A Family-Based Behavioral Intervention for Management of Childhood Obesity

Kerri Outlaw, DNP, RN
Amy Spurlock, PhD, RN
Teresa Johnson, DCN, RD
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Why a Family Based Approach?

- **School-based programs do not provide a sufficient intervention 'dose'**

- **Access to out of school programs limited/non-existent**

- **Family-based programs are targeted, adaptable, and engage the gate-keepers of the child's food & activity opportunities**

How Effective are Family-Based Programs?

Target Population

	US	AL	Bullock	Pike
RACE				
% African American	12.8	26.5	70.1	36.7
% White	80.0	71.0	28.6	60.2
% Other	7.2	2.5	1.3	3.3
ECONOMIC INDICATORS				
% of Population Living Below Poverty Level	14.3	17.5	34.7	27.6
% of Children Living Below Poverty Level	20	24.6	39.7	33.8
% of Total Population Medicaid Eligible	NA	19.8	34.4	26.8
% of Children Medicaid Eligible	NA	38.1	71.3	48.2
% Households with no Vehicle	10.3	8.3	17.6	11.4
% Uninsured	17.2	15.6	17.0	16.4
Median household income[b]	50,221	40,547	24,206	31,229
ALL CAUSES OF DEATH				
Cancer Deaths[a]	188.7	214.2	227.9	193.0
Diabetes Deaths[a]	25.3	30.1	47.4	42.4
Cardiovascular Disease Deaths[a]	288.2	351.7	454.1	458.5
Alcohol Related Deaths[a]	7.3	5.3	10.9	5.6
Motor Vehicle Related Deaths[a]	15.3	25.8	56.5	32.4
Suicide[a]	11.0	12.2	3.6	16.7
Accidental Deaths[a]	NA	56.2	76.0	68.4
Infant Mortality Rate per 1,000 Births	6.9	9.5	8.6	9.0
OTHER HEALTH INDICATORS[5]				
Obese Adults	26.7	31.0	37.6	28.7
Food Insecurity	16.6	17.8	28.7	20.9
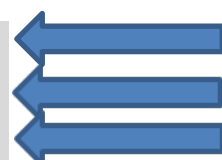
Setting

Intervention: LEAP- A family-based weight loss program

Children

- **Week 1: Stop Light Food Guide Introduction**
- **Week 2: My Plate**
- **Week 3: Body Style and Emotions**
- **Week 4: Portion Control**
- **Week 5: Eating Out/Fast food**
- **Week 6: Healthy Snack Making**
- **Week 7: Celebration**

Parents

- **Week 1: Discussion of Weight of the Nation video**
- **Week 2: Grocery Store Tour**
- **Week 3: Tools for a Healthy Diet**
- **Week 4: Addressing Barriers**
- **Week 5: Navigating Fast Food Venues**
- **Week 6: Eating Disorders & Disordered Eating**
- **Week 7: Recipe Modification of Family Favorites**

Statistical Outcomes

Table 1. *Mean, standard deviation and range of continuous level outcomes* ($N = 9$)

	Pre-Intervention			Post- Intervention		
	M	*SD*	Range	*M*	*SD*	Range
Height in inches	52.4	6.2	45 - 62	52.6	6.1	45 - 62
Weight in lbs	101.0	32.9	61.4 -153.4	100.0	31.8	62.4 -152.4
BMI	26.0	4.02	20.4 - 32.3	25.7	4.4	20.4 - 32.3
% Body Fat	37.9	5.7	30.8 - 40.6	37.1	6.5	30.8 - 40.6

Statistical Outcomes

Table 2. *Frequencies of selected pre- and post- intervention parental variables* (*N* = 9)

	pre-intervention		post-intervention	
	n	%	*n*	%
My child eats until very full				
Agree	5	55.5	1	11.1
Disagree	3	33.3	7	77.8
My child cleans off plate				
Agree	3	33.3	1	11.1
Disagree	6	66.7	8	88.9
My child snacks whenever they wish				
Agree	7	77.8	1	11.1
Disagree	2	22.2	5	55.6
My child drinks sweetened juice				
Agree	4	44.4	2	22.2
Disagree	5	55.6	7	77.8
I offer food as reward				
Agree	5	55.5	1	11.1
Disagree	4	44.4	7	77.8

Statistical Outcomes

Table 3. *Child self-reported amount of physical activity* ($N = 9$)

	Pre-intervention		Post intervention	
	n	%	n	%
15 minutes	2	22.2	0	0.0
30 minutes	4	44.4	3	33.3
45 minutes	2	22.2	2	22.2
60 minutes	1	11.1	4	44.4

Statistical Results

Table 4. *Mean, standard deviation and range of child amount of healthy food* (*N* = 9)

	Pre-Intervention			Post-intervention		
	M	SD	Range	M	SD	Range
Fruit per day	2.1	0.9	1 - 3	2.2	1.4	0.0 - 4.0
Vegetables per day	1.8	0.9	1 - 3	2.7	1.7	0.5 - 5.0
Soda or Juice	2.7	1.6	1 - 5	1.2	1.5	0.0 - 4.0
Screen Time	4.6	1.8	3 - 8	2.6	2.1	2.0 - 10.0

Discussion/Implications

- **Increased confidence in addressing weight issues by clinicians**
- **Needs of families identified and matched by local primary care providers to LEAP**
- **Increased access to care (closer venue)**
- **Continued development of family-based intervention at a community level**
- **Availability of 3-4 classes annually**
- **Grant applications for funding**

Conclusion

- **The LEAP program improved health behaviors and weight status of 6-11 year old children**

- **Improvements in food selection, physical activity, nutrition knowledge, and anthropometric measures (BMI and Percent body fat)**

- **Family-based programs are effective in normalizing weight status**