

Improving the Physical Activity and Outdoor Play Environment through the Nebraska Go Nutrition and Physical Activity Self-Assessment for Childcare (Go NAP SACC)



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Abstract

Purpose: The Nutrition and Physical Activity Self-Assessment for Childcare (Go NAP SACC) is an evidence-based approach shown to be effective in improving the nutrition and physical activity environments in childcare. Since 2010 Nebraska state and local partners have collaborated to offer Go NAP SACC statewide. However, little research has examined the overall effectiveness of this statewide initiative, specifically with physical activity. Therefore, the purpose of this study was to determine if the Nebraska Go NAP SACC program was effective in improving best practices in the areas of infant and child physical activity and outdoor play and learning in family childcare homes and childcare centers.

Methods: Family childcare homes (n =201) and childcare centers (n =102) participated in the Go NAP SACC pre-post evaluation during 2014-2016. This study examined the results from 2 of the 5 Go NAP SACC self-assessments: Infant and Child Physical Activity and Outdoor Play and Learning. Answers were coded as 1 = barely met, 2 = met, 3 = exceeded, and 4 = far exceeded based on Go NAP SACC recommended best practices. Paired sample t-tests were conducted using SPSS statistical software to examine the extent to which Go NAP SACC scores differed significantly from pre-test to post-test.

Results: At baseline, all family childcare homes and childcare centers met minimum standards for most of the best practices. Nevertheless, at post, family childcare homes demonstrated significant improvements in 85% of the Infant and Child Physical Activity items (17 out of 20), and 80% of the Outdoor Play and Learning items (12 out of 15). Additionally, childcare centers demonstrated significant improvements in 91% of the Infant and Child Physical Activity items (20 out of 22), and in 80% of the Outdoor Play and Learning items (16 out of 20).

Conclusions: After taking part in Nebraska Go NAP SACC a majority of childcare entities showed significant improvements and were at least meeting childcare standards. Future research should examine if there are differences between family and center-based childcare facilities as well as if disparities exist in urban and rural environments.

References

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Introduction & Methods

- 74% of all 3 to 6 year old children in the United States are in some form of non-parental care; thus, a large number of children are developing habits and attitudes toward physical activity (PA), a behavior contributing to obesity, in childcare that may last a lifetime [1,2].
- The Go Nutrition and Physical Activity Self-Assessment for Child Care (Go NAP SACC) is one existing evidence-based program for improving health outcomes through PA and nutrition policies and practices in childcare centers and homes [3,4].
- Nebraska has been implementing Go NAP SACC statewide since 2010; however little research has examined it's effectiveness in PA best practices.
- The purpose of this study was to determine if the Nebraska Go NAP SACC program was effective in improving best practices in the areas of infant and child PA and outdoor play and learning in family childcare homes and childcare centers.
- Family childcare homes and childcare centers participated in the Go NAP SACC pre-post evaluation during 2014-2016 and completed the online assessments.
- Answers were coded as 1 = barely met childcare standards, 2 = met childcare standards, 3 = exceeded childcare standards, and 4 = far exceeded childcare standards and meeting best practices.
- Paired sample t-tests were conducted using SPSS.

Results

Table 1. Infant and Child Physical Activity Items at Pre-Test and Post-test

	Childcare Centers (N=102)			Family Child Care Homes (N=201)		
	Pre	Post	p-Value	Pre	Post	p-Value
Time provided						
Time provided for indoor and outdoor PA for *preschoolers and toddlers (centers) or for all children (FCCHs)	2.41	3.30	<.01**	3.19	3.52	.03*
Offering tummy time to infants	2.78	3.51	<.01**	2.94	3.25	<.01**
Amount of daily adult-led PA	2.12	2.86	<.01**	2.84	3.18	<.01**
Amount of seated time	3.47	3.66	.28	3.50	3.65	.26
Amount of time infants spend in seats, swings, or ExerSaucers	2.53	2.97	<.01**	2.48	2.84	<.01**
Indoor play environment						
Offering indoor play space	3.62	3.88	.24			
Availability of portable play equipment	3.43	3.78	<.01**	3.37	3.63	<.01**
Offering portable play equipment	3.13	3.56	<.01*	3.27	3.60	<.01*
Offering developmentally appropriate portable play equipment to infants	3.59	3.88	.58	3.68	3.79	.67
Collection of posters, books, and other materials that promote PA	2.24	3.07	<.01**	2.33	2.93	<.01**
Daily practices						
Removal of PA as a punishment	3.64	3.88	.35	3.39	3.55	.38
Supervision, verbal encouragement, and participation in children's PA	3.34	3.65	.036*	3.29	3.55	.04*
Interaction with infants to help them build motor skills	3.33	3.71	.03*	3.43	3.59	.07
Use of PA during daily routines, transitions, and planned activities	3.14	3.56	<.01**	3.04	3.44	<.01**
Education and professional development						
Planned lessons for children on building gross motor skills	3.56	3.81	.023*	3.34	3.62	<.01**
Talk with children about PA	2.90	3.62	<.01**	2.95	3.44	<.01**
Professional PA development	2.69	3.38	<.01**	2.71	3.21	<.01**
Variety of PA professional development	2.80	3.54	<.01**	3.30	3.70	<.01**
Offering families info on PA	2.37	3.40	<.01**	2.30	3.04	<.01**
Offering families a variety of PA info	2.53	3.46	<.01**	2.57	3.35	<.01**
Policy						
Written policy w/ topic variety	2.41	3.33	<.01**	2.29	2.97	<.01**

Table 2. Outdoor Play and Learning Items at Pre-Test and Post-test

	Childcare Centers (N=102)			Family Child Care Homes (N=201)		
	Pre	Post	p-Value	Pre	Post	p-Value
Outdoor playtime						
Offering outdoor playtime	2.79	3.27	<.01**	3.12	3.59	<.01**
The amount of outdoor playtime provided *preschoolers and toddlers (centers) or for all children (FCCHs)	2.57	3.28	<.01**	3.33	3.68	<.01**
Infants are taken outdoors	2.06	2.78	<.01**			
Types of activities outdoors	3.65	3.88	0.06	3.41	3.62	0.04*
Outdoor play environment						
The amount of my outdoor shade	2.63	3.08	0.03*	3.24	3.32	.15
Amount of space for outdoor games	3.56	3.75	.28	3.82	3.88	.34
Number of outdoor play space	2.35	3.03	<.01**	3.05	3.40	<.01**
Availability and size of garden	1.73	2.30	<.01**	1.91	2.36	<.01**
Availability of path for wheeled toys	2.86	3.09	.23*			
Shape of the path for wheeled toys	2.20	2.47	.045*			
Connection of path with other areas	2.31	2.59	.14			
Availability of portable play equipment	3.39	3.73	.031*	3.51	3.62	.12
Offering portable play equipment	3.53	3.79	.19	3.58	3.72	.21
Amount of portable play equipment	3.46	3.68	.24	3.70	3.77	.39
Education and professional development						
Professional development on outdoor play and learning	2.60	3.27	<.01**	2.45	3.14	<.01**
Variety of outdoor professional development	2.72	3.40	<.01**	2.95	3.52	<.01**
Offering families info on outdoor play and learning	2.27	3.24	<.01**	2.16	2.93	<.01**
Offering families a variety of outdoor play and learning info	2.30	3.33	<.01**	2.43	3.25	<.01**
Policy						
Written policy w/ topic variety	2.64	3.32	<.01**	2.14	2.88	<.01**

Conclusion

Overall, a majority of childcare entities reported significant improvements in most best practices. There were several limitations to this study including the use of a self-report measure, use of a variety of training agencies without the use of fidelity measures to ensure consistent implementation of training, and slight differences in the types of incentives used.

The strengths of this study include its large sample size in a large geographic area over a two-year period. The Nebraska Go NAP SACC initiative may be a promising practice for improving childhood obesity in Nebraska. However, future research should examine if these changes resulted in objectively assessed improvements in the childcare environment as well as physical activity behaviors of children.