



# Eagle Adventure After-School: A Pilot Program with Promising Results



Rachel M. Sharber | Janice R. Hermann, Ph.D., R.D./L.D. | Stephany Parker, Ph.D. | Department of Nutritional Sciences, Oklahoma State University

## INTRODUCTION

Oklahoma is home to well over three hundred thousand Native Americans giving our state one of the largest Native American populations in the United States (U.S. Census Bureau, 2010).

Families in the Chickasaw Nation have expressed many concerns for the health of their children, with a primary concern being type 2 diabetes. According to the Centers for Disease Control and Prevention, Native Americans are twice as likely to develop type 2 diabetes than non-Hispanic whites. Eating more fruits and vegetables is one way to promote healthful eating to lower the risk of type 2 diabetes.

To address the concerns of parents and Elders, the Chickasaw Nation Get Fresh! program and the Department of Nutritional Sciences at Oklahoma State University partnered to create the Eagle Adventure after-school program based on the series of Eagle books from the Centers for Disease Control.

## OBJECTIVES

Objectives of the Eagle Adventure after-school program were:

- To promote active, healthy lifestyles in children participating in the after-school program.
- Promote cultural inclusivity and relevance through the use of Chickasaw language and traditions.
- Ultimately, to prevent type 2 diabetes.

## METHODS

- The Eagle Adventure after-school program was piloted with children attending a school in the Chickasaw boundaries in Oklahoma.
- The after-school program began on September 9, 2014 with a pre-questionnaire, and ended on December 9, 2014 with a post-questionnaire.
- Throughout the four month period, students attending the after-school program were taught healthy habits through different physical activities and healthy snacks relating to the Eagle Adventure.

## METHODS (CONTINUED)

- This project was approved by the Chickasaw Nation IRB and OSU IRB. The pre, post questionnaires contained 10 questions related to fruit and vegetable intake using no, yes responses. To match pre, post-questionnaires children were asked to provide their initials, birth month and gender. Matching pre, post questionnaires were obtained for 13 children.
- After matching pre, post-questionnaires; no, yes responses were coded as 1, 2. Data was analyzed using the McNemar non-parametric test.



Above are images from the CDC's Eagle Adventure Books.

## RESULTS

Table 1: Youth Pre and Post Responses Concerning Fruit

	No		Yes		P value
	n	(%)	n	(%)	
<b>Do you have a fruit at breakfast most days?</b>					0.29
Pre	9	(69)	4	(31)	
Post	5	(38)	8	(62)	
<b>Do you have a fruit at lunch most days?</b>					0.01
Pre	9	(69)	4	(31)	
Post	1	(8)	12	(92)	
<b>Do you have a fruit for a snack most days?</b>					1.00
Pre	5	(38)	8	(62)	
Post	6	(46)	7	(54)	
<b>Do you have a fruit at dinner most days?</b>					0.22
Pre	9	(75)	3	(35)	
Post	5	(42)	7	(58)	
<b>Do you have a fruit when you eat out most days?</b>					0.07
Pre	11	(85)	2	(15)	
Post	5	(38)	8	(62)	

## RESULTS (CONTINUED)

Table 2: Youth Pre and Post Responses Concerning Vegetables

	No		Yes		P value
	n	(%)	n	(%)	
<b>Do you have a vegetable at breakfast most days?</b>					1.00
Pre	11	(85)	2	(15)	
Post	10	(77)	3	(23)	
<b>Do you have a vegetable at lunch most days?</b>					1.00
Pre	8	(62)	5	(38)	
Post	7	(54)	6	(46)	
<b>Do you have a vegetable for a snack most days?</b>					0.45
Pre	8	(62)	5	(38)	
Post	11	(85)	2	(15)	
<b>Do you have a vegetable at dinner most days?</b>					0.63
Pre	9	(69)	4	(31)	
Post	7	(54)	6	(46)	
<b>Do you have a vegetable when you eat out most days?</b>					0.63
Pre	9	(69)	4	(31)	
Post	7	(54)	6	(46)	

A statistically significant change from pre to post was observed for the question “Do you have fruit at lunch most days?” (P=0.01). A trend towards significance was observed for the question “Do you have a fruit when you eat out most days?” (P= 0.07). Although not significant, improvements children’s responses to most fruit and vegetable intake questions were observed.

## CONCLUSIONS

Despite the small sample size of this pilot after-school program, important improvements in responses to fruit and vegetable intake were observed. With a larger sample size more statistically significant changes may be observed.

## REFERENCES

Centers for Disease Control and Prevention. Diabetes Among American Indians and Alaska Natives. [www.cdc.gov](http://www.cdc.gov) accessed 8 Mar. 2015.

United State Census Bureau. State & County QuickFacts. [www.census.gov](http://www.census.gov) accessed 8 Mar. 2015.

## ACKNOWLEDGEMENTS:

Dr. Christine Johnson, Tim O’Neil and the Freshman Research Scholars Program, Chickasaw Nation Get Fresh! and Eagle Adventure teams, and the Notah Begay III Foundation