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Objective: Assess the effect of nutrition education on the knowledge and habits of elementary students in order to determine effective ways to improve healthy habits

Design: Quasi experimental design

Setting: Ossining Elementary School, in person

Participants: Elementary students (n=18) ages from 9 to 10

Intervention: A one day nutrition education PowerPoint lesson on the five food groups/ vitamins and an activity. The effects were measure using a pre- and post- exam taken by each participant.

Hypothesis: The implementation of the intervention will improve the student's nutritional knowledge as well as excite the students to continue to learn about nutrition among elementary school children at Ossining Elementary school.

Results: The primary finding resulted the implementation did impact the student's nutrition knowledge positively.

Conclusion: The study can conclude the implementation of nutrition education did increase the elementary student's knowledge of the five food groups and vitamins.

- All individuals require nutrition to operate, but children require even more to grow and develop properly. Children who don't get enough nutrients are more likely to suffer from dietary deficiencies and are more prone to acquire chronic illnesses like Diabetes, Obesity, High Blood Pressure, etc.
- Children are limited to nutrition education within school districts
- Some studies have shown prioritizing educating students on the importance of limiting the consumption of sugars but limited data on the importance of understanding the five food groups and vitamins.
- The implementation of nutrition education may increase interest in learning more about nutrition
- The results from the needs assessment reflected a need for nutrition education for the elementary students.
- The purpose of the study was to determine the effectiveness of nutrition education on elementary students nutritional knowledge and habits during a one day intervention.

• This study was conducted at Ossining Elementary School in 2024

• There was a total of 18 students who participated within the study

• For this study, quasi experimental was the design which was used to help determine if the hypothesis was correct or incorrect

• During the session, the students were provided with a PowerPoint lesson and a physical activity based on the nutrition information taught.

• The students were educated on the five food groups and Vitamins

• Student performance was evaluated using pre- and post- test surveys; which consisted of ten multiple choice questions regarding vitamins and the food groups

• The data was analyzed using a t-test on IBM SPSS software

The participants (n=18) stated they had a positive experience learning about the various topics of nutrition-based information. This feedback was reflected based on the pre- and post- intervention results; this test was used to assess the participant's knowledge of vitamins and the five food groups. The students were graded based on the number of questions they answered correctly to the total number of questions which was 14. There were 10 nutrition-based questions on vitamins and the five foods groups as well as four questions regarding their thoughts about their overall experience throughout the study. The data indicated a significant difference in pretest to posttests overall scores (P=0.001) in figure 1 and figure 3 which is presented below.

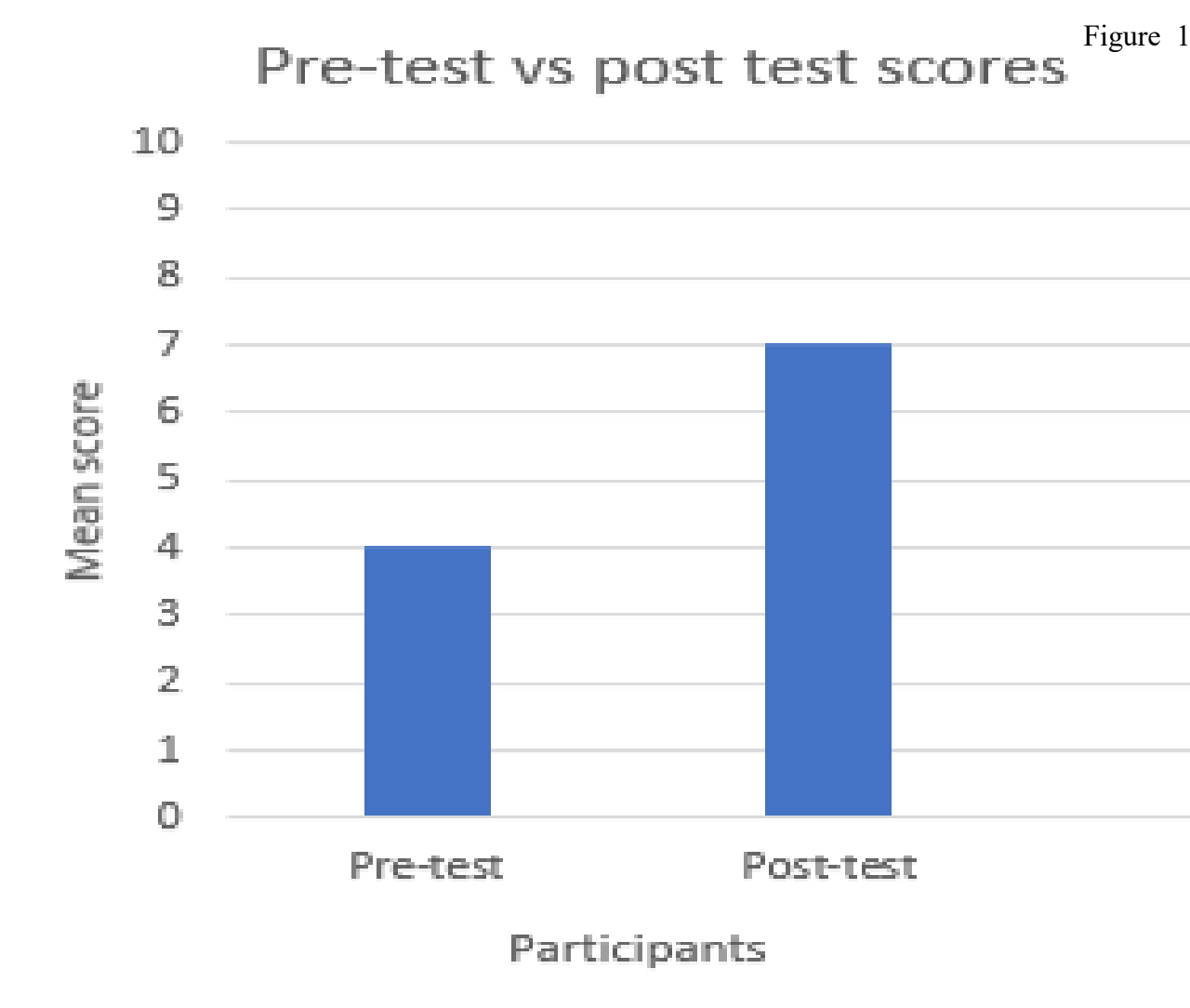


Figure 1: The results from the pretest reflect the mean of the participants (n=18) answered 4 out of 10 questions correct regarding the nutrition information. Whereas after the intervention the mean results of the participants improved to getting a total of 7 out of 10 correct. The overall changes reflect a statistically significant change (P=0.001*). * = p<0.05

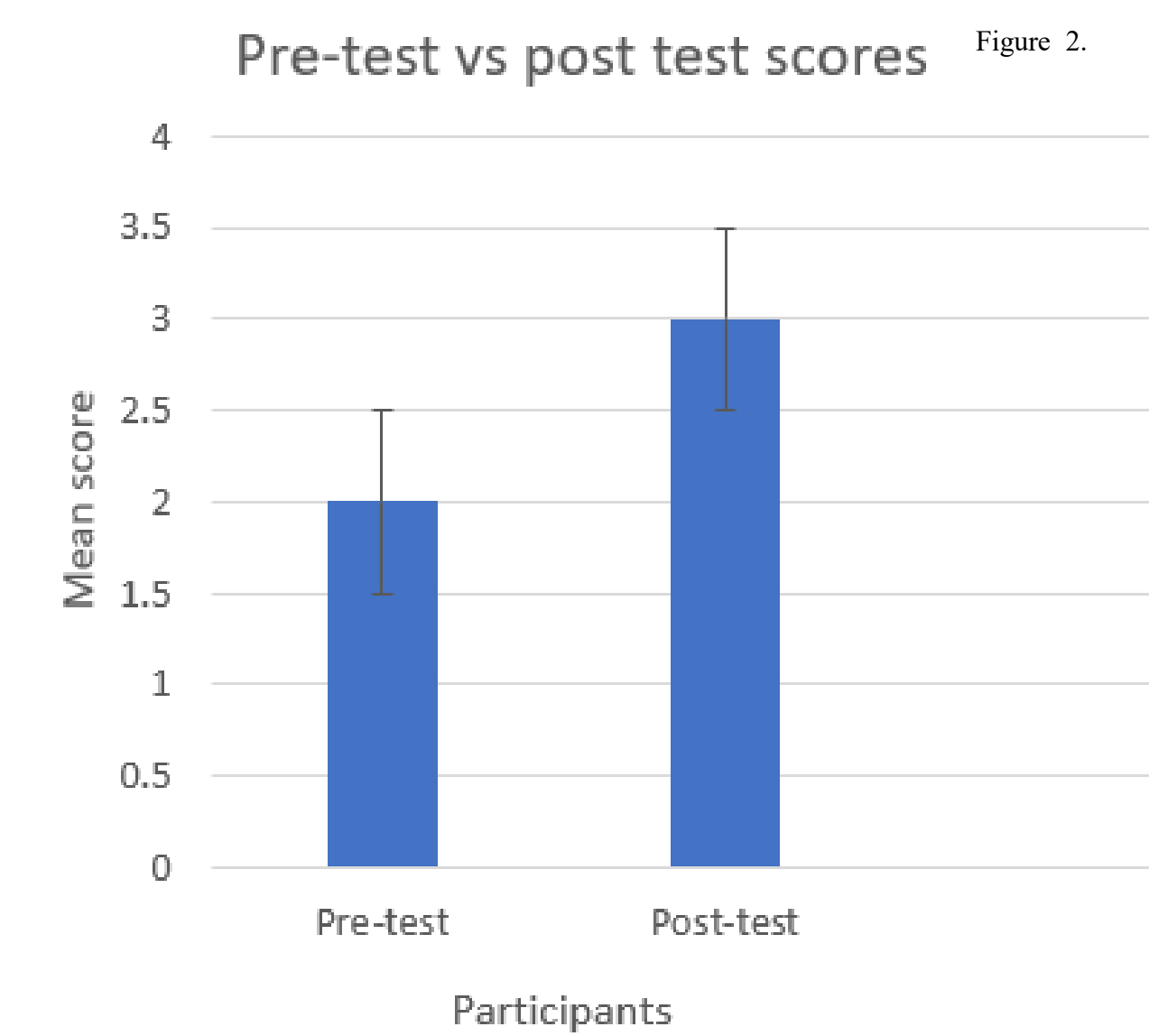


Figure 2: These were questions based on the five food groups within the pre- and post- test in which had a total of four questions (#1, 4, 5, 12). The results from the pretest reflect the mean of the participants (n=18) answered 2 out of 4 questions correct regarding the nutrition information. Whereas after the intervention the mean results of the participants improved to getting a total of 3 out of 4 correct. The overall changes reflect an improvement but not statistically significant change (P=0.001).

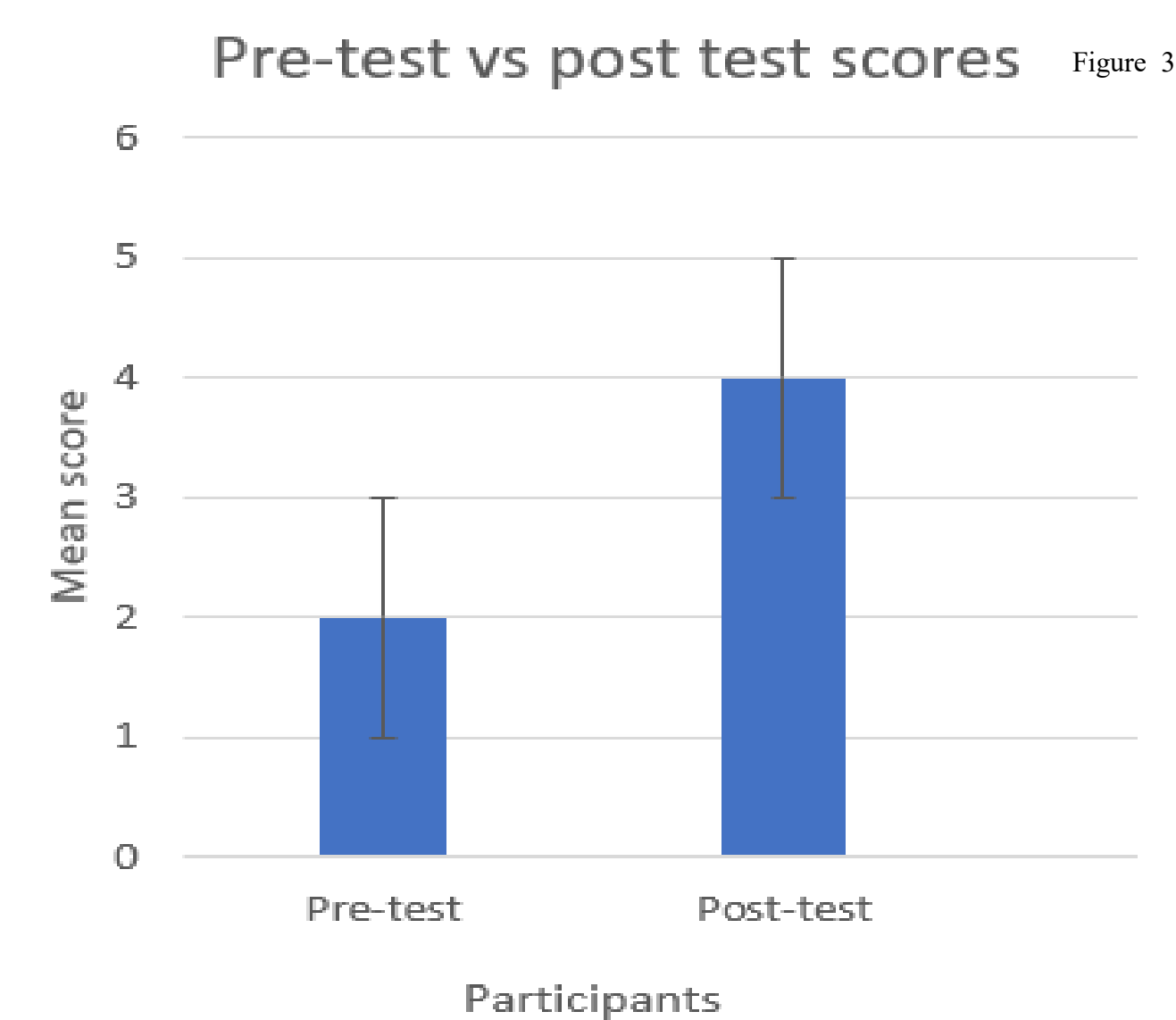


Figure 3: Similarly, the pre- and post- test had six questions (#2, 3, 6, 7, 8, 10) regarding different vitamins and where they are sourced from. Each question was used to determine their comprehension of the vitamins before and after the nutrition intervention. The mean scores were 2 of 6 questions corrects for the pretest whereas the posttest 4 of 6 questions were answered correctly by the participants. This is a (50%) increase in total scores after the implementation of the intervention which reflect a statistically significant result (P=0.001). * = p<0.05

• This study supports the implementation of nutrition education was effective to the participants of the study. This result was determined based on the data collected on the pre- and post- test; all sections within the test had a statistically significant (P=0.001) improvement among the results showing the effects of nutrition education among the population.

• In comparison to other studies like “The effect of teacher-delivered education programs on elementary aged students” by Dudley et al.² this study conducted a similar study with the result of improvement in nutritional knowledge. But, among this study their direction as well as other studies assessed the students on different information like sugar consumption.² This reflects the importance of providing nutrition education to students in order to create a better relationship with food and preventing chronic conditions from developing during early ages of adolescence.

• Within this study, there were a few limitations one being the students sitting closely together. This was a limitation because the students could have helped one another which could have altered the data. The second limitation is the sample size of the study was small, this is a limitation because it directly affects the external validity of the study.³ The third limitation would be the intervention was only one day, if it were longer there could have been more significant changes in the student's nutritional knowledge

• Overall, the nutrition education intervention conducted at Ossining elementary school district had positively impacted the student's nutritional knowledge regarding vitamins and the five food groups. These results can be concluded based on the data gathered from the post- test mean scores.

• In conclusion, the hypothesis was supported throughout the study which can conclude there is an impact of elementary student's knowledge and habits with the help of nutrition education. With continuation of providing nutrition education to the young adolescents it can increase healthy habits and decrease risk of the development of chronic conditions in their adulthood.

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