

An Evaluation of Parkview Health's School-Based Physical Activity and Nutrition Program: Planting Healthy Seeds

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Introduction

- According to the CDC, childhood obesity continues to be a problem for today's school children.
- Parkview Health's school-based physical activity and nutrition program: Planting Healthy Seeds (PHS) is aimed at increasing third and fourth grade students' knowledge and behavior change in the areas of physical activity and nutrition with a secondary goal of reducing childhood obesity.
- An evaluation of the program was conducted to assess whether or not program participation leads to increased knowledge and behavior change among third and fourth grade students.

Demographics

- During the 2015/2016 school year, 196 of 879 enrolled third grade students participated in the intervention representing 11 schools in NE Indiana. 477 of 1063 enrolled fourth grade students participated in the intervention.
- During the 2016/2017 school year, 565 of 1038 enrolled third grade students participated in the intervention representing 14 schools in NE Indiana. 459 of 1018 enrolled fourth grade students participated in the intervention.

Methods

- A retrospective, one-group, pre-post-test design was conducted to evaluate the impact PHS had on third and fourth grade students in the areas of physical activity and nutrition knowledge and behavior change as a result of completing the program.
- Evaluation questions addressed in this project included:
 - Is there a difference in children's understanding and knowledge of making healthy food choices prior to program participation when compared to the completion of the program?
 - Is there a difference in children's understanding and knowledge of engaging in physical activity prior to program participation when compared to the completion of the program?
 - Are participants of the program demonstrating positive behavior change in making healthy food choices and/or engagement in and knowledge of physical activity after program participation when compared to healthy food choices and physical activity behaviors prior to program completion?

Methods

- In order to be included in the evaluation, students had to complete both the pre-and post-test questionnaires for at least one of the three components (physical activity, nutrition, and behavior change).

Methods

Table 1: Percentage of participating 3rd and 4th grade students evaluated for the 2015/2016 school year

Component	3 rd Grade	4 th Grade
Nutrition	34%(66 out of 194)	27%(127 out of 477)
Physical Activity	No results (0 out of 50)	28%(74 out of 267)
Behavior	9%(17 out of 193)	18%(58 out of 312)

Table 2: Percentage of participating 3rd and 4th grade students evaluated for the 2016/2017 school year

Component	3 rd Grade	4 th Grade
Nutrition	42%(66 out of 158)	60%(260 out of 432)
Physical Activity	54%(100 out of 186)	71%(115 out of 261)
Behavior	34%(158 out of 467)	34%(77 out of 227)

Results

Table 3: Percentage of positive increase in scoring and no change in scoring by component for 2015/2016

<u>Component</u>	<u>% of 3rd graders with positive increase</u>	<u>% of 4th graders with positive increase</u>	<u>% of 3rd graders with no change</u>	<u>% of 4rd graders with no change</u>
Nutrition	88%(58 out of 66)	70%(89 out of 127)	12%(8 out of 66)	30%(38 out of 127)
Physical Activity	No results	87%(65 out of 74)	No results	13%(8 out of 74)
Behavior	70%(12 out of 17)	57%(33out of 58)	30%(5 out of 17)	43%(71 out of 58)

Results

- Table 4: Percentage of increase in scoring and no change in scoring by component for 2016/2017

<u>Component</u>	<u>% of 3rd graders with positive increase</u>	<u>% of 4th graders with positive increase</u>	<u>% of 3rd graders with no change</u>	<u>% of 4th graders with no change</u>
Nutrition	77%(51 out of 66)	60%(156 out of 260)	23%(15 out of 66)	40%(104 out of 260)
Physical Activity	58%(58 out of 100)	73%(84 out of 115)	42%(42 out of 100)	27%(31 out of 115)
Behavior	45%(71 out of 158)	47%(36 out of 77)	55%(87 out of 158)	53%(41 out of 77)

Discussion

- Despite a low number of students able to be evaluated in relation to the number of participating students in each school during each of the two school years, a relatively high number of students evaluated experienced an increase in post-test scoring when compared to pre-test scoring.
- A relatively low number of evaluated students experienced no change or a decrease in scoring between pre-and post-test scores with the exception of fourth graders during the 2015/2016 school year where 43% of evaluated students experienced no change or decreased scoring.

Discussion

- The results are consistent with study findings detailed in the literature concerning greatest program success seen by programs of the same duration, design, and implementation as PHS.
- Based on the evaluation findings related to each of the three evaluation questions, participation in PHS increases knowledge and positive behavior change in the areas of nutrition and physical activity.

Limitations

- Small sample size
- Program design does not allow for generalization due to the lack of randomization of groups. Flexible nature of curriculum limits ability to fully evaluate program impact
- Lack of adequate and appropriate data to accurately assess program impact due to lack of requirement to administer and turn in pre-or post-tests
- Inability to assess for student recall bias on pre-and post-tests

Recommendations

- Stronger program and evaluation design
- Requiring teachers to utilize both the knowledge and behavior questionnaires in addition to activity logs to improve data collection and evaluation process
- Standardization of program implementation to more adequately align the intervention with state-wide standards and measures already in place
- Have Parkview staff periodically collect data from each participating school to ensure adequate and accurate data are collected

Conclusion

- Although data is limited, it can be concluded based on the evaluation questions used to measure the impact of PHS on students knowledge and behavior change in the areas of physical activity and nutrition that the program does have a positive impact.
- Due to the abundance of missing data and various limitations, further study would be needed to determine long-term impact on childhood obesity at the local, regional, and national levels

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