Nutrition Education for Students with Developmental Disabilities
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Needs Assessment

Methods

The nutritional needs assessment was conducted on Thursday, October 13, 2022, at 1:30 PM at Springbrook in Oneonta, NY, and was geared towards both the students and the teachers in the class. For the students, a PowerPoint presentation was administered where the students would identify foods that are “good” or “bad”. Students would do so by providing either a thumbs up or thumbs down response depending on their understanding of “good” or “bad” foods. A period of observation during a mealtime was conducted to gather a better understanding of the classroom and the students’ behaviors. The teachers were assessed through a series of questions on a questionnaire that would identify their nutrition knowledge and the best way to conduct a nutrition intervention.

Results

On a scale of 1-10, the teachers answered with an average of 5.7 of nutrition knowledge. Two out of the four teachers identified the students needed help with portion control. 42% of students identified vegetables as “bad” foods and 50% of students identified candy as “good”.

Goals and Objectives

Goal: Improve Renee Vilbrin’s students’ quality of food preparation skills and portion knowledge through an interactive food demonstration.

Outcome Objective 1: 60% of students will be able to show proper handwashing skills after demonstration.

Outcome Objective 2: 60% of students will be able to properly portion their energy balls after demonstration.

Intervention Methods

Based on the needs assessment, two interventions methods were best identified; one on handwashing and another on portion control. All were performed during hands-on food demonstration.

For handwashing, students first washed their hands with no advisement. An observation form was utilized and contained information on whether soap was used, if a towel was used to dry, and other actions. Following the students washing their hands, a handwashing demonstration was provided to educate the students on proper handwashing technique. Finally, post food demonstration and eating, the students were advised to wash their hands again, and the same evaluation form was used to identify improvement (Figure 1).

For portion control, the recipe of choice for the food demonstration was no-bake almond butter protein balls. The recipe was chosen based on simplicity and engagement potential. Once it came time to roll the protein balls into spherical shapes, students were instructed to roll their protein balls with no advisement. The size of the protein balls were recorded on an observation form. Following the recording of the sizes, proper serving size of the protein balls were demonstrated. The students then rolled more balls, and on the same form, the size of the protein balls were identified again to indicate improvement. The amount eaten by the students was also noted to identify adherence to the recommendations (Figure 2).

Discussion

Originally for the handwashing demonstration, the plan was to present a short (20 second) handwashing video to the students. When on site and interpreting the scenario, it was believed that not using the video may be the most effective, as the students were presented with lots of information at once. An in-person handwashing demonstration was then executed for the students which worked well under the given circumstances.

What worked best for this population was the interactive element of the food demonstration, as when the students were rolling the balls, they were more apt to listen. When educating the students on portion control and there was no interactive element, it was difficult to gain their attention.

What could be improved would be to find a way to include both nutrition educators more. For the majority, one educator was doing the presentation while the other was taking notes. If there were a way to include both nutrition educators, it would make a positive impact.

For future groups, in order to be successful, it is vital to be adaptable and flexible in the classroom. Things may not go as originally planned, but there are still ways to gather information to identify if the intervention was successful or not.

Outcome Results

Outcome Objective 1:
• 75% (n=4) of students showed improvement in handwashing practices
• Average length of handwashing increased by 13.85 seconds

Outcome Objective 2:
• 66.7% (n=4) of students were able to portion their protein balls correctly after the intervention
• 75% (n=4) of students consumed an inappropriate portion of protein balls

Conclusion

The results indicated an improvement in the target population’s ability to practice and knowledge of safe food preparation skills.

The results from the handwashing demonstration indicated an increase in average length of time spent handwashing; pretest average length was 7.75 seconds, and posttest average was 21.6 seconds, which is much closer to the correct time. One student did not participate in the post test evaluation, but the other three students demonstrated better handwashing practices after the intervention; providing a 75% success rate. This success rate was higher than the set objective goal of 60%, indicating a successful intervention.

The second outcome objective was a partial success, as 66.7% of students correctly portioned their protein balls after intervention. This is 6.7% higher than the set outcome goal of 60%. However, while the size of the protein balls were correct, the students ate, on average, 4 protein balls which was 4 times the serving size. This indicates that while the students may understand portion sizing, the intervention was not successful in teaching proper portion control.

Key Takeaway

Nutrition intervention strategies can be tailored to meet the needs of the population; interactive food demonstrations are an effective way to provide nutrition education for students with developmental disabilities.

Fig. 1: all participating students showed improvement in handwashing procedures.