

The Nutritional Status of Preschoolers in Haldimand and Norfolk:

*Results of the NutriSTEP®
Screening Program*



Key Findings

1. Preschoolers are not getting enough vegetables, fruits and grains. Adequate servings from each food group in *Canada's Food Guide* and regularly scheduled meal and snack times are essential for optimal nutrition and good health. Supplements should not be used as a substitute for a well balanced diet based on whole foods.
2. Thirty-five percent of parents 'never', 'rarely' or 'sometimes', let their child decide how much to eat. A good feeding relationship between parent and child exists when the child can self-regulate their food intake to establish healthy eating habits for life.
3. Preschoolers are exposed to too much screen time. An alarming seventy percent are engaging in two or more hours of screen time per day. This exceeds the recommendations and means that preschoolers have less time to spend being active. Additionally over forty percent eat meals while watching TV, resulting in distracted eating which can lead to overeating.
4. A significant number of parents (15%) have difficulty affording food. Food security is needed before families can improve food intake and other healthy eating behaviours.
5. Preschoolers categorized as 'moderate risk' or 'high risk' were more likely to score poorly in all domain areas including food and nutrient intake, the feeding environment, physical activity and sedentary behaviour, food security, and physical growth. This indicates that higher risk preschoolers face many nutrition problems.



Implications to Public Health Practice

1. Continue to implement the NutriSTEP® screening program for preschoolers population wide, as well as collect data using the tool for surveillance and evaluation purposes. Expand the program to include the newly developed Toddler NutriSTEP® (18 to 35 months).
2. Target messaging and programming to parents and caregivers and focus on strategies that: increase preschoolers' fruit, vegetable and whole grain intake; encourage getting nutrients from food instead of supplements, and; establish a good feeding relationship.
3. Work with Haldimand and Norfolk communities to develop and implement a comprehensive healthy eating and active living strategy that increases preschoolers' access to healthy foods and physical activity in areas such as daycares, schools, and recreation facilities.
4. Provide training to community partners to increase their knowledge and skills regarding preschool nutrition.
5. Advocate for the creation of a multi-stakeholder Food Security Network that could begin work towards the creation of a long-term food security strategy for Haldimand and Norfolk. An ultimate outcome would include improved community access to affordable and healthy food for everyone.
6. Investigate programming to reduce screen time and increase time spent being active.



What is NutriSTEP®?

- NutriSTEP® stands for Nutrition Screening Tool for Every Preschooler (ages 3 – 5 years). The tool is made up of 17 questions that can be completed by a parent/caregiver of a preschooler in less than five minutes.
- It is used to:
 - Identify children at risk of poor nutrition early
 - Increase parental nutrition knowledge and awareness
 - Refer preschoolers to community resources
 - Monitor preschool nutrition behaviours and evaluate preschool interventions¹
- Five domains are assessed, including:
 1. Food and nutrient intake
 2. The feeding environment
 3. Physical activity and sedentary behaviour
 4. Food security
 5. Physical growth
- The NutriSTEP® tool has three levels of nutrition risk scores: 'low risk', 'moderate risk' and 'high risk'. A preschool nutrition resource and follow-up guidelines are provided to parents along with the tool.



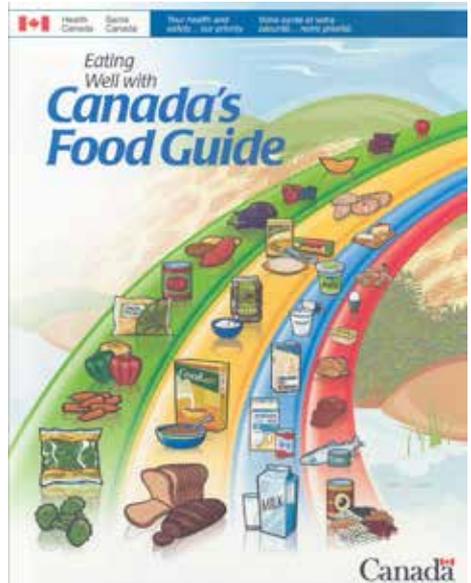
Why Screen for Nutrition Risk?

- Eating habits and behaviours are established at an early age. Preschoolers are especially vulnerable to poor nutrition because they are developing both mentally and physically, are entering the school system, are learning new behaviours and establishing life-long habits related to healthy eating.^{2,3}
- Young children with nutritional problems are at risk of growth, behaviour and development problems including overweight and obesity, failure to grow, iron and other deficiencies, poor eating skills, inability to learn and lack of school readiness.^{2,3}
- There is no local data on the nutrition-related behaviours of preschoolers. The NutriSTEP® screening tool fills this gap by acting as surveillance and monitoring tool.

It is essential to identify eating problems early before they become more serious and irreversible.

Description of the Study

- Approximately 2500 NutriSTEP® screens were disseminated via the Brant Haldimand Norfolk Catholic District School Board and the Grand Erie District School Board to Haldimand County and Norfolk County preschoolers in May and June of 2012.
- 655 screens were anonymously mailed back to the Health Unit for analysis.



Results and Implications

Table 1: Proportion of children in NutriSTEP® risk categories (n= 653)

NutriSTEP® Score	Risk for Poor Nutrition	Actual Score
20 or less	Low risk	79.0% (n=516)
21-25	Moderate risk	15.0% (n=98)
26 or higher	High risk	6.0% (n=39)

Food and Nutrient Intake

Following *Canada's Food Guide* is essential to optimal nutrition and good health, yet preschoolers aren't getting adequate amounts of grains, fruits or vegetables. This is concerning as these food groups offer key nutrients such as fibre, vitamins and minerals that support healthy growth and development.⁴

Table 2: Total frequency of preschool child dietary intake reported by parents/ caregivers compared to recommended daily number of servings (n= 655)

Responses	%	Recommended*
Milk		
< 3 times a day	19.1%	2-4 preschool servings
Fruit		
< 3 times a day	59.3%	5-10 preschool servings of fruits AND vegetables
Vegetables		
< 3 times a day	74.5%	5-10 preschool servings of fruits AND vegetables
0 times a day	4.4%	
Meat, fish, poultry or alternatives		
Once a day	22.0%	2-3 preschool servings
0 or a few times a week	5.9%	
Grain Products		
< 4 times a day	62.9%	5-12 preschool servings
Supplements		
Most or all of the time	38.4%	Use foods rather than supplements
Fast Food		
Once a week	25.3%	Limit eating at restaurants, particularly fast food establishments
≥ 2 times a week	4.1%	

*Can J Diet Pract Res. 2011;72:23

Feeding Environment

A good feeding relationship between parents and children is vital to promote healthy eating habits for life. It is the parent's job to decide, **what** food is offered, **where** food is offered and **when** food is offered. It is the child's job to decide **whether** or not to eat and **how much** to eat.^{5,6}

Research has shown that parental control of eating behaviours can have detrimental effects on children's ability to self-regulate their food intake.^{6,7} An inability to self-regulate can, in turn, lead to picky eating behaviours as well as overweight and/or obesity.^{6,7}

- 43% of children eat while watching TV
- 41% of children are not eating enough times during the day
- 35% of parents are not letting their child decide how much to eat
- 18% of children are not hungry at meal times because they drink all day (i.e., juice, pop or milk)

Table 3: Parent/caregiver reported frequency of feeding environment behaviours

Feeding Environment	Always	Most of the Time	Sometimes	Rarely	Never
Child decides how much to eat (n=654)	18.2%	6.6%	30.4%	3.7%	1.1%
Child eats while watching television (n=655)	1.5%	6.0%	35.3%	37.7%	19.5%
Child not hungry at meals because of drinking all day (n=655)	0%	0.6%	17.6%	35.9%	46.0%

*high risk answers are shaded

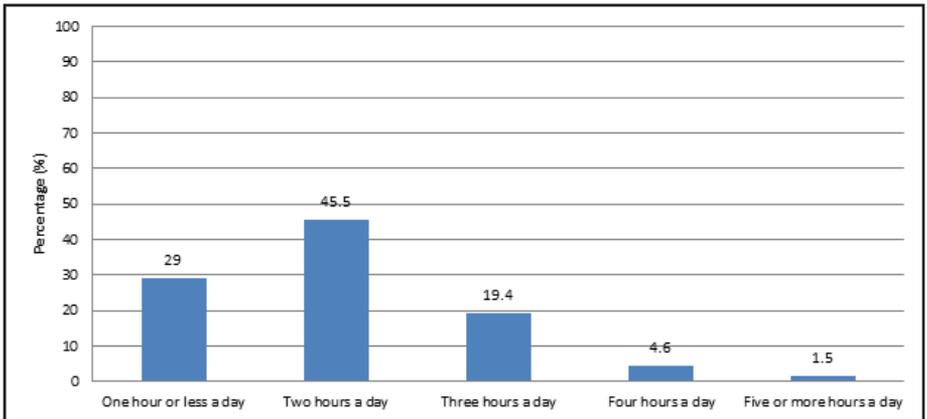
Physical Activity and Sedentary Behaviour

The *Canadian Sedentary Behaviour Guidelines* recommend that children under four years of age limit screen time to less than one hour per day, and children aged five to eleven limit screen time to no more than two hours per day. Lower levels of screen time are associated with additional health benefits.

Spending less time being sedentary can help young kids maintain a healthy body weight, get more physical activity, develop social skills, behave better, and improve learning, attention and language skills.⁸

Screen time includes watching TV, using the computer or playing video games.⁸

Figure 2: Child watches TV, uses the computer, and plays video games



While only ten percent of respondents felt that their preschooler needed more physical activity, 70% reported two or more hours of screen time per day (25% reported screen time of 3 hours or more).

Food Security

Food security exists “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”⁹

Food security is essential to promoting healthy eating. When parents cannot access or afford food to feed their children, health becomes compromised. Lack of food security leads to poor performance in school, poor growth and risk of nutritional deficiencies.^{10,11}

Fifteen percent of parents/caregivers in this study had difficulty affording food.



Physical Growth

Growth is an important indicator of overall health status in children. Monitoring growth trends in children allows for early identification of potential nutritional or health problems.¹²

Almost all parents/caregivers felt comfortable with their child's growth (99%) and most felt that their child was about the right weight (92%).



Limitations

- The survey relied on self-reported behaviour; therefore it is likely that under/over-reporting by parents or caregivers may have occurred.
- A convenience sample was used; therefore data may not be representative of the entire preschool population.



References

1. www.nutristep.ca
2. Eur J Clin Nutr (2007);1-11.
3. J Am Diet Assoc (2004);104:660-77.
4. Health Canada, (2011). Eating Well with Canada's Food Guide.
5. Satter EM; Appendix J. Children and food regulation: The research. Child of Mine; Feeding With Love and Good Sense (2000). Palo Alto, CA: Bull Publishing.
6. Satter EM. Secrets of Feeding a Healthy Family (1999). Madison, WI: Kelcy Press.
7. Pediatrics (2003);112: 424-30.
8. www.csep.ca/guidelines.
9. Can J Diet Prac Res (2005);66:43-6.
10. J Nutr (2008);138:604-12.
11. J Nutr (2005);135:2831-39
12. Dietitians of Canada. Promotion Optimal Monitoring of Child Growth in Canada Using the New WHO Growth Chart (2010).

Acknowledgements

Author

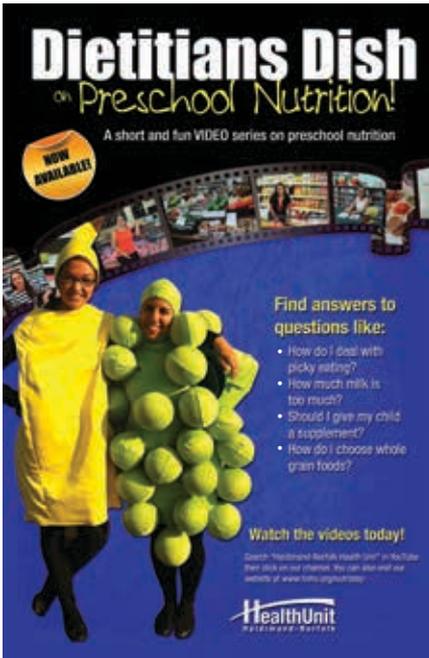
Michelle Saraiva, MAN RD CDE
Public Health Dietitian
Haldimand-Norfolk Health Unit
519-426-6170 x3237
michelle.saraiva@hnhu.org

Contributors

Deanna White, MA
Epidemiologist
Haldimand-Norfolk Health Unit

Kathy Page, RD
Public Health Dietitian
Haldimand-Norfolk Health Unit

Laura Tousaw, MPH RD
Public Health Dietitian
Haldimand-Norfolk Health Unit



For more information on the NutriSTEP® screening tool including a link to the Dietitians Dish on Preschool Nutrition videos, visit www.hnhu.org/nutristep or call

Michelle Saraiva,
Public Health Dietitian
at 519-426-6170 Ext. 3237



The NutriSTEP® mark and Bear Logo are owned by the Sudbury & District Health Unit