



Comparison of Nutrition Practices of Childcare Centers in Rural and Urban Nebraska

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BACKGROUND

- Childhood obesity in preschool children has been a major health concern in the U.S.
- Preschool children's obesity rate in Nebraska is 5th in the U.S. Nearly one in three preschoolers are overweight or obese in Nebraska.
- Rural areas tend to have more health disparities in comparison to urban areas.

OBJECTIVES

- To determine if urban and rural childcare centers in Nebraska meet best practices for nutrition, and if focusing on nutrition policies and practices improves the childcare center environment.
- A pre-post evaluation was conducted using the Nutrition and Physical Activity Self-Assessment for Childcare (Go NAP SACC).

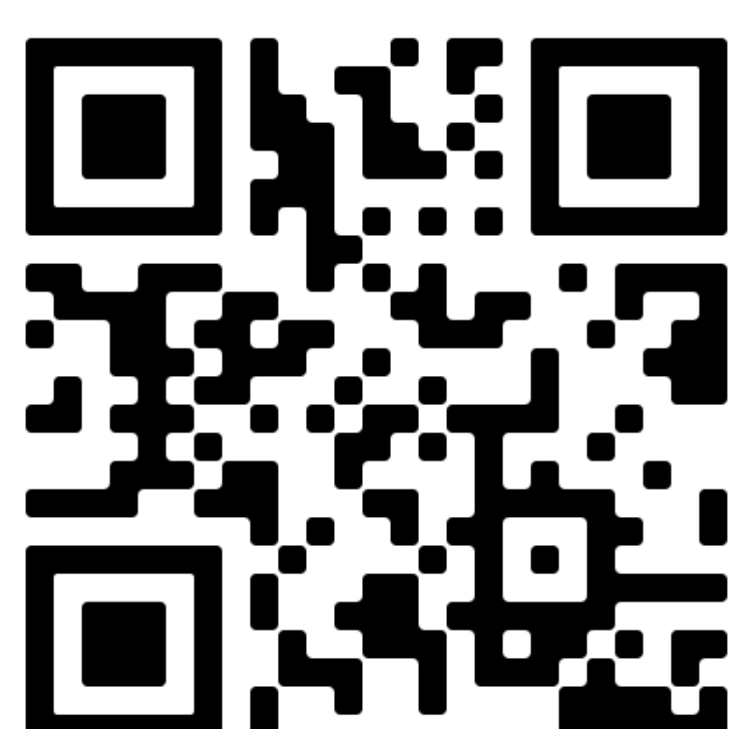
METHODS

Sample

- 204 childcare centers in Nebraska (109 urban and 95 in rural areas).

Measures and Data Analysis

- Paired-sample *t*-tests were conducted to compare pre- and post-test scores within urban and rural centers.
- The multivariate analysis of covariance (MANCOVA) was used to determine whether there were any statistically significant differences between the adjusted means of nutrition best practices at childcare center in rural communities compared to urban communities, having controlled for a CACFP participation covariate.
- The Sidak-Bonferroni correction was applied to adjust the multiple comparisons.



FINDINGS

Demographic Characteristics

Table 1. Characteristics of the Childcare Centers

	n	Total N	(%)
Providers (completed Post-assessments)	204	258	79.07%
Children		14614	
0-23 months	3945		27.01%
24-35 months	4686		32.06%
3-5 years	5983		40.93%
CACFP Participation	189	204	92.65%
Geographical Location		204	
Urban	109		53.43%
Rural	95		46.57%

Table 3. Significant Effects of Go NAP SACC Intervention for Child Nutrition Items in Urban and Rural childcare centers

Child Nutrition items	F- value (1, 201)	Mean Urban	Mean Rural
Food Provision			
Meats/meat alternates (lean or low fat)	8.78*	3.33	3.01
Whole grain foods (>2 time/week)	9.46*	3.46	3.11
Feeding Environment			
Learning materials promoting healthy eating	10.23*	3.49	3.16
Feeding practices			
Help children determining their hunger	8.52*	3.57	3.21
Education & Professional Development			
Teachers lead planned nutrition education	7.94*	3.44	3.12
Teachers often talk with children informally about healthy eating	11.41*	3.60	3.25
Nutrition education opportunities for families are offered	9.37*	3.58	3.19
Policy			
Has comprehensive written policy on child nutrition and food service	8.74*	3.35	3.03

*p-value <.05

Table 2. Mean-score Differences Before and After Participation in Go NAP SACC by Urbanicity (n = 204)

	Urban			Rural		
	Pre-test	Post-test	P-value	Pre-test	Post-test	P-value
Foods & Beverage Provision						
Dark green, orange, red or deep yellow vegetables	2.96	3.30	<.001*	2.82	3.19	<.001*
Meats or meat alternatives that are lean or low fat	2.79	3.32	<.001*	2.55	3.04	<.001*
High-fiber, whole-grain foods >2 times per week	2.86	3.44	<.001*	2.54	3.12	<.001*
Drinking water	3.41	3.74	.02	3.18	3.72	<.001*
Feeding Environment						
Meals and snacks are served family-style	2.15	2.84	<.001*	2.11	2.78	<.001*
Teachers have same foods and beverages as children	2.82	3.35	<.001*	2.80	3.33	<.001*
Teachers are enthusiastic role model of eating healthy food	3.13	3.45	.01	2.96	3.46	<.001*
Feeding Practices						
Program has learning materials that promote healthy eating	2.57	3.48	<.001*	2.42	3.17	<.001*
Help children determine whether they are still hungry before serving more food	2.79	3.56	<.001*	2.74	3.21	<.001*
Use an authoritative feeding style	3.15	3.41	.02	2.86	3.42	<.001*
Remind children to drink water during physical activity	3.24	3.43	.03	2.70	3.41	<.001*
Menu & Variety						
Menus are used in at least a 3-week cycle	2.71	3.22	<.001*	2.82	3.10	.11
Education & Professional Development						
Teachers lead planned nutrition education	2.42	3.43	<.001*	2.28	3.13	<.001*
...often talk with children informally about healthy eating	2.88	3.59	<.001*	2.78	3.25	<.001*
...receive training on child nutrition ≥ 2 time per year	2.82	3.46	<.001*	2.32	3.08	<.001*
...covered a variety number of topics as part of professional development	3.04	3.32	.03	2.58	3.31	<.001*
Nutrition education opportunities for families are offered	2.51	3.57	<.001*	2.35	3.22	<.001*
Nutrition related information teachers offer families covers a variety of topics	2.46	3.43	<.001*	2.23	3.28	<.001*
Policy						
Has comprehensive written policy on child nutrition and food service	2.31	3.34	<.001*	2.14	3.05	<.001*

Note. Scores reported on a 4-point Likert scale, with 1= barely meeting minimum standard and 4= far exceeding minimum standard to meet Go NAP SACC best practice. Sidak-Bonferroni correction was applied. *indicates p<.0011.

DISCUSSION

- Findings highlight the differences between childcare centers across urban and rural areas, suggesting that childcare context and location can influence nutrition-based best practices.
- After the Go NAP SACC intervention, childcare centers in both urban and rural areas exceeded the minimum standards in the area of nutrition practice, particularly those related to offering meats that are lean or low-fat, serving high-fiber, wholegrain foods and supporting healthy eating through responsive feeding practices.
- Regarding improvements in the post-test scores of nutrition practices, the results showed that childcare centers in rural areas are yet to exceed minimum childcare standards and meet nutrition best practices related to providers receive training on child nutrition and written nutrition policy.
- Regarding nutrition practices related to responsive feeding, childcare center providers in both urban and rural areas did not exceed minimum standards at post-intervention for practicing family-style dining.

CONCLUSION

- Although childcare centers in Nebraska were meeting standards at pre-test, they were still able to strengthen their policies and practices by using Go NAP SACC.
- Providers in this study did not exceed minimum standards regarding have a written nutrition policy at post-intervention.
- Future research is needed to determine whether requiring childcare centers to have a written policy and supporting them to develop concrete obesity-preventing policies and guidelines may help them implement improved practices.

ACKNOWLEDGEMENTS

- Funding.* Nebraska Department of Health and Human Service; Nebraska Department of Education; Nebraska Extension.
- Full references are available upon request from author ddev2@unl.edu

