

**SKAGIT CHILDCARE
NUTRITION AND ACTIVITY
PILOT (SNAP)**

November, 2010

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EXECUTIVE SUMMARY

SKAGIT CHILDCARE NUTRITION AND ACTIVITY PILOT

In 2009, the Skagit County Healthy Communities Project (SCHCP) partnered with the Skagit Valley Hospital (SVH), Skagit Valley Family YMCA (SVY), United General Hospital (UGH) and Children of the Valley (COV) to implement the Skagit Childcare Nutrition and Activity Pilot (SNAP), utilizing the CATCH (Coordinated Approach to Child Health) Kids Club Program for kindergarten through fifth graders at 15 YMCA childcare sites and one faith-based childcare site in Skagit County. The purpose of this executive summary is to present a synopsis of the results of the pilot.

CATCH Baseline Fitness Test Results

The baseline BMI and fitness data demonstrate a need in the Skagit Valley community: 44% of the children are overweight or obese; 48% are borderline or need work on cardiovascular endurance; 67% are borderline or need work on hamstring flexibility. A smaller percentage of children (27% for pull-ups and 34% for curl-ups) are borderline or need work on muscular strength, although there is some question of tester error.

Depending on funding and feasibility, it is recommended that both fitness testing and BMI testing be conducted on an annual basis to assess the effectiveness of the program on these measures. To promote fidelity to the testing protocol and greater confidence in the results it is recommended that fitness professionals, or volunteers who receive more intensive training conduct future fitness tests.

CATCH Student Questionnaire

Prior to implementation of the CATCH program, students were asked to complete a questionnaire regarding their eating and physical activity behaviors and their knowledge of nutrition. In May, the children were asked to complete the survey again so that changes in behavior and knowledge after four months of participation in the CATCH program could be recorded.

The following is a summary of the knowledge and behavior changes from the initial questionnaire (time 1) to the final questionnaire (time 2) found to be statistically significant:

- The percentage of children who reported that they had no fruit the previous day was reduced from 13% to 9%; those who ate fruit three or more times increased from 19% to 29%.
- Those who reported watching one TV show or video during the week increased from 17% to 27%, whereas the number who watched three or more was reduced from 59% to 45%.
- The percentage of children who reported that they usually do not play video games on the weekend increased from 16% to 29%. Those who reported playing less than one hour increased from 36% to 41%, while those who played video games one to two hours decreased from 34% to 17%.
- The percentage of children who correctly indicated that they should eat “at least 5” servings of fruits and vegetables each day increased from 34% to 55%.

- The percentage of children who reported that they “almost always or always” eat high fiber cereal increased from 13% to 29%; those who choose low fat or skim milk over regular milk increased from 35% to 51%; those who choose to cook baked potatoes over French fries increased from 66% to 81%.
- The percentage of children who thought “low fat or skim milk” was better for their health than “regular milk” increased from 45% to 73%.
- With respect to self-efficacy, the percentage of children who reported they were “very sure” they could drink low fat or skim milk instead of regular milk increased from 31% to 51%; the percentage of children who indicated they were “very sure” they had the ability to take the skin off of chicken and not eat the skin increased from 49% to 58%.

Limitations of the survey include the length of the survey and the exclusion of children below third grade or above fifth grade. Future recommendations include:

- Development of age appropriate surveys for children below third grade and above fifth grade;
- Use of a shorter version of the CATCH survey, if available;
- Administration of the survey in two sittings to avoid survey fatigue: the physical activity portion on one day and the nutrition portion on another day.

Finally, it is recommended that parents be given the opportunity to report on their experiences with the CATCH program – how it has impacted their children and their families.

Daily Log of Physical and Nutrition Activities

Instructors recorded the number of minutes of physical activity for each child, each day prior to the implementation of the CATCH program, and after. The average number of minutes of participation in physical activity increased from 17 minutes to 29 minutes, a 71% increase.

Prior to the CATCH program, children participated in no nutrition activities. Following implementation of the program, children participated in an average of 23 minutes of nutrition activities each day.

Instructor Survey

The sites identified 29 key leaders in the pilot sites. These CATCH instructors were asked to complete an online survey asking questions about their experience with the CATCH program. Twenty-five people completed the survey.

A majority of the instructors responded positively to both the physical activity and nutrition components of the CATCH before/after school program. They indicated that it was easy to use, adaptable and effective. However, a few individuals reported that the program was challenging in their setting.

Physical activity component

- Eighty percent (80%) of the respondents agreed or strongly agreed that children who participate in CATCH are more active as a result of the program.
- Seventy-six percent (76%) of the respondents agreed or strongly agreed that children enjoy the CATCH physical activities. However, three people disagreed.
- Some instructors found it challenging to teach the CATCH physical activities. Forty-eight percent (48%) said it was easy or very easy; thirty-two percent (32%) said it was moderately easy/difficult; five people (20%) indicated that it was either difficult or very difficult.
- Eighty-eight percent (88%) of the respondents said they would recommend the program to other before/after school programs; one person neither agreed nor disagreed; two people indicated that they would not recommend the program to others.

Nutrition component

- Fifty-four percent (54%) of the respondents indicated their belief that children in their programs have better eating habits specifically because of the CATCH program; forty-two percent (42%) were not certain; one person disagreed with the statement.
- A large majority of the respondents (88%) agreed or strongly agreed that the children enjoy the snacks they made using the CATCH nutrition program guidelines. One person strongly disagreed.
- Fifty-eight percent (58%) of the respondents indicated that it did not take them too much time to prepare the snacks; 29% neither agreed nor disagreed; 13% (3 people) reported that it did take too much of their time.
- Ninety-three percent (93%) agreed or strongly agreed that they would recommend the program to other before/after school programs; two people neither agreed nor disagreed; no respondents indicated that they would not recommend the program.

School's Out Washington, Quality Improvement Grant

On behalf of the Skagit Valley Family YMCA, the Skagit County Healthy Communities Project Coordinator applied for and was awarded a \$3000 fresh fruits and vegetable grant that was used to supplement the CATCH nutritious snack program at YMCA sites. The funds allowed staffs to more fully implement the nutritious snack portion of the CATCH program, which emphasizes fresh fruits and vegetables.

A staff person gave this account: "Prior to implementing this program we had a child who refused to eat any vegetables. And the fruit he consumed was always processed. After exposure to new fruits and vegetables and creative ways of preparing them, he began to eat them and even requested them at home with his parents."

A parent gave testimony of his/her child's new enjoyment of vegetables: "I can hardly believe it, my child is asking for broccoli! She has never asked for vegetables. I couldn't even get her to try them. Now she is asking for them at home."

INTRODUCTION

SKAGIT CHILDCARE NUTRITION AND ACTIVITY PILOT (SNAP)

The purpose of this report is to present results of the Skagit County Nutrition and Activity Pilot utilizing the CATCH Kids Club Program. The “BACKGROUND” is an adaptation of an article written by Liz McNett Crowl, the Skagit County Health Communities Project Coordinator, and published in the CATCH monthly e-newsletter¹. The introduction is followed by an evaluation of the Skagit County CATCH Kids Club Program data collection results as reported by Dr. Karen Westra, Social Scientist, Westra Research Center.

BACKGROUND

The Skagit County Healthy Communities Project aims to reduce and prevent chronic disease and obesity by increasing access to healthy nutrition and physical activity. The SCHCP Advisory Leadership Team held three summits inviting educators, healthcare professionals, and community members to brainstorm a list of strategies and priorities for addressing the issue of chronic disease and obesity among children in Skagit County. A literature review was performed to help inform the “next steps” in addressing these issuesⁱⁱ. The literature review was a systematic exploration of strategies suggested by the summit participants to determine if similar programs/strategies have been developed in other communities and have been found to be successful.

Highlights of the summits include a desire on the part of the Skagit Valley community to address both physical activity and nutrition in the schools. The literature review supports this approach, finding that programs showing the most promise appear to be those that incorporate multiple approaches including both physical activity and nutrition. Much of the literature has focused on programs incorporated into the school day. However, it was noted that schools in Skagit Valley are finding it challenging to find additional time for physical activity and nutrition programming during the school day when they are under pressure to focus on core academic classes.

Organizations such as the Robert Wood Johnson Foundation are encouraging communities to explore before and after school programs as another venue to address childhood obesityⁱⁱⁱ. Working with childcare and early learning sites has been identified by MAPPS (Community Guide and Media, Access, Point of decision information, Price, and Social services strategies) as evidence-based or strongly recommended strategies for increasing access to healthy nutrition and physical activity^{iv}.

In 2009, the Skagit County Healthy Communities Project partnered with the Skagit Valley Hospital, Skagit Valley Family YMCA, United General Hospital and Children of the Valley to implement the Skagit Childcare Nutrition and Activity Pilot, utilizing the CATCH Kids Club Program for Kindergarten through fifth graders at 15 YMCA childcare sites and one faith-based childcare site in Skagit County. The intent of the pilot was to:

- demonstrate that a nutrition and physical activity program offered within the structure of before and after school childcare programs can increase the number of fruit and vegetable servings students consume;
- increase the number of minutes of physical activity that students accumulate during the day;
- educate students and their families about the importance of eating fruits and vegetables and healthy snacks, and
- educate students and their families about the importance of being physically active to promote health and prevent chronic disease.

The CATCH Program is a comprehensive school health program that employs a holistic approach to child health promotion for children in kindergarten through fifth grades. The four components of CATCH include: 1) the school cafeteria nutrition program, 2) physical activity and healthy eating classroom curricula, 3) physical education program, 4) family

education and involvement program. Since the development of CATCH 20 years ago, approximately 7,000 schools in the United States have integrated the program into their school systems. CATCH implementation results demonstrate effectiveness in reducing fat consumption, offering lower fat meals in the school cafeteria, and increasing physical activity levels during physical education classes as well as outside of school. Long term results of CATCH include preventing the onset of obesity as well as stabilizing the prevalence of obesity among youth^v.

Based on the success of CATCH, the CATCH Kids Club (CKC) curriculum was created. CKC consists of three components: 1) nutrition education, 2) physical activity, and 3) snacks. The nutrition education component is a 15-30 minute lesson that includes basic information on healthy eating, goal setting, modeling, skill training, practice, and reinforcement. In addition, newsletters complementing the nutrition component are distributed to parents of participants to educate about proper nutrition and help integrate healthier eating habits at home.

The physical activity component engages participants in a minimum of 30 minutes of physical activity in inclusive activities. The snack component occurs once a week, and allows participants the opportunity to practice preparing and eating healthy food options. A pilot study with sixteen sites in Austin and El Paso, Texas demonstrated that CKC is effective in increasing physical activity, nutritional knowledge, and the belief in oneself to make healthy food choices^{vi}. CATCH Kids Club is most effective when implemented two or three days a week.

Equipment

The project utilizes the CATCH® Kid's Club Kit at 14 sites with equipment, available from FlagHouse®. The kit includes a format designed especially for after-school, youth-organization, and community-recreation programs. Over 300 detailed activity cards are organized by activity. Each card gives instructions, includes diagrams that illustrate how to set up the group, and provides equipment lists, with much of the equipment provided. Two different size kits were purchased dependent on the size of the childcare site.

Evaluation

The Project Leadership Team consisted of representation from SCHCP, Skagit Valley Hospital, Skagit Valley Family YMCA, United General Hospital, Westra Research and a student intern from Western Washington University.

Baseline data consisted of height and weight for each child at all sites and fitness testing utilizing the YMCA Youth Fitness Testing protocol for selected sites. YMCA fitness staff and childcare site staff with help from volunteers and project staff conducted the testing in January 2010.

YMCA site leaders kept daily records of attendance and program implementation to document what program elements were used and minutes of activity and were asked to participate in a process evaluation. An instructor survey was administered in May.

Westra Research provided limited evaluation oversight during the data collection phase, serving as an evaluation advisor. Westra Research analyzed the data that were collected and reported on the findings.

EVALUATION

CATCH Baseline Fitness Test Results

Of the sixteen sites participating in the Skagit Childcare Nutrition and Physical Activity Pilot to implement the CATCH program in their before/after school programs, seven sites were selected for fitness testing. The sites are loosely representative of the economic diversity of the community: A high percentage of children who attend Jefferson, Lincoln and Westview schools receive free and reduced meals; A low percentage of children who attend Lucille Umbarger, Bayview and Mary Purcell schools receive free and reduced meals; All of the children who attend Children of the Valley are Latino and receive free and reduced meals. The fitness tests were conducted in January, 2010, concurrent with implementation of the CATCH program. Follow up tests have not yet been conducted since not enough time has passed for changes to be measurable in these areas.

There were 174 children registered at the seven before/after school program sites that were selected to participate in the fitness testing. One hundred twenty (120) of those children participated in the fitness testing. Tables 1-4 below delineate the distribution of the children across the programs, the grade levels, their ages and gender.

Table 1: Fitness test participants-Program

<i>Children in the Program</i>		<i>Children Tested</i>	
Bayview	27	17	63%
Children of the Valley	31	23	74%
Jefferson PM	32	24	75%
Lincoln PM	30	17	57%
Lucille Umbarger	25	19	76%
Mary Purcell AM	19	14	74%
Westview	10	6	60%
Total	174	120	69%

Table 2: Fitness test participants-Grade

<i>Grade</i>		
K	7	6%
1	26	22%
2	33	28%
3	15	13%
4	22	18%
5	11	9%
6	6	5%
Total	120	

Table 3: Fitness test participants-Age

<i>Age</i>	
Mean	8.11
Median	8
Mode	8
Minimum	5
Maximum	12
Count	118

Table 4: Fitness test participants-Gender

<i>Gender</i>		
F	46	38%
M	74	62%
Total	120	

While there were 120 children who participated in the fitness testing, scores are not available for all children, for all tests. Due to the nature of before and after school programs, attendance was a moving target with some children arriving late and others leaving early on the days testing occurred.

The fitness tests were conducted using the protocol and standards of the YMCA (YMCA Youth Fitness Test Manual^{vii}). The standards apply to children beginning in Grade 1. There

were five children who participated in the fitness tests whose scores were not included in the standard tables because they were in kindergarten, and too young to score against the standards.

There were 81 children who participated in the one-mile run (Table 5). The fastest child completed the mile in 8 minutes and 12 seconds, while the longest time recorded was 21 minutes, for an average of 13 minutes and 49 seconds.

Excluding the five children who were kindergarteners, 53% of the children fell into the “good” category, 9% were categorized as borderline, while 36% were categorized as needing work in this area (Table 6).

Table 5

<i>Time For One-Mile Run</i>	
Mean	13 minutes, 49 seconds
Median	13 minutes, 15 seconds
Mode	21 minutes
Minimum	8 minutes, 12 seconds
Maximum	21 minutes
Count	81

Table 6

<i>Run Standard</i>		
Good	40	53%
Borderline	9	12%
Needs work	27	36%
Total	76	

Tables 7-10 display the results of strength testing. These results are more positive than the cardio testing, with 72% of the children falling into the “good” category for pull-ups, and 67% falling into the “good” for curl-ups. A physical fitness expert in the field observed some of the testing, and reports there is reason to believe there was tester error on these two measures, leading to elevated results.

Table 7

<i>Number of Pull-ups</i>	
Mean	9
Median	9
Mode	10
Minimum	1
Maximum	30
Count	114

Table 8

<i>Pull-up Standard</i>		
Good	79	72%
Borderline	23	21%
Needs work	7	6%
Total	109	

Table 9

<i>Number of Curl-ups</i>	
Mean	24
Median	23
Mode	21
Minimum	0
Maximum	63
Count	110

Table 10

<i>Curl-up Standard</i>		
Good	70	67%
Borderline	25	24%
Needs work	10	10%
Total	105	

Students were also tested for hamstring flexibility (Tables 11 and 12). Thirty-three percent (33%) of the children were categorized as “good” with respect to flexibility.

More than half of the children (58%) were “borderline” and an additional 9% were deemed to “need work” in this area.

Table 11

<i>Sit and Reach</i>	
Mean	10 inches
Median	8 inches
Mode	9 inches
Minimum	1 inch
Maximum	21 inches
Count	114

Table 12

<i>Sit and Reach Standard</i>		
Good	36	33%
Borderline	63	58%
Needs work	10	9%
Total	109	

Finally, children were weighed, and their height was recorded. Taking into account the children’s age and gender, their body mass index (BMI) was calculated and results were categorized as “underweight,” “normal” or “overweight or obese (Table 13).” Forty-four percent (44%) of the children were determined to be “overweight or obese.” Of those, 22% were classified as obese.

Table 13

<i>Summary of Children’s BMI-for-Age</i>			
	Boys	Girls	Total
Number of children assessed:	145	104	249
Underweight (< 5th percentile)	4%	5%	4%
Normal BMI (5th - 85th percentile)	50%	54%	51%
Overweight or obese (≥ 85th percentile)*	46%	41%	44%
Obese (≥ 95th percentile)	24%	19%	22%
*Terminology based on: Barlow SE and the Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. <i>Pediatrics</i> . 2007;120 (suppl 4):s164-92.			

Summary

The baseline BMI and fitness data demonstrate a need in the Skagit Valley community: 44% of the children are overweight or obese; 48% are borderline or need work on cardiovascular endurance; 67% are borderline or need work on hamstring flexibility. A smaller percentage of children (27% for pull-ups and 34% for curl-ups) are borderline or need work on muscular strength, although there is some question of tester error.

Depending on funding and feasibility, it is recommended that both fitness testing and BMI testing be conducted on an annual basis to assess the effectiveness of the program on these measures. To promote fidelity to the testing protocol and greater confidence in the results it is recommended that trained fitness professionals, rather than volunteers conduct future fitness tests.

CATCH Student Questionnaire

Prior to implementation of the CATCH program, students were asked to complete a questionnaire regarding their eating and physical activity behaviors and their knowledge of nutrition. In May, the children were asked to complete the survey again so that changes in behavior and knowledge after four months of participation in the CATCH program could be recorded. Because the questionnaire was designed for children in the third to fifth grades, only their responses are recorded in this report. A full presentation of the questions and the responses can be found in Appendix A. Results from Edison school are not included because they had no children in the third to fifth grades. Results from Washington school are not reported in Appendix A because they administered a different CATCH survey in error. Results from the Washington school surveys are available upon request (Westra Research Center, karen@westraresearch.com).

Where appropriate, survey answers were recoded into numerical values. Two sample t-tests were conducted to measure the change from time 1 to time 2. The *p values* in the tables below indicate the likelihood that the results are due to chance, rather than to the CATCH program. Following common practice in social science research, any *p value* less than or equal to .10 is accepted as indicating statistical significance, and is signified with a single asterisk. Any *p value* less than or equal to .05 meets an even more rigorous standard for statistical significance, meaning that there is a 5% chance that the findings could be due to chance. Such a finding is signified with a double asterisk.

Eating behaviors

In the first set of questions, children were asked to recall their behaviors from the prior day and report how many times they ate or drank a particular item. Some of the items are healthy items, while others are not.

Table 14

<i>Eating Behaviors – “Yesterday”</i>			
	Time 1 Mean	Time 2 Mean	P-value
French fries	1.3	1.4	.20
Vegetables	2.4	2.6	.19
Beans	1.3	1.4	.29
Fruit	2.5	2.8	.10*
Fruit juices	2.0	2.1	.52
Sweets	1.7	1.7	.90

There were no significant changes from time 1 to time 2 with the exception of the frequency of eating fruit. The percentage of children who reported that they had no fruit the previous day was reduced from 13% to 9%. The percentage of children who reported they ate fruit three or more times increased from 19% to 29%.

Physical activity/inactivity behaviors

In the next set of questions, children were asked to indicate their behaviors regarding participation in sports, watching TV, or playing video games (table 15).

Table 15

<i>Physical Activity/Inactivity Behaviors</i>			
	Time 1 Mean	Time 2 Mean	P-value
Participation in exercise or sports (yesterday)	1.2	1.2	.77
TV or video viewing (each day during the week)	3.2	3.0	.10*
TV or video viewing (each day on the weekend)	1.9	2.0	.48
Play video games (each day during the week)	3.7	3.9	.19
Play video games (each day on the weekend)	2.6	2.2	.05**
Participation on sports teams (12 months)	2.0	2.1	.42

There was a significant reduction (.10 level) in the number of TV shows or videos watched during the week. Those who reported watching one TV show or video during the week increased from 17% to 27%, whereas the number who watched three or more was reduced from 59% to 45%.

Children spent fewer hours per day (significant at the .05 level) playing video games during the weekend. During the baseline survey 16% of the children reported that they usually don't play video games on the weekend. That percentage jumped to 29% at time 2. Those who reported playing less than one hour increased from 36% to 41%, while those who played video games one to two hours decreased from 34% to 17%.

Nutrition Knowledge and Behavior

Children were asked a series of questions about nutrition. They were asked about their knowledge of the food pyramid, their nutrition behaviors (what they actually eat), and their knowledge of what foods they think are better for them. Finally they were asked questions about their self-efficacy, i.e., their belief about their ability to make good nutrition choices.

Knowledge of the food pyramid

The survey asked students questions about their knowledge of the food pyramid: of which food group should they eat the most servings (breads, cereals, rice, pasta) and least servings (fats, oils, sweets) each day. There was no significant difference from time 1 to time 2 on any of these measures.

The survey asked children how many total servings of fruits and vegetables they should eat each day. Thirty-four percent (34%) of the children selected the correct answer, "At least 5," at time 1. The percentage who selected the correct answer increased to 55% in time 2. The improvement was statistically significant at the .01 level.

Table 16

<i>Knowledge of the Food Pyramid</i>			
	Time 1 Mean	Time 2 Mean	P-value
Group from which you should eat the most servings (breads, cereals, rice, pasta)	1.8	1.8	.92
Group from which you should eat the fewest servings (fats, oils, sweets)	1.3	1.3	.90
Number of servings of fruits and vegetables each day (5)	1.3	1.6	.01**
What you eat influences heart disease or cancer	1.6	1.5	.26

Nutrition behaviors

Children were asked a series of questions about healthy nutrition behaviors. Results are displayed in table 17.

Table 17

Nutrition Behaviors			
	Time 1 Mean	Time 2 Mean	P-value
Always read nutrition labels	2.1	2.1	.71
Eat and drink healthy foods	1.9	1.8	.20
Try new foods	1.8	1.9	.68
Eat high fiber cereal	2.1	1.9	.10*
Eat whole wheat bread	1.8	1.6	.14
Drink 100% fruit juice	1.6	1.6	.77
Eat fruit for lunch	1.6	1.6	.80
Eat vegetables for dinner	1.7	1.7	.93
Pick popcorn with vs. without butter	1.4	1.5	.48
Pick regular vs. low fat or skim milk	1.3	1.5	.05**
Eat candy bar vs. fresh fruit	1.8	1.8	.52
Eat chicken with skin vs. without skin	1.6	1.6	.84
Ask for frozen yogurt vs. ice cream	1.4	1.4	.98
Choose to cook French fries vs. baked potato	1.7	1.8	.03**
Eat cooked vegetables without butter vs. with butter	1.6	1.5	.63
Order a regular hamburger vs. a grilled chicken sandwich at a fast food restaurant	1.5	1.6	.19

There was a statistically significant positive change over time with respect to three eating behaviors. The percentage of children who reported that they “almost always or always” eat high fiber cereal increased from 13% to 29%; Those who choose low fat or skim milk over regular milk increased from 35% to 51%; Those who choose to cook baked potatoes over French fries increased from 66% to 81%.

Knowledge of what foods are better for you

Children were provided food options and were asked to indicate which food they thought was better for their health (table 18). The percentage of children who selected “low fat or skim milk” over “regular milk” increased from 45% to 73%. This change is significant at the .05 level.

Table 18

<i>Knowledge of Nutritious Food</i>			
	Time 1 Mean	Time 2 Mean	P-value
Whole wheat bread vs. white bread	1.8	1.9	.43
Broiled beef vs. broiled fish	1.5	1.6	.51
Cereal vs. eggs and bacon	1.5	1.6	.35
Beef vs. beans	1.6	1.7	.31
Chicken vs. regular hamburger	1.8	1.9	.07
Regular milk vs. low fat or skim milk	1.5	1.7	.00**
Frozen yogurt vs. ice cream	1.8	1.9	.12
Green salad vs. French fries	1.9	1.9	.27
French fries vs. baked potato	1.9	1.9	.40
100% juice vs. fruit punch	1.9	1.9	.27

Self-efficacy

Children were asked nutrition questions from a self-efficacy perspective: how sure were they that they were able to eat healthier foods instead of less healthy options (table 19).

Table 19

<i>Self-efficacy: Ability to Eat Nutritious Food</i>			
	Time 1 Mean	Time 2 Mean	P-value
Low fat or skim milk instead of regular white milk	1.9	2.3	.00**
High fiber cereal instead of a donut	2.3	2.3	.87
Fresh fruit instead of a candy bar	2.6	2.6	.89
Take the skin off of chicken (and not eat the skin)	2.2	2.4	.08*
Frozen yogurt instead of ice cream	2.4	2.4	.71
Baked potato instead of French fries	2.3	2.5	.20
Drink fruit juice instead of a soft drink	2.4	2.5	.21
Order grilled chicken sandwich at a fast food restaurant instead of a hamburger	2.3	2.4	.62

There were two significant differences in self-efficacy between time 1 and time 2 with respect to nutrition. The percentage of children who reported they were “very sure” they could drink low fat or skim milk instead of regular milk increased from 31% to 51%. The percentage of children who indicated they were “very sure” they had the ability to take the skin off of chicken and not eat the skin increased from 49% to 58%.

Children were asked how sure they were that they could be physically active (table 20). No significant differences were found between time 1 and time 2.

Table 20

<i>Self-efficacy: Ability to be Physically Active</i>			
	Time 1 Mean	Time 2 Mean	P-value
Ability to be physically active 3-5 times a week	2.5	2.6	.38
Ability to exercise and keep moving for most of the time in their after school program	2.5	2.6	.30
Ability to improve their physical fitness by running or	2.5	2.6	.23

biking 3-5 times a week			
Ability to keep up a steady pace without stopping for 15-20 minutes when they are physically active	2.1	2.3	.17

Summary of CATCH student questionnaire

The following is a summary of the knowledge and behavior changes from the initial questionnaire (time 1) to the final questionnaire (time 2) found to be statistically significant:

- The percentage of children who reported that they had no fruit the previous day was reduced from 13% to 9%; those who ate fruit three or more times increased from 19% to 29%.
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- The percentage of children who thought "low fat or skim milk" was better for their health than "regular milk" increased from 45% to 73%.
- With respect to self-efficacy, the percentage of children who reported they were "very sure" they could drink low fat or skim milk instead of regular milk increased from 31% to 51%; the percentage of children who indicated they were "very sure" they had the ability to take the skin off of chicken and not eat the skin increased from 49% to 58%.

Limitations of the survey include the length of the survey and the exclusion of children below third grade or above fifth grade. Future recommendations include:

- Development of age appropriate surveys for children below third grade and above fifth grade;
- Use of the shorter version of the CATCH survey;
- Administration of the survey in two settings to avoid survey fatigue: the physical activity portion on one day and the nutrition portion on another day.

Finally, it is recommended that parents be given the opportunity to report on their experiences with the CATCH program – how it has impacted their children and their families.

Daily Log of Physical and Nutrition Activities

Instructors recorded the number of minutes of physical activity for each child, each day prior to the implementation of the CATCH program, and after. They also recorded each child's attendance so results were not skewed by children's absence. The table and chart

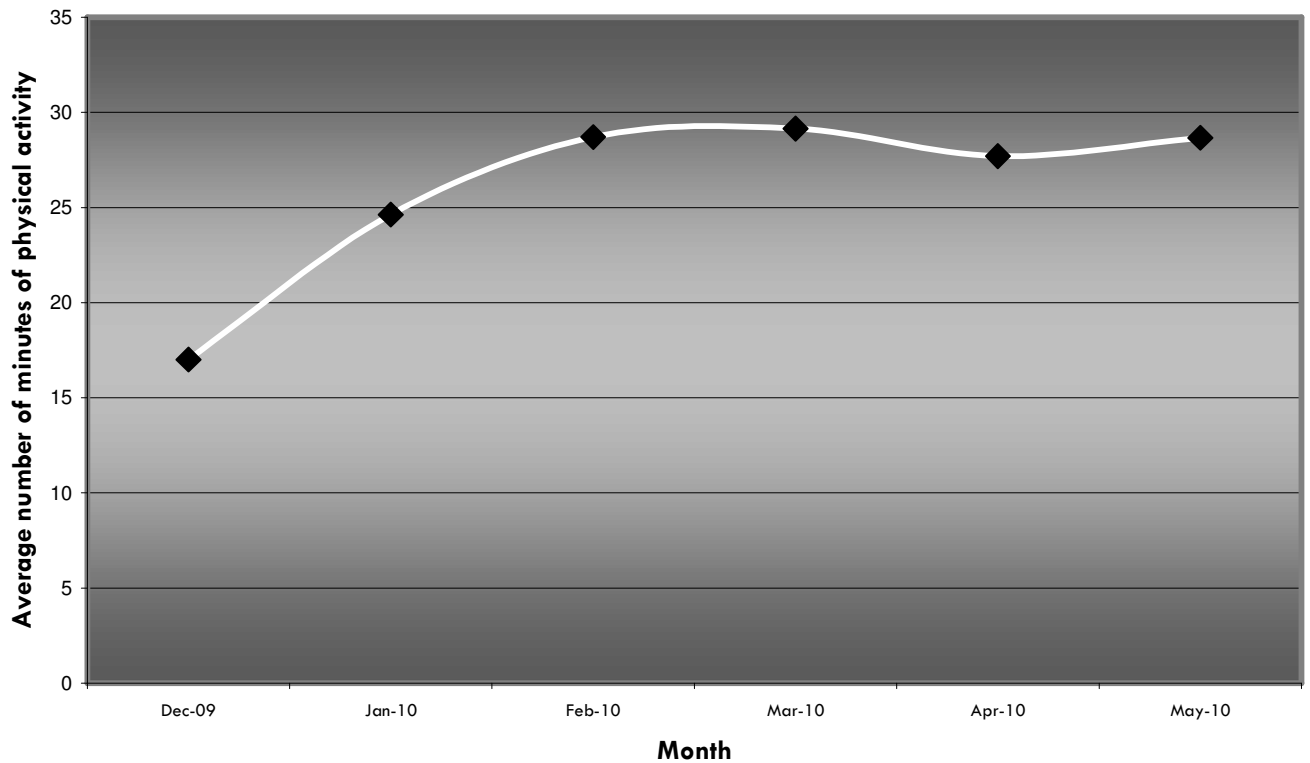
below visually display the increase in activity from December (pre implementation) to the January (during implementation), through the February and March (post implementation).

Prior to implementation, children participated in an average of 17 minutes of physical activity each day. Following implementation of the program, children participated in an average of 29 minutes of activity each day. This is a 71% increase in physical activity.

Table 21

<i>Average number of minutes of physical activity each day</i>	
December 2009 – pre implementation	17 minutes
January 2010 – during implementation	25 minutes
February 2010 – post implementation	29 minutes
March 2010 – post implementation	29 minutes
April 2010 – post implementation	28 minutes
May 2010 – post implementation	29 minutes

Physical Activity



CATCH nutrition activities were offered one time a week. Table 22 displays the average number of minutes per child each day it was offered. Since the nutrition element is a new offering with the implementation of CATCH, no minutes were recorded in December. During the implementation month (January), the average number of minutes of nutrition

activities was 19 minutes each day. That number increased to between 22 and 24 minutes during the post implementation months of February through May.

Table 22

<i>Average number of minutes of nutrition activity</i>	
December 2009 – pre implementation	0 minutes
January 2010 – during implementation	19 minutes
February 2010 – post implementation	23 minutes
March 2010 – post implementation	24 minutes
April 2010 – post implementation	24 minutes
May 2010 – post implementation	22 minutes

Summary:

The average number of minutes of participation in physical activity increased from 17 minutes to 29 minutes each day. This is a 71% increase.

Prior to the CATCH program, children participated in no nutrition activities. Following implementation of the program, children participated in an average of 23 minutes of nutrition activities.

Instructor Survey

The sites identified 29 key leaders in the pilot sites. These CATCH instructors were asked to complete an online survey asking questions about their experience with the CATCH program. The survey was adapted from surveys used by the CATCH program. The survey was administered through Survey Monkey, an online survey tool. Twenty-five people completed the survey: seventeen site coordinators, seven assistant teachers and one other staff person who did not identify his/her role with the CATCH program. Twenty-two (22) of the respondents completed the survey using the Survey Monkey tool. Three (3) respondents did not have Internet access, and completed hard copy surveys instead.

The survey was divided into two sections, the physical activity and the nutrition elements of the CATCH program. Instructors were presented with statements and questions about the implementation of the program, the level of effort required, the adequacy of the equipment, children’s responses to the program, and outcomes. Instructors were also invited to provide general comments on what worked well and where there may be opportunities for improvements.

Physical activity

The first survey item asked instructors to indicate not only whether or not children were more active, but whether the increase in activity could be attributed to the CATCH program. There was a strong favorable response with 80% of the respondents agreeing or strongly agreeing (item 1).

Item 1

Children who participate in CATCH are more active as a result of the program.		
Answer Options	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree	4.0%	1
Neither Agree nor Disagree	16.0%	4
Agree	64.0%	16
Strongly Agree	16.0%	4
answered question		25
skipped question		0
skipped question		0

Seventy-six percent (76%) of the respondents agreed or strongly agreed that children enjoy the CATCH physical activities. However, there were three people who neither agreed nor disagreed, and three people who disagreed (item 2).

Item 2

Children enjoy CATCH physical activities.		
Answer Options	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree	12.0%	3
Neither Agree nor Disagree	12.0%	3
Agree	48.0%	12
Strongly Agree	28.0%	7
answered question		25
skipped question		0

Items three-six addressed the level of effort necessary on the part of instructors. Fifty-six percent (56%) of the respondents felt that it did not take too much of their time to implement CATCH physical activities. Eight people were not so certain, and three people agreed that the time required was too much (item 3).

Item 3

It takes too much of my time to implement CATCH physical activities.		
Answer Options	Response Percent	Response Count
Strongly Disagree	24.0%	6
Disagree	32.0%	8
Neither Agree nor Disagree	32.0%	8
Agree	12.0%	3
Strongly Agree	0.0%	0
answered question		25
skipped question		0

Eighty percent (80%) of respondents agreed that the new CATCH physical activities were easily adapted to fit in their current before/after school program. Three people did not agree or disagree, and two people disagreed or strongly disagreed (item 4).

Item 4

CATCH physical activities are easily adapted to fit in our current before/after school program.		
Answer Options	Response Percent	Response Count
Strongly Disagree	4.0%	1
Disagree	4.0%	1
Neither Agree nor Disagree	12.0%	3
Agree	60.0%	15
Strongly Agree	20.0%	5
answered question		25
skipped question		0

Survey participants were asked to indicate how difficult it was for them to prepare for the physical activities. Seventy-two percent (72%) found it to be easy or very easy. Four people found it to be moderately easy/difficult. Three people reported that it was difficult (item 5).

Item 5

I found PREPARING for CATCH physical activities to be:		
Answer Options	Response Percent	Response Count
Very Difficult	0.0%	0
Difficult	12.0%	3
Moderately Easy/Difficult	16.0%	4
Easy	52.0%	13
Very Easy	20.0%	5
answered question		25
skipped question		0

Some instructors found it more challenging to teach the CATCH physical activities. Forty-eight percent (48%) said it was easy or very easy; thirty-two percent (32%) said it was moderately easy/difficult; five people (20%) indicated that it was either difficult or very difficult (item 6).

Item 6

I found TEACHING CATCH physical activities to be:		
Answer Options	Response Percent	Response Count
Very Difficult	4.0%	1
Difficult	16.0%	4
Moderately Easy/Difficult	32.0%	8
Easy	40.0%	10
Very Easy	8.0%	2
answered question		25
skipped question		0

Thirteen people (54.2%) of the people indicated that they use games from the CATCH physical activity box most of the time or always. Five people use them once in awhile (item 7).

Item 7

How often do you use games from the CATCH Physical Activity Box with the children?		
Answer Options	Response Percent	Response Count
Never	0.0%	0
Once in a while	20.8%	5
Sometimes	25.0%	6
Most of the time	41.7%	10
Always	12.5%	3
answered question		24
skipped question		1

Seventy-nine percent (79%) of the respondents found the type and amount of CATCH physical activity equipment to be just right. One person indicated that it was not enough, while four people said it was too much. Negative comments included poor quality of hoops and balls, plastic jump ropes that injured three children and inadequate storage (item 8).

Item 8

I found the type/amount of CATCH physical activity equipment to be:		
Answer Options	Response Percent	Response Count
Not Enough	4.2%	1
Just Right	79.2%	19
Too Much	16.7%	4
If you answered "Not Enough" or "Too Much", please explain.		6
	answered question	24
	skipped question	1
If you answered "Not Enough" or "Too Much" please explain:		
1. Poor quality--hoops are breaking, balls are falling apart.		
2. We did not have adequate storage for all of the materials, but we were able to store our extra materials at our main office.		
3. I have a very small number of children, but next year may be a whole new story!		
4. My afterschool group was a small mix of 5-11 year olds, so there was too much equipment. I stopped using the jump ropes because three of the kids actually hurt themselves due to the plastic material.		
5. I have a relatively small program, so I didn't need as much as was given, but it will most likely be used in the summer program.		
6. There were some things like bean bags that we did not have enough for all 25 or 30 children to participate.		

As a measure of overall satisfaction with the program, instructors were asked whether or not they would recommend the physical activity portion of the program to other before/after school programs. Eighty-eight percent (88%) of the respondents said they would recommend the program; one person neither agreed nor disagreed; two people indicated that they would not recommend the program to others (item 9).

Item 9

I would recommend the CATCH physical activity program to other before/after school programs.		
Answer Options	Response Percent	Response Count
Strongly Disagree	4.0%	1
Disagree	4.0%	1
Neither Agree nor Disagree	4.0%	1
Agree	52.0%	13
Strongly Agree	36.0%	9
	answered question	25
	skipped question	0

There were approximately 20 (80%) people for whom the CATCH physical activity program seems to have worked well. The remaining five people (20%) were either non-committal or struggled with the program. Survey respondents were asked two open-ended questions allowing them to explain both their satisfaction with the program and suggestions for improvement. Their individual responses are presented below (items 10

and 11). While there are few evident themes across respondents, these comments can provide insight into issues that may need to be addressed in individual settings.

Item 10

In your opinion, what aspects of the CATCH physical activity program are working especially well in your setting?
1. Kids love the Dance aerobic activities. After 2 months they got bored with the games. The games are not varied enough. Difficult to play with K-5 grades. Some kids weigh 55 lbs more than others and the K-1 get hurt or are always tagged. We cannot use the gym so we are limited in what we can do on rainy days. The kids love the nutrition lessons.
2. The kids have enjoyed all the activities.
3. My kids love to run so anything with more exercise is the best.
4. Having all the equipment to run the activities is very helpful.
5. The desire to exercise to be healthy and fit.
6. A lot of the activities are easily modified to suit the small number of children in my after school program.
7. Kids loved the flags and tees. That was different than what we previously had. This allowed them to play more things.
8. The fast games, soccer, some of the aerobic games and the parachute. Once we were well into the program, the children took turns picking out activities. Some worked, some didn't due to the age mix, but all at least gave it a try and enjoyed it.
9. They enjoyed the music games, also the parachute and the tag games.
10. The equipment has been used several days per week for exercise (although not always in a CATCH provided activity suggestion).
11. In our setting activities that have few directions. The kids have already had a full day of school and listening to directions. They just want to play. Games that are fun & easy. Parachute, kick ball. Although once they learn a game and enjoy it – it is easier to repeat.
12. The children are not getting bored as easily in the gym. No longer arguing because they are not as competitive.
13. They really like a handful of the games. Their favorite is Bull's Eye. The individual games work better than the group games because of my small enrollment.
14. The kids have really enjoyed all the play equipment we received. They have made good use of them.
15. The vast amount of game ideas. The children like trying new games everyday.
16. The jump ropes.
17. I think that it gets kids involved and they work together more. I see more team work and most of the time they enjoy the activities.
18. Ball games, chase/tag games.
19. They all worked because we have the space for it.
20. It is easy to follow. We have children that range from 1-7 grades. It was nice to have activities that work for all ages.
21. Having the equipment for the kids.
22. The equipment was great.

Item 11

In your opinion, how could the CATCH physical activity program be improved in your setting?
1. I would use it for 2 to 3 months. Take a break--- let the kids enjoy the new playground equipment at our school and then introduce it again after 2-3 months.
2. We are fine in our setting. We are able to use the big or small gym. We have lots of room if there are no activities on the schedule.
3. Be able to use the gym more often.
4. I feel that it is great the way it is.
5. I only implemented it for three months and was not able to experience the whole implementation of it but I did not see anything that needed to be improved.
6. I can't think of any improvements, the Catch program has worked quite well for us.
7. Replace the jump ropes with ones that are nylon.
8. It was geared for more students, I had to adapt it to be used with fewer children.
9. The availability of the equipment is wonderful, the availability of the children varies due to after school strings (music) practice, softball practice, early pickup for other activities. Also, availability of the gym or theater in inclement weather. Plus, some days more homework support is needed. On other days, the school physical education class has had the children run a mile or engage in other strenuous physical exercise, making them less likely to want to engage in more exercise. I think the program is good, but difficult to integrate on a daily basis.
10. The group of kids we have are k-2. The activities are harder for the Kindergarteners. Our 2nd graders are more into it. The program has a lot to offer. We are still learning too.
11. Many of the games can't be played with the number of children I have. Some of them, especially the tag games, are difficult to play with a variety of ages because 5 year olds can't keep up with 8 year olds. Also, I didn't like how the equipment didn't match the activity cards. We got footballs & volleyballs, but no cards for those sports. We got cards for soccer & basketball, but not those types of balls. That doesn't make sense to me.
12. Allow the facilitator to run his/her own activity and have it still count as CATCH.
13. Adapting the games. A lot of them seem to be geared toward a younger group. It would just take extra planning time for the games that seemed interesting but just a little easy.
14. More strategic activities.
15. Different storage for equipment.
16. Nothing needs to be done, it is well.
17. More games towards older students.

Nutrition

Instructors were asked similar questions with respect to the nutrition portion of the CATCH program. Fifty-four percent (54%) of the respondents indicated their belief that children in their programs have better eating habits specifically because of the CATCH program; forty-two percent (42%) were not certain; one person disagreed with the statement (item 12).

Item 12

Children who participate in CATCH have better eating habits as a result of the program.		
Answer Options	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree	4.2%	1
Neither Agree nor Disagree	41.7%	10
Agree	50.0%	12
Strongly Agree	4.2%	1
answered question		24
skipped question		1

A large majority of the respondents (88%) agree or strongly agree that the children enjoy the snacks they made using the CATCH nutrition program guidelines. One person strongly disagreed (item 13).

Item 13

Children enjoy the health snacks made using the CATCH nutrition program guidelines.		
Answer Options	Response Percent	Response Count
Strongly Disagree	4.2%	1
Disagree	0.0%	0
Neither Agree nor Disagree	8.3%	2
Agree	58.3%	14
Strongly Agree	29.2%	7
answered question		24
skipped question		1

Instructors were given the opportunity to indicate the ease of using the CATCH nutrition program in their before/after school program. Fifty-eight percent (58%) of the respondents indicated that it did not take them too much time to prepare the snacks; 29% neither agreed nor disagreed; 13% (3 people) reported that it did take too much of their time (item 14).

Item 14

It takes too much of my time to prepare snacks following the CATCH nutrition program guidelines.		
Answer Options	Response Percent	Response Count
Strongly Disagree	16.7%	4
Disagree	41.7%	10
Neither Agree nor Disagree	29.2%	7
Agree	12.5%	3
Strongly Agree	0.0%	0
answered question		24
skipped question		1

Seventy-nine percent (79%) of the respondents indicated that the CATCH nutrition program was easily adapted to fit into their current program; three people neither agreed nor disagreed; two people reported that the CATCH program was not easily adapted to fit into their current programming (item 15).

Item 15

The CATCH nutrition program is easily adapted to fit into our current before/after school program.		
Answer Options	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree	8.3%	2
Neither Agree nor Disagree	12.5%	3
Agree	54.2%	13
Strongly Agree	25.0%	6
answered question		24
skipped question		1

Eighty-seven percent (87%) of the instructors surveyed reported that they prepare healthy snacks using the CATCH nutrition program sometimes, most of the time or always; two people prepare these snacks once in a while; one person reported that they never prepare the snacks using the CATCH nutrition program guidelines (item 16). A response to an open-ended question found in item 18 may shed some light on the individual who reported that he/she never prepares CATCH snacks. He/she reports: “We don't prepare the snacks because I have a very limited time to work with the kids in my program (one hour) but I send home the snack menus for the kids to prepare with their parents.”

Item 16

How often do you prepare healthy snacks using the CATCH nutrition program guidelines?		
Answer Options	Response Percent	Response Count
Never	4.2%	1
Once in a while	8.3%	2
Sometimes	41.7%	10
Most of the time	33.3%	8
Always	12.5%	3
answered question		24
skipped question		1

In order to assess over-all satisfaction with the CATCH nutrition program, instructors were asked whether or not they would recommend the program to other before/after school programs. Ninety-three percent (93%) agreed or strongly agreed that they would recommend the program; two people neither agreed nor disagreed; there were no respondents who indicated that they would not recommend the program (item 17).

Item 17

I would recommend the CATCH nutrition program to other before/after school programs.		
Answer Options	Response Percent	Response Count
Strongly Disagree	0.0%	0
Disagree	0.0%	0
Neither Agree nor Disagree	8.3%	2
Agree	58.3%	14
Strongly Agree	33.3%	8
answered question		24
skipped question		1

Instructors were asked to identify what aspects of the CATCH nutrition program were working well. Their responses are listed in item 18. Suggestions for improvement are listed in item 19. Most of the comments were positive, with several comments indicating that many of the children enjoy the experience of making the snacks, and enjoy eating them as well.

There were a few suggestions for improvement such as simplifying the information and incorporating additional parent/child activities to increase the likelihood of sustainable healthy changes.

Item 18

In your opinion, what aspects of the CATCH nutrition program are working especially well in your setting?
1. Kids love trying new veggies and fruit.
2. The learning of the healthy foods.
3. The kids have enjoyed the snacks and we have had great conversations regarding nutrition and how they have been able to get their parents to change some buying habits!!
4. The healthy eating part.
5. The use of healthy eating choices, the children want to eat healthier.
6. We don't prepare the snacks because I have a very limited time to work with the kids in my program (1 hour) but I send home the snack menus for the kids to prepare with their parents.
7. The kids liked the alphabetties game, making smoothies, veggie trays, ants on log.
8. The children enjoyed the hands on experience in preparing nutritious snacks. They enjoyed a few of the other activities, but were also tired after school and wanted to focus on play. Hence, I incorporated the nutrition element into snack time and adapted the lessons accordingly.
9. Using the Hearty Heart person they enjoyed. Also the game with all the different food groups and which ones are better for you.
10. The fresh fruits are more readily consumed than canned fruit.
11. Lessons that are quick. Some of our kids we have for only 45 minutes. The kids loved having smoothies and making veggie snacks. The handouts are nice to give the families.
12. Students enjoy making their own healthy snacks.
13. My group didn't like the lessons at first, because they weren't used to having lessons in the program. Once they got used to them, however, they enjoyed them. The kids pay attention and learned the key parts of the program. The repetition works well since it can be several days between lessons, especially for kids who don't attend every day.
14. I like how the book has ever thing step by step and what to say.
15. The yogurt.
16. The kids get to try new fruits and veggies. They really like when we have mixed fruits or salads. They go home and talk to their parents about the healthy snacks they had at YMCA.
17. The nutrition book was really easy to use and follow.
18. We follow the same nutrition guidelines so snacks were easy to make.
19. That the kids get a variety of the different kinds of snack.
20. Activities. Kids make own healthy snack.

Item 19

In your opinion, how could the CATCH nutrition program be improved in your setting?
1. None.
2. Just being healthier eaters.
3. At our site things are fine.
4. Less information, Simplified information for the children.
5. Nothing, I think it was great.
6. Again, can't think of any improvements needed. The sessions are straight forward and easy to follow.
7. Trying new recipes not just talking about labels - some lessons were geared to way younger kids than school age and some were way above.
8. Somehow, it might be good to incorporate parent/child activities rather than just the newsletters home. We can teach the child, but if parents refuse to change, it's hard for the kids to carry the message on a daily basis.
9. Nothing, I thought it was outlined well with the lessons, and charts, and the pages copied for the lessons.
10. Probably changing the required snack menu to include more fresh fruits and vegetables.
11. It's good.
12. More recipes.
13. I had to tweak most of the lessons because they are geared toward older children than what I have. My kindergarteners couldn't do the worksheets. At first I partnered them with older kids, but they still got confused & frustrated the older kids. I found a way to make everything a group activity. Instead of individually writing answers on the worksheets, I would have them shout out answers or would reproduce the worksheet on the board & we'd fill it out together. They began enjoying the program much more when I started doing that.
14. n/a
15. I don't think that I would change a whole lot. I adapted some of the lessons to fit my program. I also adapted the snacks due to food allergies but I found that to be relatively simple.
16. More treats.
17. Having more time to implement CATCH activities on the same day as teaching nutrition.
18. Nothing really-it is fine.
19. Geared toward older kids.

Staff offered additional comments to the YMCA Area Director, Early Learning and School Age Program. It was noted that a limitation of this study was the burden of collecting and entering data. This was especially true of the physical and nutrition activity logs. Evaluation is challenging under the constraints of a small project on a small budget and requires a high degree of dedication and commitment.

Staff offered the following positive comments about the effects of the program:

- A staff person reported, "One parent told me how appreciative she is that we are teaching the children about nutrition. She believes it's important to our society especially with portion sizes that exceed the nutrition guidelines and the amount of unhealthy food that is out there."
- The Skagit Valley Family YMCA Adult and Youth Sports Director reported that, "Children and parents loved this program and looked forward to it. We had one parent change their child's schedule to five days a week because their child loved it so much. A parent at one site where we implemented CATCH before school told us that his child gets up in the morning and is so excited to go to the before school program to do CATCH. Definitely children, staff and parents enjoyed all components of this project."

Summary

A majority of the instructors responded positively to both the physical activity and nutrition components of the CATCH before/after school program. They indicated that it was easy to use, adaptable and effective. However, a few individuals reported that the program was challenging in their setting.

Physical activity component

- Eighty percent (80%) of the respondents agreed or strongly agreed that children who participate in CATCH are more active as a result of the program.
- Seventy-six percent (76%) of the respondents agreed or strongly agreed that children enjoy the CATCH physical activities. However, three people disagreed.
- Some instructors found it challenging to teach the CATCH physical activities. Forty-eight percent (48%) said it was easy or very easy; thirty-two percent (32%) said it was moderately easy/difficult; five people (20%) indicated that it was either difficult or very difficult.
- Eighty-eight percent (88%) of the respondents said they would recommend the program to other before/after school programs; one person neither agreed nor disagreed; two people indicated that they would not recommend the program to others.

Nutrition component

- Fifty-four percent (54%) of the respondents indicated their belief that children in their programs have better eating habits specifically because of the CATCH program; forty-two percent (42%) were not certain; one person disagreed with the statement.
- A large majority of the respondents (88%) agree or strongly agree that the children enjoyed the snacks they made using the CATCH nutrition program guidelines. One person strongly disagreed.
- Fifty-eight percent (58%) of the respondents indicated that it did not take them too much time to prepare the snacks; 29% neither agreed nor disagreed; 13% (three people) reported that it did take too much of their time.
- Ninety-three percent (93%) agreed or strongly agreed that they would recommend the program to other before/after school programs; two people neither agreed nor disagreed; no respondents indicated that they would not recommend the program.

School's Out Washington, Quality Improvement Grant

On behalf of the Skagit Valley Family YMCA, the Skagit County Healthy Communities Project Coordinator applied for and was awarded a \$3000 fresh fruits and vegetable grant that was used to supplement the CATCH nutritious snack program at YMCA sites. The funds allowed staffs to more fully implement the nutritious snack portion of the CATCH program which emphasizes fresh fruits and vegetables.

A staff person gave this account: "Prior to implementing this program we had a child who refused to eat any vegetables. And the fruit he consumed was always processed. After exposure to new fruits and vegetables and creative ways of preparing them, he began to eat them and even requested them at home with his parents."

A parent gave this testimony of his/her child's new enjoyment of vegetables: "I can hardly believe it, my child is asking for broccoli! She has never asked for vegetables. I couldn't even get her to try them. Now she is asking for them at home."

APPENDIX

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