

Healthy Child Care Arizona Oral Health Pilot Training Evaluation

Arizona Center for Community Pediatrics

Anu Partap, MD, MPH, Director
Kathleen Mathieson, Ph.D., Research Manager

Introduction

The Healthy Child Care Arizona Oral Health pilot training was held on September 18th, 2004 in Tucson. According to the curriculum goals, at the end of the training participants should have been able to: describe how tooth decay affects general health; explain that decay results from a combination of bacteria, sugar, and teeth; list ways to help prevent tooth decay, including brushing; explain why snacks should be sugar-free and on a regular schedule; list at least two reasons why a child should visit the dentist by their first birthday; and describe how to help parents access dental care.

Evaluation Methods

A two-part evaluation was conducted. First, a pre- and post-test were designed to test knowledge of material addressed in the curriculum (Appendix A). Participants completed the pre-test before the training, and the post-test after the training. The proportion of correct responses was compared between pre and post. Second, participants completed an Oral Health Planning Form (Appendix B), in which they selected one or more desired outcomes, along with the steps, people, and time frames involved in accomplishing these outcomes. Participants had the choice of making an individual or group plan. One month after the training, an evaluator contacted the participants by phone to assess the extent to which the outcome(s) was/were accomplished. Specific questions were used to operationalize “accomplishment” (Appendix C).

Results

Twenty-six participants attended the training. Nine worked in Head Start programs, sixteen in centers, and 1 in a certified home. All participants were from Pima county (Tucson or Sells), except one, who was from Coolidge (Pinal county).

Pre- and Post-Test

Fifteen participants completed pre-tests and 24 completed post-tests. Chi square tests were used to compare the proportion of correct responses to each question on the pre-test with the proportion of correct responses on the post-test (Table 1). The percentage of correct responses was greater on the post-test for all items except number 9, *In order to be seen by a dentist, a child enrolled in AHCCCS must first get a referral* (correct answer: False). The differences in percentage of correct responses between pre- and post-tests were statistically significant, or not likely due to chance, in four of the questions. These questions pertained to the proportion of children in Arizona who have a cavity by age 3 (one third), the age at which children should first see a dentist (1 year), the age at which a cup should be introduced (6 months), and the age until which adults should brush children's teeth (6-7 years). Questions with statistically significant differences between pre- and post-test are shown in bold in Table 1.

Table 1. Proportion of correct responses to pre- and post-evaluation questions

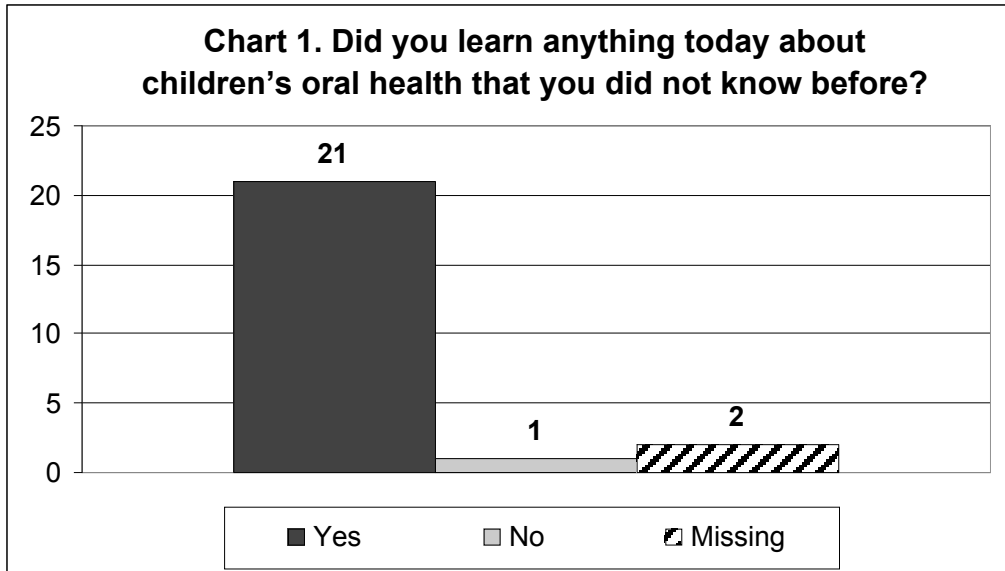
Question	Correct on Pre-Test (n=15) n (%)	Correct on Post-Test (n=24) n (%)	p value*
1. In Arizona, about ____ of all children have a cavity by the age of 3.	3 (20%)	21 (87.5%)	.000
2. Children should first see a dentist at what age?	6 (40%)	20 (83.3%)	.005
3. Tooth decay is a contagious disease.	9 (64.3%)	19 (86.4%)	.120
4. Which of the following can introduce bacteria into babies' mouths?	12 (85.7%)	22 (91.7%)	.564
5. Which of the following is a reason why decay in baby teeth is serious?	9 (64.3%)	21 (87.5%)	.090
6. A cup should be introduced around ____ months.	6 (42.9%)	21 (87.5%)	.003
7. Bottle-feeding should be stopped around ____ months.	9 (60.0%)	17 (73.9%)	.367
8. Because children lack the manual dexterity, adults should brush children's teeth until ____ years of age.	5 (33.3%)	19 (82.6%)	.002
9. In order to be seen by a dentist, a child enrolled in AHCCCS must first get a referral.	13 (92.9%)	16 (69.6%)	.095
10. In terms of reducing risk of dental decay, the amount of sweets eaten is less important as the frequency that sweets are eaten.	8 (53.3%)	17 (73.9%)	.191

*p values represent the probability that a difference between pre- and post-results is due to random chance. p values less than .05 (5%), are considered statistically significant. Questions with statistically significant differences are in bold.

Satisfaction with Training

The post-test contained several questions pertaining to participants' satisfaction with the training. Twenty-one (88%) reported that they learned something about children's oral health that they did not know before the training (Chart 1). The most common information learned pertained to the utility/availability of Xylitol, the fact that bacteria can transfer from mother to baby, that oral health is important for pregnant women, that adults should brush children's teeth until 6-7 years of age, and the correct position/method for brushing children's teeth.

When asked what they liked most about the training, most participants (12/18) praised the general quality of the presentation, materials, and information. Two participants noted that they liked the information about Xylitol the most, and two found it helpful to see pictures of what healthy teeth and decayed teeth look like. When asked what they liked the least, only nine participants responded, and seven of these comments were positive (e.g., "Everything was great!"). One person noted that there was no break to use the restroom, so participants would miss information if they left the room. Another person stated that the information should be more readily available to all parents early on.



One-Month Planning Follow-up

A total of 18 Planning Forms were completed at the training. Among these, two contained incorrect contact information or were for individuals who no longer worked at the center, one did not contain name or contact information, and one was for a participant that did not speak fluent English. Therefore, 14 follow-ups were completed (Table 3).

Outcomes identified by participants primarily focused on educating parents and staff. The following are examples of outcomes from Planning Forms:

- “I’d like to make parents more aware of taking care of the child’s teeth.”
- “[I hope to help] parents understand the importance, for oral health, of having their child off the bottle at 12 months and introducing a sippy cup at 6 months.”
- “[I hope to] provide training to staff (and parents per site request and through handouts).”
- “To inform my young teen parents of the importance of proper teeth cleaning, and steps to take to prevent tooth decay.”

While a few participants mentioned specific practices, such as implementing Swish and Swallow or discontinuing sippy cup usage, the majority dealt with parent or family education.

Most participants reported that either a little (n=8) or a lot (n=2) of progress had been made on the outcome they identified (Chart 2). Among these, all said they had definite plans to continue their oral health improvement efforts.

Factors that facilitate promotion of oral health

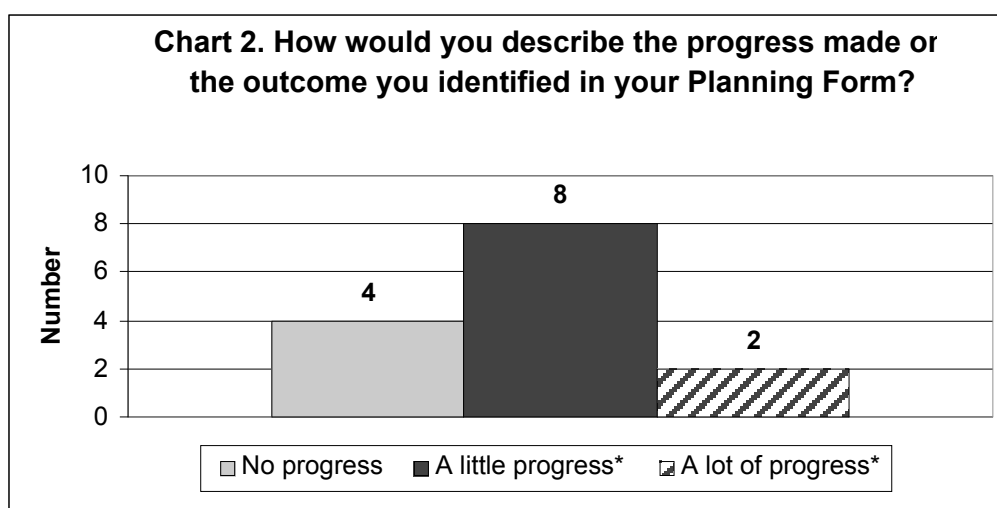
Participants' initial progress on oral health efforts was facilitated by the convenience of having materials from the training, having agency support, parents' interest in the information, and a team approach to improving children's oral health. One participant noted that, due to staff turnover, ongoing training would be a challenge in sustaining the progress of oral health efforts. Another participant observed that, after reading pamphlets distributed at the center, parents attempted to make dental appointments for their toddlers, only to find that no dentists in the area will see children less than 3 years of age.

Barriers to promotion of oral health

Four participants reported that no progress had been made on their outcome, citing lack of time and a need for additional trainings for those who were not able to attend the September training. When these participants were asked whether they still plan to pursue oral health efforts in the future, one responded "no, probably not," two responded "possibly," and one responded "yes, definitely."

Table 2. Description of One-Month Follow-up Sample

Description	N
Total planning forms completed at training	18
Wrong number/no longer at center	2
No name or contact information on form	1
Respondent not fluent in English	1
Total follow-ups completed: 14	



*All those answering “A little progress” or “A lot of progress” reported that they have definite plans to continue with their oral health efforts.

Conclusions

This pilot training was effective in increasing participants’ knowledge about key issues related to children’s oral health. Knowledge about cavity prevalence at age 3, the age at which children should first see a dentist and beginning using a sippy cup, and the number of years parents should brush children’s teeth were particularly improved as a result of the training.

A month after the training, most participants had made some progress toward goals identified after the training, and intended to continue with oral health efforts. This

initial progress was facilitated by the availability of educational materials from the training, agency support, parents' interest, and a team approach to improving children's oral health. The participants that were not able to make progress on their goals cited lack of time and a need for additional trainings. Further follow-up would be needed to determine the long-term effect of the training in increasing oral health efforts in childcare settings.

**Healthy Child Care Arizona Oral Health Pre-Survey
September 18, 2004**

Directions: Please circle one response for each question.

1. In Arizona, about ____ of all children have a cavity by the age of 3.
 - a. one fourth
 - b. one third**
 - c. one half
 - d. three fourths
 - e. none of the above

2. Children should first see a dentist at what age?
 - a. 6 months
 - b. 1 year**
 - c. 18 months
 - d. 2 years
 - e. 3 years

3. Tooth decay is a contagious disease.
 - a. True**
 - b. False

4. Which of the following can introduce bacteria into babies' mouths?
 - a. Toothbrush sharing
 - b. Adult licking or putting bottle nipple or pacifier in mouth
 - c. Adult tasting or chewing babies' food
 - d. B and C
 - e. A, B, and C**

5. Which of the following is a reason why decay in baby teeth is serious?
 - a. Decay can cause infections that can spread throughout the body
 - b. Decay can lead to poor self-esteem
 - c. Decay can lead to learning problems
 - d. Decay in baby teeth puts children at high risk for adult tooth decay
 - e. All of the above**

6. A cup should be introduced around ____ months.
 - a. 4
 - b. 6**
 - c. 8
 - d. 10

e. 12

7. Bottle-feeding should be stopped around ____ months.

- a. 6
- b. 8
- c. 10
- d. 12**
- e. 18

8. Because children lack the manual dexterity, adults should brush children's teeth until ____ years of age.

- a. 4
- b. 5
- c. 6**
- d. 7**
- e. 8

9. In order to be seen by a dentist, a child enrolled in AHCCCS must first get a referral.

- a. True
- b. False**

10. In terms of reducing risk of dental decay, the amount of sweets eaten is less important as the frequency that sweets are eaten.

- a. True**
- b. False

**Healthy Child Care Arizona Oral Health Post-Survey
September 18, 2004**

Directions: Please circle one response for each question.

1. In Arizona, about ____ of all children have a cavity by the age of 3.
 - f. one fourth
 - g. one third
 - h. one half
 - i. three fourths
 - j. none of the above

2. Children should first see a dentist at what age?
 - f. 6 months
 - g. 1 year
 - h. 18 months
 - i. 2 years
 - j. 3 years

3. Tooth decay is a contagious disease.
 - c. True
 - d. False

4. Which of the following can introduce bacteria into babies' mouths?
 - f. Toothbrush sharing
 - g. Adult licking or putting bottle nipple or pacifier in mouth
 - h. Adult tasting or chewing babies' food
 - i. B and C
 - j. A, B, and C

5. Which of the following is a reason why decay in baby teeth is serious?
 - f. Decay can cause infections that can spread throughout the body
 - g. Decay can lead to poor self-esteem
 - h. Decay can lead to learning problems
 - i. Decay in baby teeth puts children at high risk for adult tooth decay
 - j. All of the above

6. A cup should be introduced around ____ months.
 - f. 4
 - g. 6
 - h. 8
 - i. 10
 - j. 12

7. Bottle-feeding should be stopped around ____ months.
- f. 6
 - g. 8
 - h. 10
 - i. 12
 - j. 18
8. Because children lack the manual dexterity, adults should brush children's teeth until ____ years of age.
- f. 4
 - g. 5
 - h. 6
 - i. 7
 - j. 8
9. In order to be seen by a dentist, a child enrolled in AHCCCS must first get a referral.
- c. True
 - d. False
10. In terms of reducing risk of dental decay, the amount of sweets eaten is less important as the frequency that sweets are eaten.
- c. True
 - d. False
11. Did you learn anything today about children's oral health that you did not know before?
- a. Yes – Please Describe:

 - b. No
12. What did you like **most** about today's training?
13. What did you like **least** about today's training?
14. Other comments:

Thank you for participating!

APPENDIX B/C: PLANNING/FOLLOW-UP DATA COLLECTION FORM

**Oral Health Planning/
One-Month Follow-Up Evaluation**

1. How would you describe the progress that has been made on the outcome identified in your planning form?

- ◆ No progress ◆ A little progress ◆ A lot of progress

If “a little progress” or “a lot of progress” on #2:

3a. Please tell me about what has enabled this progress to occur:

3b. Do you think this is an outcome that you will continue to strive for at your center?

- ◆ No, probably not ◆ Possibly ◆ Yes, definitely

If “no progress” on #2:

4a. Please tell me about the barriers that have prevented progress:

4b. Do you still plan to pursue this outcome?

- ◆ No, probably not ◆ Possibly ◆ Yes, definitely