

New York City College of Technology



Creating Oral Health Awareness: Happy Teeth Make Healthy Teeth

Service Learning Field Project Activity

DEN2413 D270 Introduction to Public Health (Wednesday am)

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Group 2 members: Tatyana Aksaeva, Hanna Jo, Nastassia Liaushun, Dirien Santos
and Roseanna Torres

Professor: Anty Lam

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Contents

Introduction	1
Assessment	2
Planning	3
Implementation	4
Evaluation	6
Conclusion	8

INTRODUCTION

According to The Academy of Pediatric Dentistry, special needs children are defined as those who have chronic physical, developmental, behavioral or emotional conditions.¹ Developmentally disabled children usually have significant physical and cognitive limitations along with complex health care needs.

Children with developmental disabilities that include conditions affecting behavior and cognition, usually have limited abilities to carry out the activities of daily living. Children with autism spectrum disorders, intellectual disability, cerebral palsy, craniofacial anomalies and other health conditions will have special health care needs as well. The challenges that these children will face will be more severe than a typical child and could possibly last a lifetime. They will need extra support, guidance and additional services. This may include needing help meeting academic, social, emotional and sometimes medical milestones.² Early intervention is a process during which the developmental abilities of the child are evaluated.² It is a critical part of helping these children reach their full potential.² If necessary, an individualized program is developed (based on the child's specific needs) that contains services that will help to further enhance the child's developmental skills and encourage developmental growth.² The families of these children with special needs can also face emotional and financial challenges. They may experience a myriad of emotions upon diagnosis, including anger, grief, loss and denial.²

Children with special health care needs comprise a growing segment of the population.² This is mainly because of increased access to early diagnoses, better recognition of developmental conditions and an increase in the occurrence of qualifying conditions.²

ASSESSMENT

One can ascertain that because children with special needs are limited in their abilities to carry out the activities of daily living, this would include their oral hygiene regimen. Additionally, because they could be taking regular medication containing a high sugar content (which may also cause gingival hyperplasia and xerostomia), they may currently experience a reduced clearance of foods from the oral cavity, impaired salivary function, prefer foods that are rich in carbohydrates and may only take a liquid or puréed diet, they may be at a greater risk for oral disease.³

Despite the knowledge that optimal oral health is achieved through preventive dental visits, toothbrushing with fluoridated toothpaste and eating a healthy diet, many young children have poor oral health including dental caries and gum disease.⁴ This can lead to long-term problems such as excessive absences and poor performance in school, chronic diseases, hospitalization for severe dental problems and overall reduced quality of life.⁴

Children with developmental disabilities are at a greater risk for dental caries and other oral diseases due to several factors including compromised immunity and aversion to dental treatment.⁴ Also, the more special therapies or services the child needs, the poorer their oral health is.³ Home-based oral hygiene (specifically toothbrushing) can be difficult for these children. Some have sensory impairments that make tolerating toothbrushes or fluoridated toothpaste difficult.⁴ Others lack the necessary motor skills to independently brush their teeth.⁴ There are also outside factors that create barriers for proper toothbrushing instruction such as parents' oral health beliefs, social norms and external constraints such as time pressures and uncooperative child behaviors.¹ Oral health may be further compromised by consuming a diet high in carbohydrates since these children may need to gain weight or correct a nutritional imbalance.⁴

The need for early and continuous dental services is higher among children with special needs and dental services are costly.³ Dental care is the most common unmet health care need among these children.³ Dental care, (especially when the kids are young and the teeth are just growing in) isn't a priority. If these children are also from low-income families, there is a greater risk for poor access to care and for developing dental disease.³

PLANNING

For our Service Learning Field Project activity, our group decided to target developmentally disabled children under 6 years old. These children are less likely to receive preventive dental care than those who are school-aged.⁴ We chose to develop an oral hygiene education program for the children at the East River Child Development Center. This center offers educational and therapeutic services for children between the ages of 2 and 5 as authorized by the local school district CPSE.

Considering that we would be presenting to a large group of children (24) all varying between the ages of 2 and 5, the next step was to research how to develop an appropriate lesson plan and what methods to use to effectively teach and instruct children with special needs.

Because we would be presenting in the students' classroom (an area that is used for multiple purposes) we decided to use several visual cues to create a targeted learning environment. Besides our numerous props, we also created a poster board featuring large, colorful pictures of "cartoon" teeth, toothpaste, floss, healthy and unhealthy foods and a "cartoon" hygienist. The intention was to have the children maintain their focus.

The next part of developing our program was to create a lesson plan and a script. Developing a script helped us to use vocabulary and syntax that would be compatible with the children's

developmental level. It allowed us to easily transition from “professional dental hygiene students” to “tooth fairies.” We used various strategies to make directions and learning expectations clearly understood, such as self-demonstrating the hands-on activities prior to student participation. When creating the lesson plan, we made sure to use the following directive questions that are recommended to help to keep a child with special needs on track during a lesson²: How much work is there to do in this task?² What exactly am I supposed to do?² When do I do the work?² What is my payoff for doing the work?²

Our lesson plan was divided into categories for each planned activity. To keep within the one-hour timeframe of the lesson, we allotted a specified number of minutes per activity. Each activity described featured several structured opportunities for the children to participate in social interactions. Children with disabilities are sometimes excluded from social interactions with their typical peers.²

Another important part of developing our lesson plan was to give the children “helping roles.” For our toothbrushing activity, we would ask the children if they wanted to “help” Dudley the Dinosaur (toothbrushing puppet) get all the sticky candy and germs out of his teeth. The purpose of this activity was to empower the children and to make them experience the role of the caregiver.

Some of the alternative modifications to our program included developing a PowerPoint presentation, playing a short movie and creating 5 “learning stations” instead of 3. These were all dismissed due to time constraints and the anticipated limited attention span of the children.

IMPLEMENTATION

The first part of our oral hygiene education lesson was the introduction. Instead of introducing ourselves as “dental hygiene students” we used the term “tooth fairies” so that the students would

make an easier association. We asked the children basic questions about teeth to engage and motivate them to be involved. While asking questions such as “Does anyone know what this is?” we would hold up a cartoon tooth picture cutout or refer to our poster board of pictures.

To make the transition from the introduction to the first learning activity, we introduced the concept of “playing some games.” The purpose of this was to create positive-association towards the activity. Since the first learning activity was about toothbrushing, the children were asked some general questions such as “Does anyone know how long we are supposed to brush our teeth for?” The questions ensured that we had the students’ attention before giving directions. Since children with disabilities do not always make eye contact, even when they are paying attention, we looked for other signs such as alert posture, orientation towards us, stopping other activities and verbalizations.² We demonstrated to the children how to brush in circular strokes, first brushing the outsides of the teeth and then the insides and the tops. Then the children practiced by “helping” Dudley the Dinosaur learn how to brush. The materials used were typodonts, the dinosaur puppet and large plastic toothbrushes.

The second learning activity was geared towards flossing. The children were told that flossing goes along with brushing and that it is important to remove germs from between the teeth. The children then practiced on a row of “teeth” (plastic ice cube trays) filled with “bacteria” (play dough) and 18-inch lengths of “floss” (yarn). We showed the children how to guide the floss gently between the “teeth,” pulling it up, down and around to clean both sides of the teeth and the gum area.

The last learning activity revolved around nutrition. We talked to the children briefly about sugary foods and how they can be harmful to the teeth. Then we showed them how to identify foods that can cause cavities and tooth decay. Part of this activity was to play the “food sorting game” in

which the children could choose a type of food and decide if it goes in the “healthy” or “unhealthy” category. Instead of using the words “healthy” and “unhealthy,” we described certain foods as making teeth happy and others that make teeth sad. Materials used were plastic play “foods” and two boxes labeled “healthy” and “unhealthy.” Two “tooth” cartoon cutouts of “happy” and “sad” teeth were placed directly above the boxes so that the children could determine the difference.

EVALUATION

We used several methods to measure the effectiveness of our presentation. To demonstrate to the children that they should be proud of themselves and to commit to practicing good oral hygiene habits outside of the classroom, we presented each of them with a personalized certificate of achievement. The certificate could be colored and taken home to be displayed to remind them to take care of their teeth. We then reviewed what the children had learned by briefly reminding them to brush and floss every day and to make good food choices. The children were encouraged to ask questions. Before the lesson concluded, we performed a short song about brushing and flossing. We danced and sang along with the children. This activity represented a celebration of what the children had accomplished. The purpose of this was to reward the children for their attention and involvement during the entire course of the lesson.

To reinforce the lesson outside of the classroom and to motivate the students to keep practicing what they had learned, we asked the teachers to distribute the “goodie” bags that we supplied. They were filled with age-appropriate toothbrushes, a full-size children’s fluoridated toothpaste and a small storybook about oral hygiene. The children also received several other resources such as a coloring book, an at-home activity consisting of making a box to keep lost teeth in and a flyer with tips for parents on how to take care of their children’s teeth along with a reward calendar for brushing two times a day. To encourage the children to receive a dental exam, we provided the

faculty with flyers to distribute to the parents, advertising our clinic services, prices and contact information. Overall, we believe that the program accomplished what we had intended. Throughout the lesson, the children were continuously focused, entertained and involved.

Should we present this oral hygiene lesson again, there are some changes that we would implement. It would have been beneficial to be able to set up in the children's classroom prior to them entering. When we arrived in the lobby, the children were already walking into the classroom with the faculty. When we entered the classroom, the children were already very excited for us to start. Because there was no time to set up our props and get organized, we felt a bit rushed to begin. Additionally, one of us had planned to stand behind the children and faculty to serve as a time keeper and to move the activities along. However, because the classroom was already filled and our teaching space was small, this was not possible. Therefore, we initially moved too quickly through the introduction and the first activity before finding the right pace. More practice beforehand might have helped to correct this issue. To facilitate displaying props and materials, a space with several small tables and chairs would have been helpful for the hands-on activities. To work around this, we used a couple of chairs and held everything at the level of the child.

There is also one part of the program that should be modified for future presentations. When the certificates were given out, one by one, some of the children approached but several of them were not interested and remained seated. The children who did come up to get the certificate were easily distracted and became involved with playing with the props and materials. When asked for their names, some of them were shy and it was difficult to understand them. These factors caused this part of the program to lose some of its effectiveness. Perhaps the certificates should have been given to the faculty to distribute along with the other post-lesson resources.

Although it was not part of our program, a separate information session for parents would have been a very beneficial component. It would be interesting to hear from parents regarding the challenges that they face when implementing oral hygiene routines for their child with special needs. These parents would probably greatly benefit from some advice and instruction regarding home-based oral healthcare. It would also be a great opportunity to introduce important topics that are too advanced for children, such as the benefits of in-office fluoride treatments and sealants. In retrospect, a short, simplified description of these services should have been added to the flyer that was distributed to the parents.

CONCLUSION

Early intervention programs such as the one implemented with our oral hygiene education lesson provide an excellent opportunity to engage children with special needs. These children are at high risk for poor oral health and services for them are usually limited and only delivered in response to a problem.⁴ Because of this, it is very necessary to identify effective ways to improve coordination of oral health-related activities across community-based organizations such as the East River Child Development Center. In developing and modifying future programs, it would be very helpful to gain insight from the parents, dentists and medical providers as to how to improve the delivery of oral health care education and services to children with special needs.

The current population has a greater need for oral healthcare because children with disabilities are much more likely to survive into adulthood than they would in previous decades. That is why it is so important to educate these children and their caregiver(s) about good oral hygiene habits early on.

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