her that I would if I could, but this was a research project and likely a one-time opportunity for us! We would certainly come back.

My kid enjoyed the classes. He was telling everyone that he cooked, chopped yummy food. He was very excited.

It was a really GREAT class. You did a wonderful job. You were beyond generous... I think the classes will leave a lasting and positive impression on me and my daughter.



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