

**Improving Snack Programs In Sandpiper  
Childcare Centre In Vancouver  
(Healthy children, Developed country)**

**Dietary and Ecological Assessment**

**Real Life Nutrition Assessment**

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# Introduction

# Background

- Hidden hunger
  - micronutrient deficiencies due to a lack of diversity in diet (Cole, 2012)
  - often seen in developed countries
- First step to solve the problem -> Have a more balanced diet
- Cultivate a healthy eating behaviour
  - Childhood time is crucial
  - Habits acquired in childhood -> likely to sustain in adulthood (Kaphingst & Story, 2009)
- Childcare centre often report issues in snack programs, such as:
  - uneven portion sizes
  - excess fats or carbohydrates in snacks
  - a lack of variety in their menus



# Case Study

- **Scenario**

- Target: SandPiper Child Care Services Centre
- received comments from parents that their snacks are not healthy enough
- make some changes to their current snack program

- **Subject/Targeted population**

- children that are within 18 months and 5- year- old (healthy, boys and girls)
- Consume snacks provided by centre unless a few with allergies to certain food
- Stakeholders: Children and staff in the centre

- **Statement of issue**

- The current snack program may not provide sufficient nutritious snacks to the children and may lead to nutrient inadequacies in them



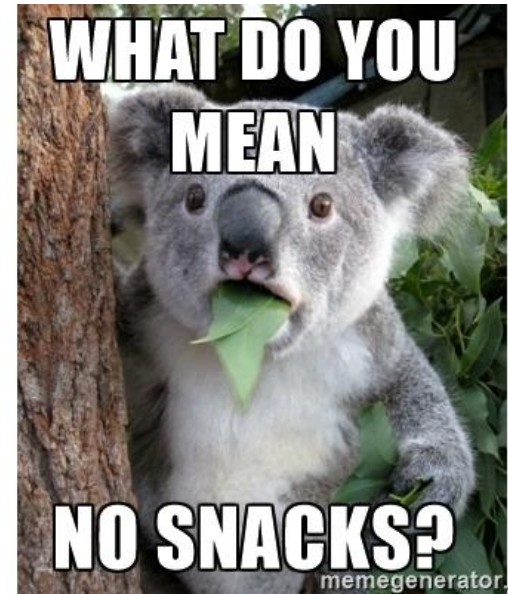
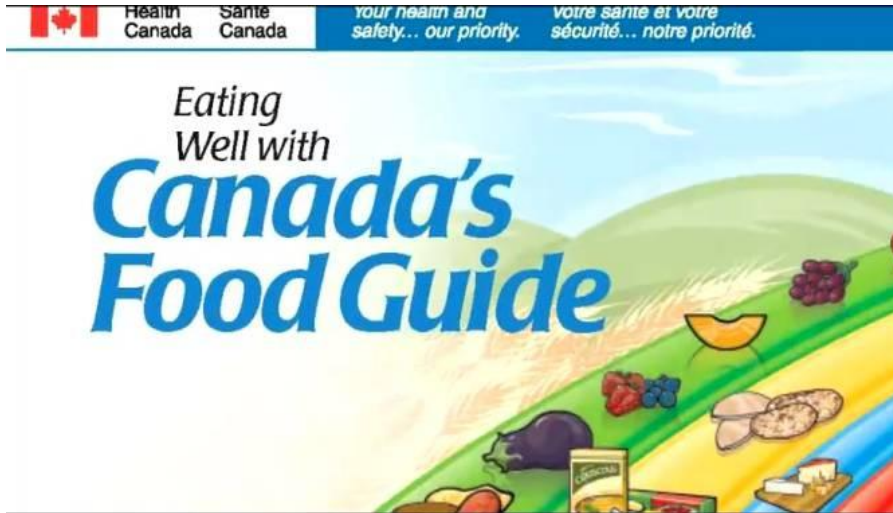
# Case Study

- **Task**
  - Suggesting intervention for SandPiper Child Care centre
    - provide more nutritious snacks to the children
  - Via Nutrition Care Process
- **Assessment Method**
- **Dietary**
  - provide us with information of the type of food in the snack program
  - vital information for analyzing the nutrient contents of the snacks
- **Ecological**
  - External environment e.g. staff knowledge, budgets
  - important attributing factors for the practicability of our recommendations for the snack program



# Case Study

- Resolution of Task
  - Require information from Health Canada (Canada's Food Guide)
  - Children's nutrition requirements and healthy snack ideas
  - Knowledge from previous nutrition classes to compose questionnaires used



# Nutrition Assessment

# Dietary Assessment



- Dietary history via questionnaire
- Snacks
  - typically, a combination of carbohydrates, proteins, fats and some fruits
  - however, children have mono snack during summer period
    - e.g. veggie smoothie or single slice of bread
  - some snacks are provided frequently, such as cracker and cheese, and yam fries
    - high calories, high in sodium, and low in fiber
  - detailed allergy-friendly recipes is provided for children who have food allergies



# Dietary Assessment

	February							March					
	Monday	Tuesday	Wednesday	Thursday	Friday	Total		Monday	Tuesday	Wednesday	Thursday	Friday	total
calories	399	202	260	301	202	1364		399	260	223	202	353	1437
total fat	22.2	7	7	1	4	41.2		22.2	7	12	4	2	47.2
saturated fat	5.56	2	0	0	0	7.56		5.56	0	1	0	0	6.56
polyunsaturated fat	7.4	1	0	0	2	10.4		7.4	0	0	2	0	9.4
monounsaturated fat	7.4	3	0	0	1	11.4		7.4	0	0	1	0	8.4
trans	0	0	0	0	0	0		0	0	2	0	0	2
sodium	1222	173	200	2	22	1619		1222	200	295	22	18	1757
potassium	281	290	444	369	0	1384		281	444	0	0	942	1667
total carbs	27	28	46	68	25	194		27	46	28	25	72	198
dietary fiber	0	6	6	9	1	22		0	6	3	1	5	15
sugars	14.4	18	3	19	12	66.4		14.4	3	17	12	48	94.4
protein	7.4	8	6	8	6	35.4		7.4	6	2	6	11	32.4
cholesterol	19	215	80	0	0	314		19	80	4	0	5	108
vitamin A	18%	7%	40%	1%	4%	70%		18%	40%	1%	4%	175%	238%
vitamin C	9%	13%	20%	13%	36%	91%		9%	20%	34%	36%	242%	341%
calcium	23%	6%	0	3%	1%	33%		23%	0	1%	1%	31%	56%
iron	8%	6%	20%	9%	1%	44%		8%	20%	1%	1%	6%	36%

# Ecological Assessment

- Observation and surveying
  - Kitchen visit focusing on the completeness of facilities and sanitation
  - A questionnaire filled out by the staffs, which includes:
    - nutrition background of staffs
    - awareness on preparing healthy snacks among themselves
    - food budgets and food sources.

# Ecological Assessment

- Results from kitchen visits:
  - The kitchen is fully equipped with different facilities : 4 stoves, an oven, a microwave and a refrigerator
  - Different sanitizers can be found, and the kitchen is clean and tidy



# Ecological Assessment

- Results from the questionnaire:
  - The staff responsible is qualified with nutrition-related certification.
  - Food budgets for breakfasts and snacks: \$300 to \$450.
  - Food sources: local groceries and wholesales.
  - Snack preparation duty distributed among staffs.
  - Preparation time: ~30 minutes.
  - Problems:
    - Low attention on balancing the nutrition contents of snacks (Ex: Whole grains are only sometimes incorporated to the menu, and no avoidance of food high in sugar).
    - Due to a busy schedule, the staffs often just prepare cheese and crackers.

# Nutrition Diagnosis

- PES Statement

Imbalanced macronutrient intakes (Problem) related to child-care staffs' inadequate nutritional knowledge (Etiology) evidenced by low awareness of balanced diet in staffs reported in surveying and lack of variety in food group selections in snack preparation (Symptoms)

# Intervention

- Short- Term intervention (Dietary)
  - Provide alternative recipes that are easy to prepare
  - Nutrient-dense and low in energy snack choice
- Long- Term intervention ( Ecological)
  - Nutrition-Related workshops ( every 6 months) refresh

**Ingredients**

cow's, almond, rice, soy or other milk

**vegetables:**

kale  
broccoli  
spinach

**fruits:**

fresh or frozen berries  
banana  
mango  
pineapple  
passion fruit  
acai  
avocado  
apples

**proteins:**

whole nuts  
nut butter  
yogurt  
protein powder

**extras:**

hemp seeds  
bee pollen  
goji berries  
maca  
coconut oil

**Method:**

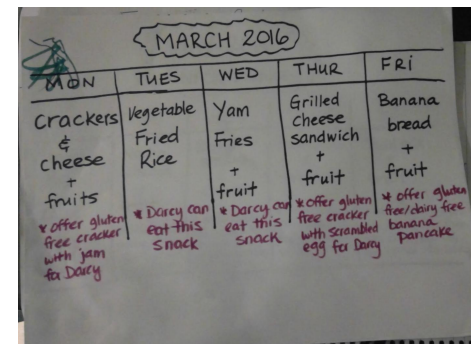
1. Choose at least 1 item from each category.

# Monitoring & Evaluation

- Dietary
  - take diet history to assess nutritional status 6 months after intervention
  - reevaluate nutrient content of snacks
  
- Ecological
  - Survey staff to determine if there's greater vigilance for preparing nutritionally balanced snacks

# Limitations

- Dietary
  - portion sizes are not provided
  - Snack sources are unclear (homemade or purchased)
  - do not know children's consumption of the total amount of food at lunch and dinner
- Ecological
  - Observation was done for a short period of time, which might not reflect the overall situation in the childcare centre.



MARCH 2016

MON	TUES	WED	THUR	FRI
Crackers & cheese + fruits	Vegetable Fried Rice	Yam Fries + fruit	Grilled cheese sandwich + fruit	Banana bread + fruit
* offer gluten free cracker with jam for Dairy	* Dairy can eat this snack	* Dairy can eat this snack	* offer gluten free cracker with scrambled egg for Dairy	* offer gluten free/dairy free banana pancake



# Critical Questions

1. Should the children be involved in the nutrition assessment process?
2. Should we include anthropometric assessment as one way to understand the children's body compositions?

# Critical Questions

1. Yes, we can then receive more comprehensive results in the assessment and create interventions that better suits the needs of the children. However, ethical issues may occur and need to be considered e.g. consent form from parents.
2. Yes, we can then assess their BMI and body fat compositions which may give us further insight on whether they are overweight/underweight.

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