

Behavioral Improvement Resulting from Oral Health Care Training in ID/DD Adults

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Oral health is a concern for all persons with disabilities. A Surgeon General report in 2000 describes a number of local and regional reports indicating people who have ID/DD have a significantly higher rate of poor oral hygiene and need for periodontal disease treatment than the general population, due to a wide variety of factors. Access to dental services is another barrier as reflect in a 2007 study completed by the Department of Health and Senior Services. Dentists that are willing to provide services to the disabled population are few. This number is affected by low reimbursement for care from Medicaid, lack of training and difficult or combative patients that are not used to having oral stimulation.

The overall goal of the project was for individuals who have intellectual and developmental disabilities (ID/DD) to receive better daily oral care and become desensitized to the procedures used by dentists who exam them on a regular basis. Caregivers will be educated in proper daily oral health care including the use of adaptive toothbrushes, fluoride toothpaste and mouthwashes, head lamps, and application of tooth varnishes (as appropriate). It was expected that with these interventions, adults with ID/DD will become desensitized to oral health care which allow the regular dental exams to be completed in less time and with fewer protective stabilization measures. Anecdotal information from dentists on the Elks Mobile Dental Units reflect that patients that have good oral hygiene, and frequent oral care usually are easier to manage in the dental chair because they are “less guarded”. Whether this reflects that these clients were easier to manage in general and just happened to have good oral hygiene or if the application of regular oral care results in less fear is what we are studying. It is however true that better oral care results in fewer dental problems, therefore less disease makes easier/shorter appointments.

Development and implementation of training program

The Program Director and Elks Mobile Dental Program Staff participated in development and selection of training materials. Staff member(s) of the Elks Mobile Dental Program (list in Exhibit B2) evaluated existing oral care training modules for ID/DD caregivers in conjunction with DMH, DDD staff. A training curriculum of evidence-based practices for provision of routine oral health care for people with ID/DD was selected from available materials in the public domain and a new curriculum was developed.

Designated EMDU staff members, with supervision and consultation with the Director, presented, provided training and assisted hands on training to the “Nurse Trainers” described as Registered Nurses (RNs) employed by the Division’s Regional Offices. They were trained in oral health care, and in turn provided training to direct care staff employed by providers of residential services and to family caregivers. Traditional health care training will be expanded to

include training on proper oral health care. The trainers employed by residential providers are responsible for training direct care staff supporting the target population, and in monitoring to ensure individuals are receiving routine oral health care. The EMDU staff members have available for consultation during the training exercises that are delivered at the facilities.

The training includes proper cleaning technique, the impact of good nutrition, warnings signs that an individual who is unable to communicate may be experiencing tooth or gum pain, techniques to desensitize individuals to reduce anxiety experienced when receiving dental care, and cautions on side effects certain medications may have on teeth and gums. The training was recorded on DVDs for distribution to families who are providing care to adult family members at home. Incorporating the oral health care training curriculum on the department's e-learning site, and creating and distributing the training on DVDs for distributions to families will impact the DMRDD system of care within our unique delivery system.

Data Collection Plan:

Currently the Elks units track patient disability index for dental care on a scale 1-5, since 2006. At present we are planning to use the same index for this project.

The criteria are as follows:

1. Cooperative patient treat as easily as a non-disabled patient
2. Patient has difficulty cooperating but can be treated with training, education or verbal coaching
3. Patient requires stabilization, handholding, or immobilization. Sedation or Anxiolysis may be required.
4. Unable to treat effectively in outpatient setting, referred for general anesthesia
5. Wheelchair bound, cooperative patient

During Year 1 of the project, 133 DMH DD customers identified at 2 facilities completed both of the full evaluations. The facilities chosen were The ARC of the Ozarks in Springfield, Missouri and Emmaus House in St. Charles, Missouri. Both facilities were selected for their large populations served in close proximity to the locations of the EMDU to improve the efficiency of evaluation. For purposes of this project these patients will be identified by number and location. Elks Mobile Dental Unit staff was trained by the Director observing, calibrating, and recording the data for this project. Unit staff was trained in their observations by the Director. The same staff members were used in the observations at both facilities. All 133 patients needed to be seen prior to the training to gather baseline data.

During the months between EMDU visits to these areas, at least one visit to each of the "test populations" to confirm the staff understand the oral care techniques and are regularly employing techniques described in the training were made. Records will be reviewed to determine if oral care is being recorded. It is expected that due to turnover and time between training and observation some decrease in frequency and technique

During Year 2 of the project patients that are from the 2 designated facilities whose staff have been trained, and care implemented would be identified for data collection. Data collection was

performed in the same manner as that done before the Oral Care Training, by the same staff members. This activity was accomplished prior to the routine scheduled care on the EMDU.. Comparisons between the data have been compiled and analyzed as follows.

Results

The two sites were evaluated by the same staff and at 2 different times, August of 2009 and August of 2010 yielding 4 sets of data.

Figure 1 is the patient list from the ARC of the Ozarks in Springfield, MO. Seventy patients were evaluated at the baseline examination and 7 patients were not available for the follow up examination leaving 63 patients for evaluation. Figure 2 is the patient list from Emmaus House in St. Charles, MO. Seventy six patients were evaluated on the initial session, 13 were not available for the follow up leaving 63 patients as well for evaluation. These sessions were conducted on November 2009 and July 2010. Not the same period of time as those of the ARC. This variable was driven by a loss of staffing in the EMDP and the necessity to complete these evaluations before these reductions took place.

Training for staff trainers was provided at the Springfield location and the St. Charles location by EMDP staff. Subsequently, staff trainers employed by Emmaus Homes and Arc of the Ozarks provided training to direct care staff. Oral hygiene was measured by direct observation by the EMDP staff members after training and calibration. Using a 14 point scale and one for edentulous and one for non-participation. Cooperation was scored on a 7 point scale with a 6 for wheelchair patient and 7 for non-participation.

Springfield

All 73 participants improved their oral care scores. The greatest number of improvement was in the category of “8. Fair” 22 customers improved their oral care scores. In the first assessment none of the top 4 scores had any customers scored in that area. At the end of the study 22 customers had moved into the Good/very good to Excellent oral care scores. Figure 3 is a graphic representation of these improvements

Cooperation scores also improved. The area of greatest improvement was in the area of No Stabilization initial score was 0, meaning no customers were able to tolerate a dental examination without some action by the staff members to allow the examination. On the follow up examination 23 customers were able to tolerate the dental examination with no actions required by the staff. That is a 36% improvement in cooperation. Figure 4 is a graphic representation of the data. The graph shows a distinct shift to the area of no-stabilization. Finally one of our objectives was to eliminate the use of heavy stabilization such as papoose boards for dental services and the study shows that on the follow up evaluation 0 (zero) customers required papoose board stabilization for the dental examination.

St. Charles

Of the 63 customers at the Emmaus Facility the greatest improvement in the oral care scores was in the 11, poor score and 13 Very poor. There was a 50% improvement from 22 customers with “poor” to 11 on the follow up and a 95% improvement in the Very Poor score from 19 to 1. Again in the top 4 scores there were only 2 customers that scored Very Good and no excellent at

the initial visit and on follow-up there were 6 customers in the top 4 scores. Figure 5 is a graphic representation of the improvements.

Cooperation scores also improved at this location. This population had no customers that required papoose/stabilization for dental examination either before or after the training. The area of greatest improvement was code of no stabilization, a 600% improvement. It went from 3 to 19 customers that required no stabilization. This was followed by a 65% reduction in the need for prompting and hand holding. Figure 6 is a graphic representation of the changes in cooperation at the St. Charles location.

Discussion

Behavior guidance is the term that describes the effort by families, caregivers, therapists and also dentists to control disruptive behavior of people with special needs during daily activities or clinical treatment¹. A goal of these efforts is to reduce the amount of guarding behaviors amongst the population and therefore reduction of the use of stabilization. Several authors have hinted that some type of desensitization would be beneficial for dental patients to improve their ability to receive routine dental services. Cooperation in the dental chair by a customer/patient can help the dentist to provide effective and efficient dental services. Avoiding use of general anesthesia in or out of the operating room is a significant cost savings. In a budgetary environment for healthcare of ID/DD patients as it exists today improving patient/customer cooperation is an opportunity that we must be willing to take advantage.

Many factors combine to limit access to care for this population, financial, transportation, lack of specially trained dentists and lack of effective oral care are a few. Effective home oral care is important because it controls the oral pathogens responsible for dental disease. The problems faced by dentists that are willing to provide care to persons with ID are increased if the patient is unwilling or too anxious to have intra oral contact with a dental professional.

Our study has shown two significant areas of improvement along with some general improvement. First, it was expected that by providing training materials that were provided at an educational level and in a conversational style would have a positive effect. It was important to “train the trainers” in order to have a local expert to not only train but be a resource for care givers doing daily oral care. As expected we saw improvement in oral cleanliness. The improvement in oral hygiene is equivalent to any population that has had little or no attention to oral care and receives attention. Similar to those results cited in Glassman’s article.

The surprising aspect of this study was the improvement of behavior for dental treatment. Very little is noted in the literature about the use of desensitization training to improve dental patient behaviors. Most authors describe the lack of daily oral care as a risk for dental disease and how disease rates may be improved by better oral care. Ferguson, states that “a patient that cooperates with home oral care practice, accepts oral treatment without resistance”. He further states that “Home oral health practice is the most effective form of desensitization as it has the best potential to have the patient learn that oral intervention is part of their daily routine. Consistent oral cleanliness over time will benefit the delivery and long-term success of dental care”. None of these were well controlled studies. Our study though limited in size did show a marked improvement in behavior and a significant reduction in the use of stabilization of any type. Both of these populations show a statistically significant ($p= 0.01$) change from the beginning of the study to the end of the study time period. Can we say that this change in behavior was due exclusively to the use of the training video? Probably not, it is more likely that

the along with the emphasis in oral care, the staff's increased attention to oral care meant that customers were having frequent physical contact in the oral facial areas. There was also some additional enthusiasm for oral care which contributed to the customer's attitude toward oral care in general. These factors contributed to desensitizing the customers/patients to contact by the dentist at appointment time. Additional research in this area is needed to establish the importance of daily oral care beyond just having a nice smile and fresh breath.

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