Increasing Participation for 6th-8th Grades for School Lunches

School Nutrition Management
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Research Question and Hypothesis

The purpose of this study is to determine if students will increase participation in school lunches if they have appropriate nutritional information and actively take part in meal planning. My hypothesis suggests that giving students information and the ability to participate in their nutritional health will result in an increase in the number of students choosing to eat a balanced nutritious lunch provided by the school. This hypothesis will be tested by implementing the following interventions: 1) giving students a better knowledge of the menu, 2) providing an avenue to comment on the menu and suggest menu items and 3) providing basic nutrition education including the effects of not eating or skipping meals.

Introduction

The effects of a poor diet on the immediate and long term health of children is well documented and an ongoing concern for professionals in the field of nutrition and dietetics. As professionals, we understand what should be offered nutritionally, but an adequate menu does not always translate into participation. What would it take to increase participation that could impact the health of kids in the grade schools?
The Centers for Disease Control and Prevention report that schools are in a unique position to promote healthy eating, which is important for proper growth and development, preventing health problems such as obesity, energy imbalance, dental caries, iron deficiency, and osteoporosis (1). A study published in the Journal of Econometrics in 2011 found that the National School Lunch Program (NSLP) reduced the prevalence of food insecurity (students cannot access enough food to sustain active, healthy living) by 3.8 percent, poor general health by at least 17 percent and obesity by 29 percent of its participants (2). The authors of the study were particularly surprised by the decrease in obesity related to providing nutritious lunches.

Skipping meals, particularly lunch, is a risk factor for childhood obesity because it can cause kids to eat unhealthy choices when they get home from school or to over eat when they have dinner. Skipping meals also makes it difficult to get all the required nutrients. Currently, school lunches provide 1/3 of the recommended daily allowances for calories, protein, vitamin A and D, calcium and iron (3). Skipping the meal or replacing essential nutrients with empty calories from excess sugar or fats will have the same harmful effects, not only related to obesity, but also to energy levels, memory and concentration capabilities. Although dieticians understand what it takes to improve the health of kids, the profession must continue to investigate how to encourage kids to eat healthy meals, especially in the controlled environment of the schools (4).

Target Population

The target population for this study is students in grades 6^{th}-8^{th} at Bateman Elementary School. This population of students at Bateman Elementary School historically has a low participation percentage at lunch.

Sample Size

The sample is the total number of students at Bateman Elementary School grades 6^{th}-8^{th} which is 285 students. The number was determined by adding the number of students in the 5 - 6^{th} grade classrooms; 3 - 7^{th} grade classrooms; and 3- 8^{th} grade classrooms. The number of students in each classroom was determined from the Homeroom Statistic Report on March 27, 2012. This is an adequate reliable sampling of the target group since the intent is to change the lunch participation of this small specific group of students, and not make assumptions of students in general. All the students in the study are participants.

Intervention

Effectiveness intervention was used to determine whether knowledge of the menu, having a voice in planning the menu and basic nutrition education regarding the effects of not eating produced increased participation in lunches under likely conditions. Knowledge of the menu was achieved by making sure every classroom received monthly menus in advance, and that the menus were posted in the lunchroom. To give students a voice in the menu planning, a survey was conducted with the sample students to elicit their opinion of current menus and find out what new menu items they would like to see added to the menu. The students received basic nutrition education on effects of skipping meals in two different ways. A bulletin board was put up by the entrance of the lunchroom on the benefits of eating lunch. The students were also involved in a weeklong cafeteria education event, which included the importance of eating lunch. All three interventions were under normal conditions and implemented the way they would most likely be used.

Variables and Control

The dependent variable is the percentage of participation in lunches by the target population. The independent variables affecting the study included: posting the menus, completing the interest survey, the bulletin board by the lunchroom and implementing the week long nutritional education program for the target group. There are also confounding variables, which include: the specific items on the menu for the day, daily absenteeism, and the number of students who bring their own lunches (which may be determined by parents/guardians as much as the students). Confounding variables also include the individual students' interest and willingness to participate in the independent variables, which were designed to impact the percentage of participation in lunches at Bateman. There was no way to control the confounding variables, but the since the data is compared to the preceding month, factors such as weather which may affect absenteeism, menu items, and the target group should be statistically similar. The control group is the percentage of lunch participation by the target group during the month prior to the study.

Timeframe

The control data was taken from December 1st -31st 2011. Intervention started January 13th, 2012 and continued till March 23rd, 2012. The lunch survey was given on January 13th, 2012, the bulletin board was put up February 1st, 2012, and the weeklong education event was March 19th-23rd, 2012. The new menus for the month of February and March were given to each of the classrooms the week before the month started and were put up on the serving lines on the first day of the new menu.

Location

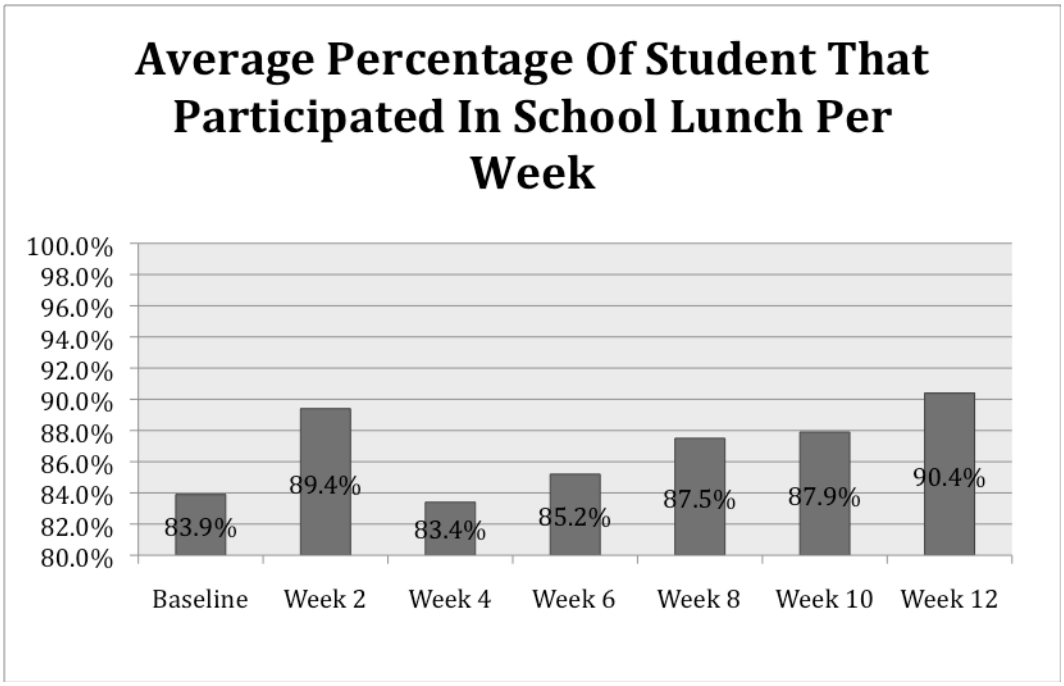
Both the intervention and control was conducted at Bateman Elementary School Chicago, IL.

Methodology

The numbers of 6th-8th graders that participated in school lunch were totaled each day (December 5-9th; 12-16th and 19-23rd). The daily totals were compared to the total possible number of lunches or students to obtain a percentage. The daily percentages were then averaged over the three week period to obtain a baseline average. This information was obtained from the daily lunchroom count records. Once the intervention was started, the Lunchroom Attendants on each of the 3 serving lines recorded the number of students that participated in school lunch in each classroom each day. This was done every other week from January 16, 2012 until March 30, 2012. This produced six weeks of data. The data was entered in Excel 2007 to analyze. The average for every week was determined by adding the total number of meals served each day and divided by the number of days in the week.

Results

The results of this study show an increase in participation starting the 1st week of intervention, which showed a 5.47% increase in the number of 6th -8th graders that participated in school lunch. The average number of 6th -8th graders that participated in school lunch before intervention was 83.9% of total students. After the 12 weeks of intervention that average number of students that participated in school lunch was 87.3% of students, which is a 3.4% increase. The week with the highest average percentage of student participation in school lunches was week 12, during which 257.6 out of a possible 285 students, or 90.4% ate the school lunch. Week 12 was also the week following the weeklong education event coinciding with National Nutrition Month and the last week of the study. The number of students that participated each day was taken from the daily count sheets, which totaled the number of students in each classroom that participated in school lunch each day. These sheets are filled out by the Lunchroom Attendants at the 3 serving lines on a daily basis.



Discussion

The results of this study shows that the hypothesis that if 6th -8th grade students have the information and ability to participate in their nutrition health will have an increased participation in school lunch is correct. However a total of 3.4% increase is not a significant increase to assume the hypothesis can totally be accepted as true. Also, due to this study being a short-term study this may have impacted the results. Since the study is only done in one school it limits the diversity of the participants. Since over 80% of Bateman qualifies for free lunches it is a low-income population. To get accurate results this study could be replicated in other income populations. Also, the amount of time for nutrition education during lunch is limited therefore if there was set time for nutrition education it could impact the results.

Conclusion

This study shows that including nutrition education, menu knowledge and a voice in the menu increases participation in 6th -8th graders in school lunch. However this study is short term and may not show the same results over a long time period. To determine if these results are a good representation of participation in lunch programs for other 6th -8th grade students, it should be replicated over a full school year, and possibly at a number of schools. It would also be important to determine if student's participation will stay at the same level post intervention which would a good indication the interventions were significant or if the interventions affected participation on a short term basis. The interventions were easy to implement, took very little time during the lunch periods and easily replicated.

To take this study further, there are other interventions that were not possible in this study such as weekly nutrition education, daily announcement of lunch choices, and monthly menu committee meeting on menu preferences. These could possibly also affect participation and should be considered for future studies. Although there were a number of confounding variables affecting the participation, the results of the study suggest that planned interventions that are age appropriate and interactive may impact the participation of 6^{th}-8^{th} graders in the school lunch program. Since this was the first project investigating the possible effects of interventions to increase participation in lunches at Bateman Elementary, additional studies are necessary to determine if these results are valid.

Work Cited

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