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Obesity Prevention in Early Child Care Settings: A Bistate (Minnesota and Wisconsin) Assessment of Best Practices, Implementation Difficulty, and Barriers

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Abstract

Background—Long-term evaluation studies reveal that high-quality early care and education (ECE) programs that include a lifestyle component predict later adult health outcomes. The purpose of this article is to characterize the nutrition and physical activity (PA) practices, including implementation difficulty and barriers, of licensed center- and family home-based ECE programs serving 2- to 5-year-old children in Minnesota (MN) and Wisconsin (WI).

Method—A stratified random sampling procedure was used to select representative cross sections of licensed ECE providers in MN and WI. A total of 2,000 providers (1,000 center-based, 1,000 family home-based) were randomly selected and invited to respond to a 97-item survey with questions representing (1) nutrition and PA practices, (2) barriers to meeting nutrition and PA best practices, and (3) written and implemented nutrition and PA policies. Summated scales were constructed for nutrition-related (range 0–15; Cronbach's $\alpha = .86$) and for PA-related best practices (range 0–10; Cronbach's $\alpha = .82$).

Results—A total of 823 providers returned surveys between August 2010 and March 2011, resulting in a 44% bistate participation rate. Across all programs an average (*SD*) of 7.0 (4.1) nutrition best practices were already implemented. Center-based providers reported on average 0.8 additional nutrition best practice (7.4 vs. 6.6, $p = .01$). Across all programs an average (*SD*) of 5.2 (3.1) PA best practices were already implemented. Center-based providers reported on average one more PA best practice (5.3 vs. 4.3, $p < .01$). The cost of healthy food and the weather were identified as barriers by 80% of providers, regardless of program type.

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Declaration of Conflicting Interests

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Keywords

child care; center; early care settings; family home; obesity prevention; preschool

Long-term evaluation studies reveal that high-quality early care and education (ECE) programs that include a lifestyle component predict adult health outcomes (F. Campbell et al., 2014; Park, Sovio, Viner, Hardy, & Kinra, 2013). The Abecedarian preschool program in North Carolina, one of the oldest early childhood intervention programs, has demonstrated that high-quality education and care standards have positive effects on adult lifestyle behaviors, physical health, body mass index, and the achievement gap, resulting in better adult economic and social outcomes (F. Campbell et al., 2014). Nationwide more than 12 million children regularly spend time in child care arrangements outside the home (<http://www.acf.hhs.gov/programs/occ>). ECE program options for parents of 0- to 5-year-old children include center-based, family home-based, and family, friend, and neighbor care. However, studies show an inconsistency in the extent that these programs promote healthy eating and physical activity (PA) practices.

Establishing healthy weight-related habits early matters because about one in eight children aged 2 to 5 years are obese in the United States (Ogden, Carroll, Kit, & Flegal, 2014). This is problematic because children who are obese as preschoolers are 5 times more likely to be overweight or obese as adults (Cunningham, Kramer, & Narayan, 2014). Reviews aimed at identifying interventions to prevent obesity among 0- to 5-year-olds revealed mixed results; however, several reported that ECE providers were receptive to interventions in ECE settings (K. J. Campbell & Hesketh, 2007; Hesketh & Campbell, 2012). In 2011, nutrition and PA best practice recommendations for preschool-aged children were developed by the Institute of Medicine (IOM; Birch, Parker, & Burns, 2011). In addition, the IOM recommends that child care regulatory agencies require that meals and snacks be consistent with the Child and Adult Care Food Program (CACFP; Murphy, Yaktine, West Sutor, & Moats, 2011). The CACFP is a federal program (state administered) that targets low-income populations. Providers that participate in the CACFP must follow a specific meal pattern that meets minimal nutrition standards to be reimbursed. Although the IOM recommendations provide a framework for nutrition and PA practices in ECE settings, little is known on how these best practice recommendations are implemented and/or monitored. The CACFP provides some oversight, but it only focuses on nutrition and the oversight varies from state-to-state. For PA recommendations, state regulations provide the only such guidance, and many states do not have regulations in ECE licensure that align with best practice recommendations (Cradock, O'Donnell, Benjamin, Walker, & Slining, 2010). Differences in how center- and family home-based ECE programs implement PA and nutrition best practices have not been explored.

The purpose of this article is to characterize the nutrition and PA practices of licensed center- and family home-based ECE programs serving 2- to 5-year-old children in MN and WI. In addition, this article identifies perceived implementation difficulty and barriers to achieving best practice standards among providers.

Method

Study Design and Provider Recruitment

This descriptive study used a stratified random sampling procedure to select representative cross sections of licensed ECE providers in MN and WI. From a publicly available list of licensed center-based and family home-based programs in each state, a total of 2,000 providers (1,000 center-based, 1,000 family home-based) were randomly selected and invited to participate in the survey. Recruitment of ECE providers was designed to balance participants by program type in order to assess meaningful differences. Providers were mailed a packet that included the study description, a link to the online survey, a survey copy, and a postage-paid return envelope for written completion. Instructions requested that only one provider, director, or teacher most familiar with the program nutrition and PA practices complete the survey. Providers received a \$20 gift card for their participation. Reminder cards were sent to encourage survey completion. The University of Minnesota and University of Wisconsin institutional review boards approved the study protocol.

Survey Instrument Development and Questions

A 97-item survey was developed with input from stakeholders and was pilot-tested with 12 providers. Nutrition and PA best practices were adapted from the *Early Childhood Obesity Prevention Policies* (Birch et al., 2011), the CACFP (Murphy et al., 2011), Caring for Our Children reports (Academy of Pediatrics, American Public Health Association, & National Resource Center for Health and Safety in Child Care and Education, 2011), and the Model Physical Activity Standards for Child-Care Providers (National Policy & Legal Analysis Network to Prevent Childhood Obesity, 2010). A review of the published research literature also contributed to the development of survey questions (Ammerman et al., 2007; Trost, Messner, Fitzgerald, & Roths, 2009; Ward et al., 2008; Whitaker, Gooze, Hughes, & Finkelstein, 2009). A complete copy of the survey is available at the project website <http://z.umn.edu/healthychildcare>.

Nutrition and PA Practices

Nutrition practices included questions within three categories assessing whether providers (1) serve healthy meals and snacks including beverages ($n = 9$), (2) provide nutrition education lessons to children at least three times a year ($n = 1$), (3) encourage healthy eating habits and provider/ staff role modeling ($n = 3$), and (4) encourage provider training ($n = 1$). Questions about PA practices were constructed under four categories assessing whether providers (1) meet frequency and time standards for PA including for special needs children ($n = 3$), (2) limit inactive time ($n = 2$), (3) provide PA lessons to children at least three times a year ($n = 1$), and (4) encourage PA and provider/staff role modeling ($n = 2$) and provider training ($n = 1$). Response options included two category types. "I do this already" (yes/no). If no, the response pattern asked how difficult it would be to accomplish each best practice using a five-item Likert-type scale: "I don't do this, but it would be very difficult" (1), "somewhat difficult" (3), "not at all difficult" (5) to do. For this study ratings were combined into two levels: "difficult" (1–3) and "not difficult" (4–5).

Barriers to Nutrition and PA Best Practices

Providers Were Given A List Of Nutrition- And Pa-Related Barriers And Asked To Select Their Top Five Most Challenging Barriers For Each. For Example, Nutrition-Related Response Options Included (1) Cost Of Purchasing Healthier Foods, (2) Healthy Foods Are Not Available In My Area, (3) Children Would Not Respond Well, And (4) Parents Would Not Support Provider's Efforts. Examples Of Pa-Related Response Options Included (1) Cost Of Purchasing Equipment For Active Play, (2) Weather, (3) Lack Of Equipment, And (4) Parents Sending Children To School Without Appropriate Clothing.

Policy

Providers were asked to report on whether they have a written and implemented nutrition-related and PA-related policy for their program ($n = 2$). Response options included two category types. "I do this already" (yes/no). If no, the response pattern asked how difficult it would be to accomplish each best practice. The response options included a five-item Likert-type scale: "I don't do this, but it would be very difficult" (1), "somewhat difficult" (3), "not at all difficult" (5). These ratings were also combined into two levels: "difficult" (1–3) and "not difficult" (4–5).

Summated scales were constructed by summing the number of nutrition-related best practices already implemented ($n = 14$) and policy implementation ($n = 1$; range 0–15; Cronbach's $\alpha = .86$); and the number of PA-related best practices already implemented ($n = 9$) and policy implementation ($n = 1$; range 0–10; Cronbach's $\alpha = .82$).

Analysis

Descriptive statistics for survey items and constructed scales included the proportion with each response for categorical items and mean (SD) for continuous and discrete items and scales. Chi-square tests were used to test for differences in response distributions. Two-sample t -tests were used to test for mean differences in scales and continuous items. An alpha significance level of .05 was used for all statistical tests. Cronbach's alpha was used to measure internal reliability of constructed scales, with values greater than .70 indicating acceptable reliability. Provider responses from MN and WI were combined for this analysis; significant differences in response distributions are reported in the Results section.

Results

A total of 823 providers returned surveys between August 2010 and March 2011. About half of the surveys were completed online and half were mailed in. A total of 428 center-based (52%) and 395 family home-based (48%) providers completed a survey, resulting in a 44% bistate participation rate. Participation was not different between states. A map displaying distribution of participants across states is available at the project website <http://z.umn.edu/healthychildcare>.

Provider respondents were mostly female (96%), Caucasian (88%) and with an average age of 42 years. Providers had worked in child care for an average of 16 years. The highest education level for most family home-based providers (50%) was an associate's degree and

for most center-based providers (56%) was a bachelor's degree. The majority of family home-based providers (87%) and nearly half of center-based providers (47%) participated in the CACFP with center-based participation rates higher in WI than in MN (54% vs. 41%, $p = .01$).

Current Nutrition and PA Best Practices Implemented

Table 1 describes current nutrition and PA practices already implemented and perceived difficulty among providers who have not done so, including differences between center-based and family home-based provider reports. Serving water freely and serving only 100% fruit juice in 4- to 6-ounce servings were most widely practiced by licensed providers. The least frequent practices were serving low-sodium meals and snacks every day and only serving whole grains. More family home-based providers reported serving a fruit or vegetable with each meal and snack (57% vs. 48%, $p < .01$), whereas more center-based providers reported limiting high-fat foods (36% vs. 30%, $p = .04$), limiting high-sugar foods to less than once per week (40% vs. 33%, $p = .03$), and providing access to drinking water at all times (75% vs. 68%, $p = .03$).

Among the PA best practices, nearly 70% of providers reported already limiting television, video, and computer time to no more than 60 minutes per day. Family home-based providers were more likely to provide children with a minimum of 60 minutes of gross motor activity per day (67% vs. 59%, $p = .02$) whereas center-based providers were more likely to limit television, video, and computer time to no more than 60 minutes per day (75% vs. 62%, $p < .01$). Only 39% of providers offered opportunities for gross motor PA for children with special needs; however, 35% indicated that this was “not applicable” to their site.

About a third of providers attended nutrition training at least once per year. Only 16% of providers attended PA-related training at least once per year. There were differences in training attendance by program type with more family-home based providers attending nutrition-related training (44% vs. 26%, $p = .01$) and more center-based providers attending PA-related training (20% vs. 11%, $p < .01$).

About one third of providers reported offering nutrition education (35%) and PA education (27%) to their preschool children at least three times a year. Over half of the study providers reported already using best practices related to establishing healthy patterns and provider/staff role modeling. However, having an adult sit with children and eat the same meals and snacks and join in on PA was reported the least by all providers, especially among family home-based. WI providers were more likely to report sitting and eating with children than MN providers (55% vs. 48%, $p = .02$).

Only about one third of providers have written and implemented nutrition and PA policies. A higher percentage of center-based providers reported “already do this” than family home-based providers (41% for nutrition and 36% for PA, $p < .01$, vs. 24% for nutrition and 22% for PA, $p < .01$). WI providers were more likely to write and implement policies than MN providers (44% vs. 25%, $p < .01$, for nutrition; and 35% vs. 24%, $p < .01$, for PA).

Across all programs an average (*SD*) of 7.0 (4.1) indicated nutrition best practices were already implemented. Comparing center-based and family home-based revealed center-based providers reported on average one (0.8) additional nutrition best practice (7.4 vs. 6.6, $p = .01$). Across all programs an average (*SD*) of 4.8 (2.9) reported PA best practices were already implemented. A comparison of center-based and family home-based revealed that center-based providers reported on average one additional PA best practice (5.3 vs. 4.3, $p < .01$).

Ease of Implementing Nutrition and PA Best Practice Recommendations

Table 2 demonstrates the perceived difficulty in implementing best practices among licensed ECE providers. A high percentage of providers who reported that they do not currently engage in the nutrition and PA best practices reported that it would “not be difficult to do.” Fifty or more percent of these providers reported that it would “not be difficult” to implement all reported best practices except one: have at least one adult sit at the table and eat the same meals and snacks as the children (48%). More family home-based providers who did not already do so reported no difficulty with serving low sodium meals and snacks, serving at least one fruit and/or non-fried vegetable at every meal or snack, providing 60 minutes of PA daily, and attending nutrition and PA training. More center-based providers who did not already do so reported no difficulty with limiting screen time, having an adult sit with children at eating time and join in PA activities.

Barriers to Implementing Nutrition Best Practices

Figure 1 identifies the top five barriers to implementing nutrition-related best practices. The “high cost of healthy food” was reported by 80% of providers as a barrier to implementing best practices and is consistent across program types. A total of 30% to 40% of providers reported “lack of time to prepare healthy meals and snacks” and “limited storage space” as challenges. Over 40% of family home-based providers and about 20% of center-based programs identified that “children will not like the taste of healthy foods” as a barrier to implementing nutrition-related best practices. Although “lack of control over the types of meals and snack provided to us” was ranked the lowest, compared to family home-based, a higher percentage of center-based providers reported experiencing this barrier.

Barrier to Implementing PA Best Practices

Figure 2 identifies the top five barriers to implementing PA-related best practices. Nearly 80% of providers reported “bad weather” as a barrier to implementing PA best practices, which is consistent across program types. Half of the providers reported “equipment costs” and “lack of indoor space” as barriers to offering gross motor physical activities, and about 30% of providers reported “lack of appropriate clothing brought by parents” as a barrier.

Discussion

Results from this study inform the research priorities identified by a consensus panel of experts and stakeholders for obesity prevention research in ECE settings in several ways (Ward, Vaughn, & Story, 2013). First, our study was designed to compare best practice implementation and difficulty across program types. Overall, center-based programs

reported “already doing” about one more nutrition-related practice (7.4 vs. 6.6 out of 15) and one more PA-related practice (5.3 vs. 4.3 out of 10) than family home-based programs. To our knowledge, no other study reported in the literature was designed to make comparisons across center- and family home-based program types.

Second, to our knowledge our study was the first to assess level of perceived difficulty associated with implementing best practices and policies from a random sample of providers. Our study uniquely identified the best practices that providers were not currently engaged in but “would not be difficult to do.” For example, out of 32% of licensed providers who reported that refraining from using food for reward or punishment was not currently being implemented at their site, 91% said it would “not be difficult” (Table 2). Identifying practices that would “not be difficult” to implement provides useful guidance that would maximize the effectiveness of interventions to improve the nutrition and PA environment of ECE settings.

Third, our study findings identified the extent to which provider/staff healthy eating and PA role modeling occurs and the difficulty in doing so. Our study findings identified that center-based programs are more likely to have an adult sit with children and eat the same meals and snacks and join children in physical activities each day than family home-based providers. Other studies have found that Head Start providers were more likely than CACFP and non-CACFP participating centers to provide nutrition education to children and to model healthy eating behaviors (Dev, McBride, & STRONG Team, 2013).

Another distinctive contribution of our study was the examination of barriers to implementing nutrition and PA best practices reported by providers. Among the nutrition-related barriers, the lack of control over meals and snacks offered is reported by more center-based than family home-based providers and indicates the centralized focus of meal preparation in these larger settings. Based on our comparisons, programs to improve the nutrient quality and healthfulness of meals offered in large child care centers should target the central location where food is prepared.

Strengths and Limitations

Our ability to generalize results to other states may be limited because we studied providers in only two states. Each state has unique regulations that govern the ECE setting relating to nutrition and PA. Sampling bias and response bias were not assessed. Although the data were collected in 2010–2011, this study’s findings remain relevant because there is evidence that very little regulatory change has occurred in ECE settings in the past 5 years (Krajicek, 2014). Most states lack strong regulations for ECE settings related to nutrition and PA (Larson, Ward, Neelon, & Story, 2011). Our survey requested that only one person complete the survey. It is possible that respondents who are not direct caregivers may not accurately report variations within a program. Finally, findings from this study reflect only licensed providers. Data gathering among nonlicensed family, friend, and neighbor care is needed.

Policy and Practice Implications

The substantial number of providers reporting “it would not be difficult to do” suggests that nonregulatory strategies may be appropriate. One strategy may be implementation of

voluntary quality rating programs, especially those that include nutrition and PA criteria. For example, Minnesota (Parent Aware) and Wisconsin (Young Star) are among the 25 states and municipalities that have voluntary program quality rating systems under development or in place (Tout, Starr, Soli, Moodie, Kirby, et al., 2010). In an environment where adding or strengthening regulations may be difficult, voluntary state-driven quality rating systems may be a viable alternative for promoting nutrition and PA in ECE settings. There may be drawbacks to voluntary quality rating systems. Low-income families may be forced to choose providers based on the cost of the provider. In Minnesota, 44% of non-White parents and 48% of parents who speak English as a second language reported that they “take whatever they can get” when it comes to choosing child care (Chase & Valorose, 2010). Low-performing programs may also be less likely to participate in the voluntary program (Tout, Starr, Soli, & Moodie, 2010). Finally, there is little scientific evidence that quality rating systems improve ECE programs (Caronongan, Kirby, Malone, & Boller, 2011). Other incentive type approaches might include additional state supplementary reimbursements or incentives for participation in the CACFP and strategies designed to expand enrollment. Connecting all providers to the CACFP program, and therefore to CACFP sponsor trainings and resources, could address the preponderance of providers who identified nutrition-related difficulties and barriers to implementing best practices. Several research studies have identified positive associations with CACFP participation and healthier meals and snacks in ECE settings and preschooler diet and weight status (Lumeng et al., 2015; Ritchie et al., 2012). Successfully addressing the substantial provider population in MN and WI that reported “it would be easy to do” could result in positive movement in supporting ECE providers in achieving higher quality standards, including obesity prevention best practices.

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Figure 1.

Top five barriers to implementing nutrition best practices among licensed ECE providers in Minnesota and Wisconsin.

Note. ECE = Early Child Care and Education.

Figure 2.
Top five barriers to implementing physical activity best practices among licensed ECE providers in Minnesota and Wisconsin.
Note. ECE = Early Child Care and Education.

Table 1

Nutrition and Physical Activity Best Practices Implemented Among Licensed ECE Providers in Minnesota and Wisconsin, by Program Type.

	“I do this already” ^a			
Nutrition and physical activity practices	Combined (N = 823), % (n)	Center-based, % (n)	Family home-based, % (n)	p ^b
Meals and snacks				
Serve high-fat foods less than once per week or not at all	33 (272)	36(155)	30(117)	.04
Serve high-sugar foods less than once per week or not at all	37 (303)	40(173)	33 (130)	.03
Serve low-sodium meals or snacks every day	21 (169)	22 (96)	18(73)	.16
Serve only whole-grain foods	23 (188)	20 (86)	26(102)	.05
Serve at least one fruit and/or nonfried vegetable at every meal and snack	52(431)	48 (205)	57 (226)	<.01
Serve only white, low-fat milk to children 2 years of age and older	49 (400)	48 (207)	49(193)	.89
Serve only 100% fruit juice and limit to 4–6 ounces per day or less	68 (556)	68(291)	67 (265)	.78
Never serve sugar-sweetened beverages	60 (496)	63 (269)	57 (227)	.11
Children can access drinking water freely at all times	71 (587)	75 (319)	68 (268)	.03
Gross motor activities				
Provide children with a minimum of 60 minutes of gross motor activity per day consisting of both teacher-led and free play	62(514)	59(251)	67 (263)	.02
Provide opportunities for gross motor physical activity for children with special needs ^c	39(318)	53 (226)	23 (92)	<.01
Provide outdoor, gross motor physical activity at least two times per day	56 (460)	59 (253)	52 (207)	.05
Sedentary activities				
Limit television, video, and computer time to no more than 60 minutes per day	69 (567)	75 (322)	62 (245)	<.01
Limit children’s inactive time to no longer than 30 minutes except when sleeping or eating	56(461)	59 (253)	53 (208)	.06
Provider training				
Attend healthy eating and nutrition training at least once per year, not counting food safety (CACFP)	35 (284)	26(112)	44(172)	<.01
Attend gross motor physical activity training at least once per year	16(129)	20 (84)	11 (45)	<.01
Child education				
Provide healthy eating and nutrition education to children at least 3 times per year	35 (288)	37(158)	33 (130)	.23
Provide education lessons for children with a focus on gross motor physical activity at least 3 times per year	34 (280)	42(180)	25 (100)	<.01
Child development and role modeling				
Refrain from using food for reward or punishment	68 (563)	71 (303)	66 (260)	.13
Refrain from disciplining a child by taking away active play	66 (542)	67 (287)	65 (255)	.45
Allow children to decide when they are full during meal and snack times	63 (517)	72 (306)	53 (211)	<.01
Have at least one adult sit at the table and eat the same meals and snacks as the children	51 (421)	67 (288)	34(133)	<.01

Nutrition and physical activity practices	“I do this already” ^a			<i>p</i> ^b
	Combined (<i>N</i> = 823), % (<i>n</i>)	Center-based, % (<i>n</i>)	Family home-based, % (<i>n</i>)	
Have at least one adult join children in gross motor activity each day	58 (477)	64 (272)	52 (205)	<.01
Policy				
Written and implemented a healthy nutrition policy	33 (270)	41 (174)	24 (96)	<.01
Written and implemented a physical activity policy	29 (238)	36(153)	22 (85)	<.01
Summary, <i>M</i> (<i>SD</i>)				
Total nutrition-related practices (maximum of 15)	7.0(4.1)	7.3 (4.2)	6.6(4.1)	<.01
Total physical activity-related practices (maximum of 10)	4.84 (2.9)	5.3 (3.0)	4.3 (2.8)	<.01

Note. ECE = Early Child Care and Education; CACFP = Child and Adult Care Food Program. Table 1 includes ECE provider responders from Minnesota and Wisconsin combined licensed (2010–2011); center-based, including Head Start; and family home-based. Tribal-based ECE programs are excluded.

^a Responses include provider surveys with NA (not applicable) and with missing data.

^b Test of difference between center-based and family home-based programs.

^c A total of 23% (*n* = 99) of center-based and 48% (*n* = 188) of family home-based providers reported NA (not applicable) for this question.

Table 2

Ease of Implementation of Nutrition and Physical Activity Best Practices Reported by Licensed ECE Providers in Minnesota and Wisconsin, by Program Type.

Nutrition and physical activity practices	“Would not be difficult” ^a			<i>p</i> ^b
	Combined, ^a % (n)	Center-based, %	Family home-based, %	
Meals and snacks				
Serve high-fat foods less than once per week or not at all	55 (292)	51	58	.09
Serve high-sugar foods less than once per week or not at all	72 (366)	70	74	.25
Serve low-sodium meals or snacks every day	53 (333)	48	59	<.01
Serve only whole-grain foods	50(313)	48	52	.28
Serve at least one fruit and/or nonfried vegetable at every meal and snack	78(291)	68	92	<.01
Serve only white, low-fat milk to children 2 years of age and older	77(310)	75	80	.18
Serve only 100% fruit juice and limit to 4–6 ounces per day or less	87(217)	83	91	.07
Never serve sugar-sweetened beverages	86 (269)	84	87	.48
Children can access drinking water freely at all times	84(190)	87	82	.29
Gross motor activities				
Provide children with a minimum of 60 minutes of gross motor activity per day consisting of both teacher-led and free play	67(186)	59	77	<.01
Provide opportunities for gross motor physical activity for children with special needs ^c	71 (138)	73	69	.53
Provide outdoor, gross motor physical activity at least two times per day	51 (164)	50	52	.73
Sedentary activities				
Limit television, video, and computer time to no more than 60 minutes per day	83 (175)	95	78	<.01
Limit children’s inactive time to no longer than 30 minutes except when sleeping or eating	71 (231)	72	70	.75
Provider training				
Attend healthy eating and nutrition training at least once per year, not counting food safety (CACFP)	67 (345)	61	76	<.01
Attend gross motor physical activity training at least once per year	64 (403)	60	69	.02
Child education				
Provide healthy eating and nutrition education to children at least 3 times per year	76 (397)	77	76	.74
Provide education lessons for children with a focus on gross motor physical activity at least 3 times per year	77(386)	78	76	.67
Child development and role modeling				
Refrain from using food for reward or punishment	91 (225)	88	93	.18
Refrain from disciplining a child by taking away active play	83 (207)	84	82	.59
Allow children to decide when they are full during meal and snack times	78 (230)	84	75	.06
Have at least one adult sit at the table and eat the same meals and snacks as the children	48(186)	69	37	<.01

Nutrition and physical activity practices	“Would not be difficult” ^a			<i>p</i> ^b
	Combined, ^a % (n)	Center-based, %	Family home-based, %	
Have at least one adult join children in gross motor activity each day	72 (237)	82	65	<.01
Policy				
Written and implemented a healthy nutrition policy	71 (373)	73	70	.34
Written and implemented a physical activity policy	72 (375)	75	69	.10

Note. ECE = Early Child Care and Education; CACFP = Child and Adult Care Food Program. Includes licensed ECE provider responders (2010–2011); center-based, including Head Start; and family home-based. Tribal-based ECE programs are excluded,

^aSurvey responses from a 5-item Likert-type scale: 1 = “very difficult,” 3 = “somewhat difficult,” 5 = “not at all difficult.” Results for “would not be difficult” include Responses 4 and 5. Table 2 analyses form a subset of Table I and exclude provider surveys with responses “I do this already,” NA (not applicable), and missing data.

^bTest of significant difference between center-based and family home-based providers.

^cIn all, 23% (*n* = 99) of center-based and 48% (*n* = 188) of family home-based providers reported NA (not applicable) for this question.