**INTRODUCTION**

 Understanding the role of oral health education within the framework of dentistry allows for optimal methods of patient centered care focusing on disease prevention and treatment. Within the scope of oral health education, hygienist are at the forefront of providing research based recommendations that facilitate improvements in their patient's lives. Hygienist play a crucial role in providing necessary guidance as it relates to the overall health of the mouth. Providing this care can take place in a variety of settings. In addition to formal clinical settings such as the dental operatory, there are unconventional and informal methods of providing patient education. These can take place in settings such as schools. For the purpose of this service learning project we took the opportunity to provide oral health education to a group of 30 middle school children, 10 through 13 years of age. Providing oral hygiene recommendations to this cohort gives them an opportunity to learn about the importance of proper oral health at a time when it's beneficial to their development as they approach the adolescent stage of life when opinions of peer groups matter highly to many kids. An example of this would be a 13 year old going into high school and having unpleasant oral hygiene. This could surely affect the self-esteem of the child at such a vulnerable point in their life. Providing simple oral hygiene suggestions to this group could be the catalyst to spur further curiosity on the importance of oral health for a lifetime.
 Additionally the literature expands on the importance of proper oral care in the prevention of caries, a common dental disease. According to the study *Oral Health Promotion in Children and Adolescents* published in the Department of Pediatric Dentistry, at the University of Washington, Seattle, “*Dental caries may interfere with a child's ability to eat, sleep, and learn, and it can have a significant impact on their self-esteem. Because caries affects individuals* *disproportionately, it is essential that those at the highest risk are identified early so that preventive therapies can be targeted toward those who are most likely to benefit.”* For this project we chose to focus on tooth brushing as a means of plaque control and debridement which as we know are vital in the prevention of carious lesions. The presentation included educational material with clear and easily understandable material that the children could see and touch. All presenters involved brought typodonts in order to showcase proper brushing technique. The literature is clear on the importance of proper oral health early in the child’s life. We aimed to provide the instructions to the children as a means to promote the benefits of proper oral health.

**ASSESSMENT**

The target population in our Service Learning Project are the students whom we presented to, pre-teen children of ages from 10 to 13 year-olds. Majority of the children are of African-American ethnicity. Socio-economic status of the population was not documented or determined for this project. There is a fair distribution of both male and female children in the population. The students all reside in the New York City area where local water supply is fluoridated. Some of these children were undergoing orthodontic treatment and some report that they were planning to undergo orthodontic treatment in the future.

 In this age group, all teeth in the permeant dentition should be erupting or have completed erupting, excluding the third molars. Some members of the population may still exhibit a mixed dentition. Although periodontal disease and gingivitis is not statistically prevalent in this age population, evaluation for periodontal disease should still be conducted. 1 Additional education of preventative measures can also decrease risk of periodontal disease, especially when the population ages into an adult, where periodontal disease is much more prevalent.

In the National Health and Nutrition Examination Survey of 2011-2014, it was found that 6.1% of children ages 6-11, and 14.5% of ages 12-15 had dental caries. These percentages only increased as ages 16-19 held 22.6%. 2 In perspective, this means that every 22 out of 100 16-19 year-olds may have active caries. Our target population will one day reach that age range and fall into the statistics of possessing untreated caries. With orthodontic treatment, there is also an additional increase for caries. Patients with orthodontic appliances are at a higher risk of demineralization of the enamel, which may progress further into caries. 3

**PLANNING**

 The planning portion of the presentation began with identification of the prospective group. We contacted Cambria School of Excellence and brought forth the idea of presenting to a small group of their students about the importance of proper oral hygiene. We decided it was beneficial to present to a group that were going to be open to the ideas we were presenting. We felt as though kids within the age group we were considering were impressionable enough and open to new ideas and thus this would be a good population to provide the oral health instructions to. The first step was to get in contact with the school and receive permission to come in and present the material. A specific date and time was set in advance in order to make the presentation go as smoothly as possible. The primary goal of the presentation was to determine if the children could grasp and implement the recommended brushing technique without complications. One objective we sought was to have the children engage in a discussion of oral health and why it matters. We wanted the students to get a good idea of what the implications of not taken proper care of their mouths were. The planning of the presentation allowed us as presenters to provide the best oral health instructions in a way that was easily engaging and accessible to the students.

**IMPLEMENTATION**

Our goal for this project was to provide the kids with proper information on the importance of brushing their teeth the appropriate way. After we gave a lecture about the significance of tooth brushing & showed the kids pictures and brochures of healthy vs non-healthy gums, we had the kids break up into a group of about 6 kids per student. We each had our typodonts and toothbrushes & showed the kids the proper tooth brushing techniques. We went around and had the kids actually show us how they brush their teeth. Some things we noticed were that some of them were missing the “hard to reach areas” and were using too much pressure. We then showed them and explained the importance of getting to each surface and using a light touch. They also did not show us that they brush close to their gum lines so we went ahead and taught them “The Modified Bass Method” and the kids were excited to go home and try it out! While they were practicing the Modified Bass Method on the typodont, I asked the kids how often they change their tooth brush and only ONE of them said every month. The others hadn’t changed it in over 6 months. Fortunately, we handed out new tooth brushes to all the students and they were all ecstatic. Overall, the kids had a great time learning and were very eager to go home and implement our teachings. They even told their teacher they wanted us to come back again next year! Just by hearing them say that, made us realize how much they enjoyed our lesson & how successful it was.

**EVALUATION**

 When it comes to the public and a bigger population of patients, we cannot evaluate the treatment or operation on a single person. To evaluate the effectiveness of the program, we have to evaluate the population as a whole and gather feedback. After presenting the information to the group of children, we have to evaluate the program and receive feedback. The evaluation of the program was observed throughout the presentation and at the end, the teacher asked the children for their feedback of the presentation.

Throughout the presentation, the children were very engaged with the presentation and very eager to learn more about tooth brushing and proper oral hygiene. As part of our presentation, we asked general oral hygiene questions and provided free toothbrushes those that answered the question correctly. This method really helped grab the audience’s attention. It made the children more willing to participate if they knew they would be rewarded for it. The children showed a lot of interest in the presentation, and asked a lot of very good questions. They were unaware of what happens with poor oral hygiene, and many were shocked at the new information.

At the end of the presentation, the teacher asked the group of children for their feedback and what they learned. They were all shouting very positive comments and some even requested for us to come back again. With the teacher asking questions pertaining to our presentation and what we explained, the children were able to answer the questions with confidence. It showed that they were actively paying attention to the presentation and they remembered the information that they were presented with. The purpose of this presentation was to inform the children about the importance of tooth brushing, and the program was a success. The children learned the importance of good oral hygiene, and they understood the consequences of poor oral hygiene.

**CONCLUSION**

 Many people in the U.S. are not taking care of their oral health. Tooth brushing is one of the most important factors in plaque control and maintaining good oral hygiene. Many people are not brushing properly whether it is applying too much pressure, using a hard bristled toothbrush, or not brushing long enough. That is why we chose to teach a group of young children around the ages of 12-13 the proper way of brushing their teeth. At this age, many of them have their permanent dentition or are in the process of their permanent dentition erupting. Teaching them the proper way to brush their teeth at an early age prevents caries later down the road as well as periodontal disease.

 A tooth brushing presentation was presented to the group of children, and we broke them into smaller groups. Each of the group members had a small group of children and we used typodonts to demonstrate the modified Bass brushing technique. It was interactive and got the children to do hands on activities with the typodont and mimic the modified Bass brushing technique so they can do the same at home. In groups, we also answered some questions that the children had for us. Overall, I feel that the project was very successful. It got the children thinking about proper oral health and most of them realized that they weren’t properly brushing for 2 minutes twice a day. They enjoyed the program and they asked for us to come back again next year. The objective and ultimate goal of the project was successful and we hope to have played a small role in these children realizing, understanding and valuing the benefits of having excellent oral health.