The Community Oral Health Workers Project (COHW)

Changes in Caregivers' Knowledge, Attitudes, and Practices after Educational Intervention

Gabriela Salcedo,DDS; Francisco Ramos-Gomez DDS,MS,MPH; Hamida Askaryar RDH,MPH;
Chi-Hong Tseng, Ph.D.; Donna Kritz-Silverstein, Ph.D.
Section of Pediatric Dentistry, UCLA School of Dentistry, Los Angeles, CA

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Section of Pediatric Dentistry

OSHPD Office of Statewide Health Planning and Development

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A collaborative community research project between:

- **University of California Los Angeles (UCLA) School of Dentistry (SOD)**
  - **S**trategic**P**artnership for **I**nterprofessional **C**ollaborative **E**ducation in **P**ediatric **D**entistry – SPICE – Research and Statistics Module www.uclachatpd.org
    - Funded by HRSA

- **Sponsor:** CA Office of Statewide Health Planning & Development (Healthcare Workforce Development Division) This one-year project: June 2016- June 2017 Grant # 15-8148, UCLA IRB # 16-000755)

Community Partners:

- Venice Family Clinic, Santa Monica, CA
- Westside Children's Center, Culver City, CA


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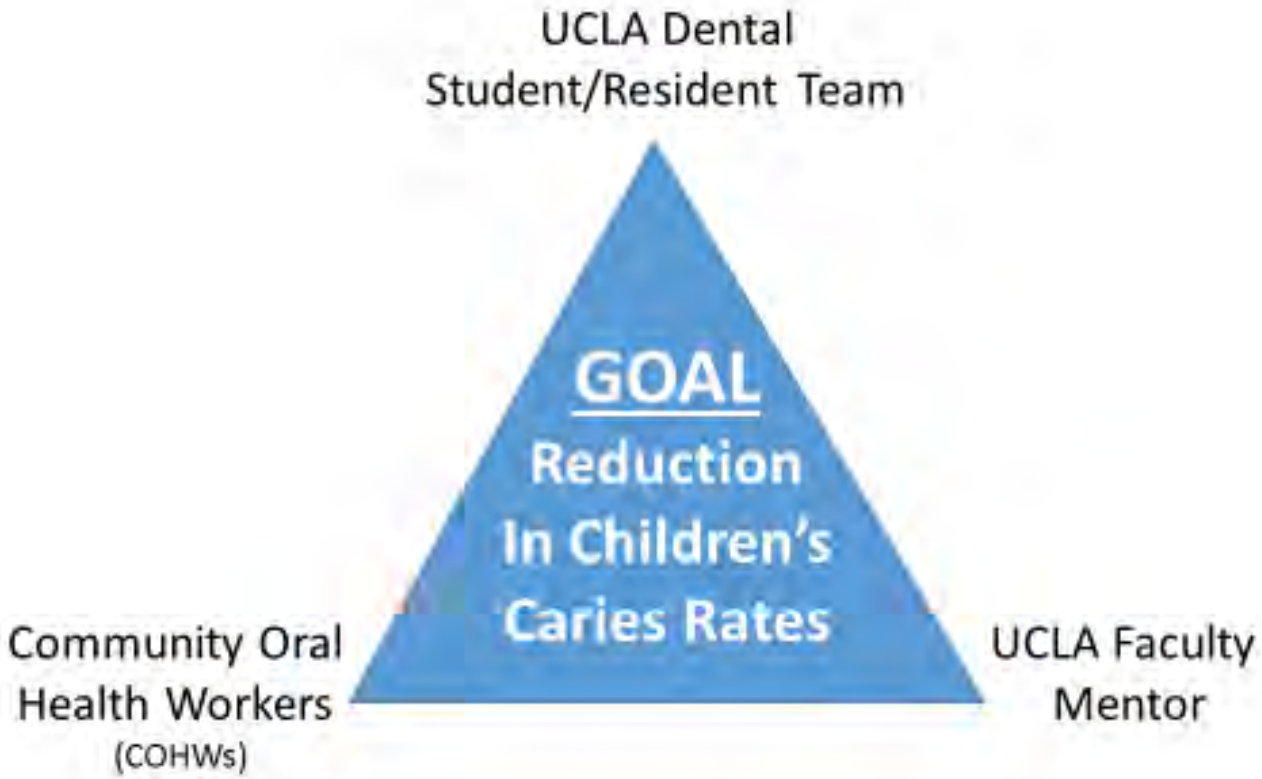
GOAL: Collaborative community participatory research to help reduce the burden of Early Childhood Caries in LA County



Background:

- Tooth decay is a significant problem. By third grade it affects almost two-thirds of the children in California [1].
- 28% of elementary school children have untreated tooth decay [1].
- 4% need urgent dental care because of pain or infection [1].
- The oral health of California's children is substantially worse than national objectives. Of 25 states surveyed, California ranked second lowest in kids' dental health [1].
- General health & oral health link- 57 systemic conditions linked to periodontal disease [2]
- Promotoras provide a trusted link to community and insight into social determinants of health [3]
- Promotoras model has been shown to work– evidence in medicine and oral health education [4,5]

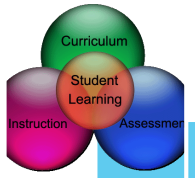
- ***Purpose: Investigate changes in caregivers' knowledge, attitudes, and practices regarding their children's oral health after an educational intervention***

- **We hypothesized that there will be significant increases in knowledge, and changes in attitudes and practices of caregivers after training.**

3 Phases of 12-months Project- Progress and outcome evaluation encompasses entire project

Phase 1

- UCLA Team selection
- Focus Group
- Recruitment of 10 caregivers
- Months 1-2



Phase 2

- Oral health curriculum design
- Training of the 10 COHWs (13 modules, 20 learning objectives)
- Months 2-6

Phase 3

- 5 Community workshops (55 attendees)
- Months 6-11
- Evaluation and reporting
- Month 12

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¿ESTÁ INTERESADO EN SER UN TRABAJADOR DE SALUD ORAL DE LA COMUNIDAD?

Buscamos a madres/cuidadores con niños de 0-5 años.

El proyecto es un año de compromiso con tiempo minimal, el pago es $2,000 dólares.

Ponte en contacto con Dr. Gabriela Salcedo. Llama o texto @ (714) 423-1614. O e-mail @ gabrielasalcedo@g.ucla.edu

Dr.Gabrie gabrielasalced (714) 423-16

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Bi-Lingual Curriculum covers: (workshops were conducted simultaneously Eng. & in Span.)

- **Pre-readings & Smiles for Life online courses 1,2,5,6, and 7 (1 hr each)**

13 Modules:

1. **Introduction to COHWP**
2. **Prenatal & Transmission**
3. **Early Childhood Caries**
4. **Tooth Brushing & Flossing**
5. **Nutrition**
6. **Bottle Use & Breastfeeding**
7. **Teething & Pacifiers**
8. **Healthy Vs. Unhealthy Teeth**
9. **The Dental Visit**
10. **Health Literacy**
11. **Visit to UCLA and lecture on Public Health Dentistry**
12. **Becoming the Trainer**
13. **Careers in Dentistry (Dental Assisting programs)**

Focus group:

- The focus group (8 female participants) centered all around children's oral health issues and open-ended questions revealed the following & information from the focus group was used to devise the curriculum content and delivery style.
  - **All** participants reported drinking bottled water.
    - Focus on importance of drinking/cooking with Fl tap Water
  - **Most participants** reported not taking their child to the dentist because of their child's young age. Others mentioned not taking their child often and currently searching for a dentist.
    - Focus on establishing dental homes in infancy
  - One participant mentioned they do not have dental insurance and it affects their finances.
    - List available oral health resources in the local community

Materials and Methods:

Intervention Group (N=10)

- 10 females caregivers with children ages 0-5 yrs
-Pretest (27 items)
- Training (13 modules)
-Posttest (6 weeks later)
Caregivers gave 5 community oral health workshops

Control Group (N=10)

- 10 female caregivers with children ages 0-5 yrs
- Pretest (27 items)
- Given handout on children's oral health
- Posttest (6 weeks later)

Table 1: Demographics

Variable	N= 9 Int.	N=10 Control	Variable	N= 9 Int.	N=10 Control
Age			**Ethnicity**		
20-29	5	3	Latino/Hispanic	5	9
30-49	2	5	Non-Latino/Non-Hispanic	4	1
50+	2	2	**Profession**		
Race			Homemaker	6	1
White	3	1	Full Time Worker	2	4
Black	1	0	Part Time Worker	1	5
Multiracial	1	2	**Marital Status**		
Other	1	7	Married	5	5
Missing	3	0	Non-Married	4	5

Table 2: Pre vs. Post Comparisons of Attitudes, Knowledge & Practices

		Intervention (N=9)			Control (N=10)		
	Points Possible	Pre	Post	P-Value [1]	Pre	Post	P-Value [1]
Attitude [2]	15	13.7	14.8	***0.08***	14.4	14.1	0.5
Knowledge [3]	19	11.3	17.8	**0.0005**	11.1	13.5	**0.04**
Practice [3]	4	3.4	3.9	**0.04**	3.4	3.8	**0.04**

[1] P-Value from paired t test

[2] Note that Strongly Agree=5, Agree=4, Neither Agree or Disagree=3, Disagree=2 and Strongly Disagree=1

[3] knowledge & Practice scores based on number of correct responses

Table 3: Pre vs. Post Comparisons of Attitudes, Knowledge & Practices Mean/SD

	Intervention	Control		
	N=9	N=10	Difference	P-value
Attitudes (mean, sd)	1.1 (1.7)	-0.3 (1.3)	1.4 (1.5)	**0.06**
Knowledge (mean, sd)	6.4 (3.4)	2.4 (3.2)	4.0 (3.3)	**0.02**
Practice	0.44 (0.53)	0.40 (0.52)	0.04 (0.52)	0.86

*Summary statistic represents change between pre to post (i.e. POST-PRE)

Figure 1: Practice Responses Pre vs Post Intervention (N=9)

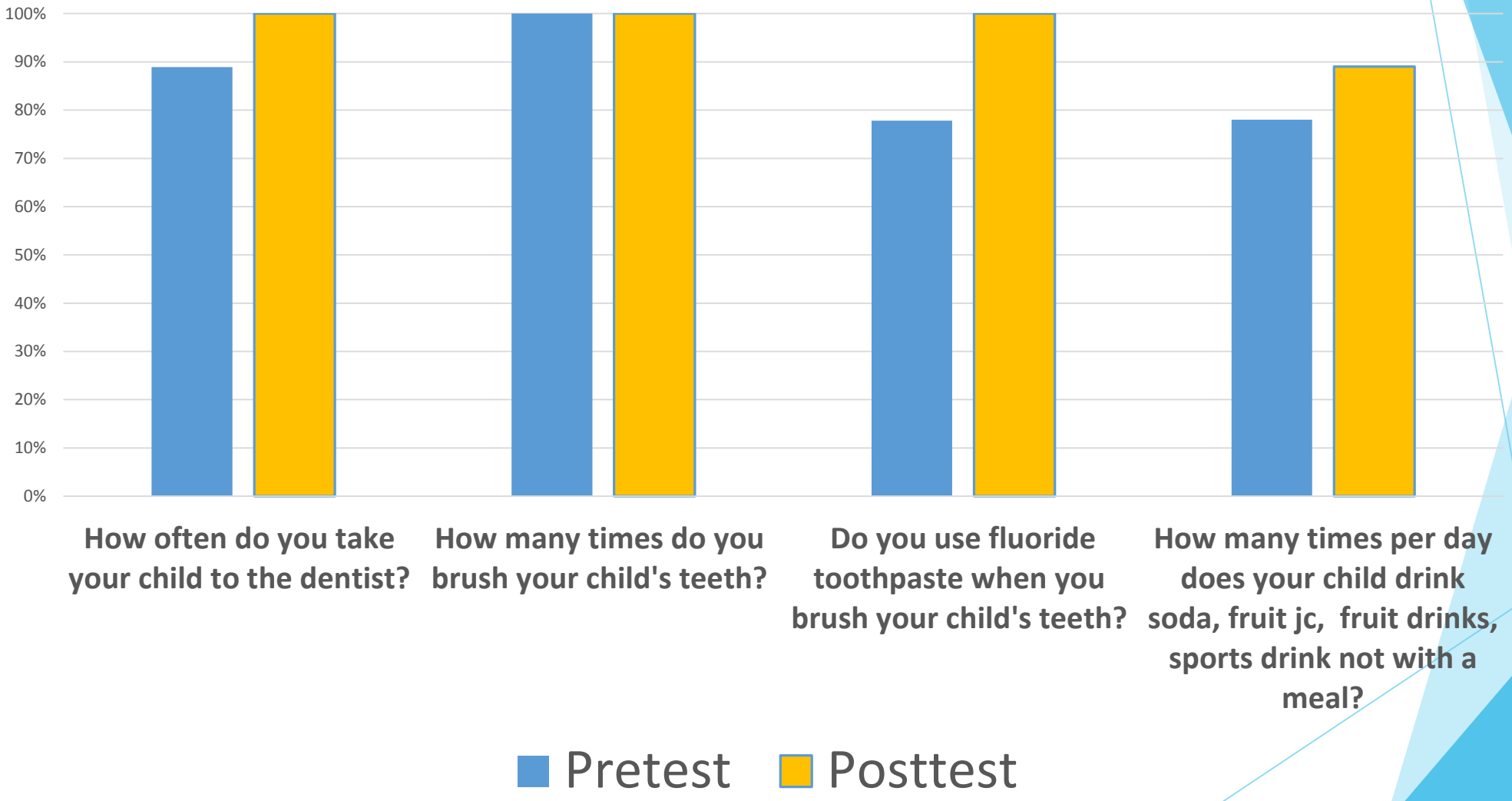
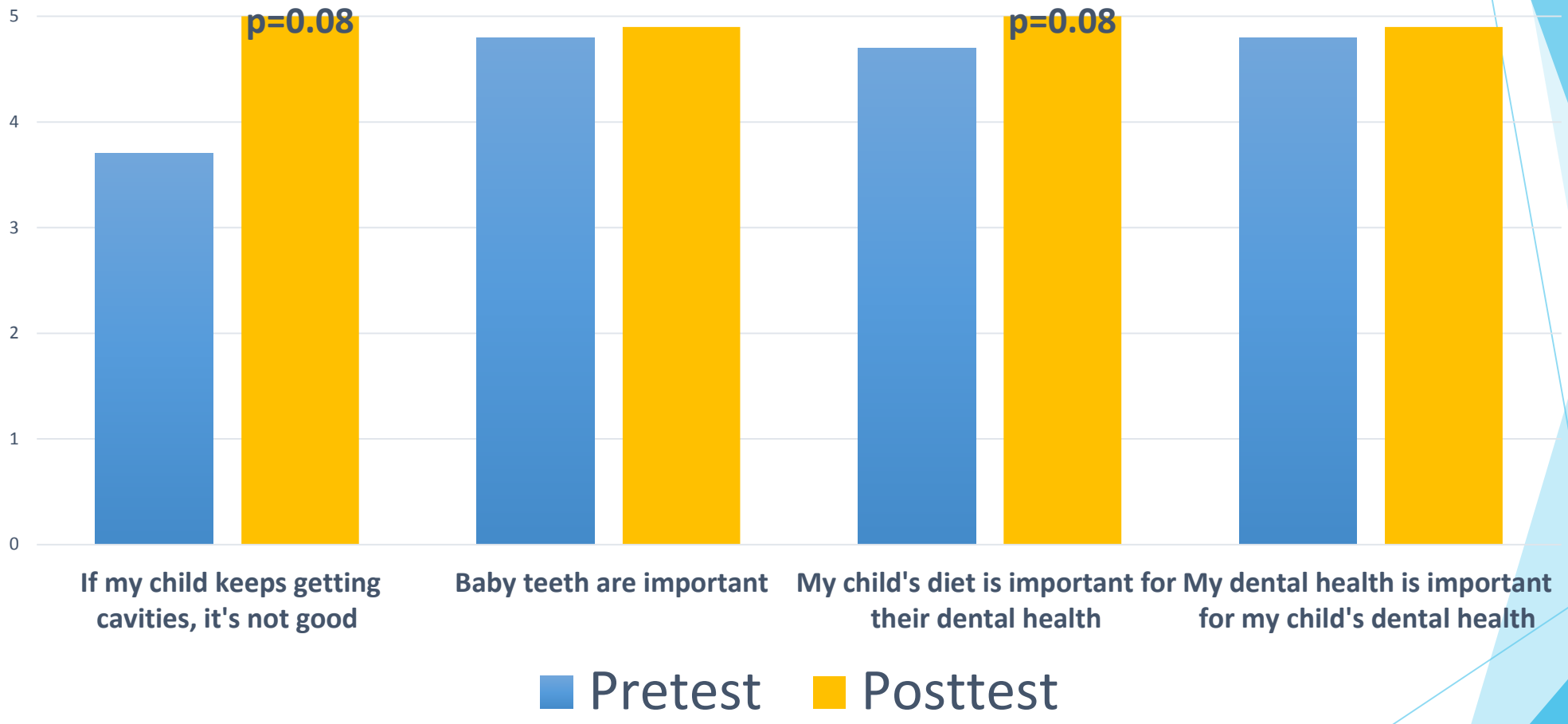


Figure 2: Attitude Scores Pre vs Post Intervention (N=9)[1]



[1] Strongly Disagree =1; Strongly Agree=5

Table 4. Rates of Correct Knowledge Responses Pre vs. Post-Intervention (paired t-test)

Knowledge Questions	Pre (%)	Post (%)	P-value
1. Poor oral health has been linked to: diabetes & long term health problems	67	78	1
2. The most common chronic childhood disease is dental caries	67	100	0.25
3. What causes tooth decay? *	**33**	**89**	**0.06**
4. Children can brush by themselves at what age? *	**44**	**100**	**0.07**
5. Poor oral health of children has been related to: poor performance in school & social relationships	100	100	N/A
6. When should toothbrushes be replaced?	78	100	0.5
7. Which healthy snacks does the dentist recommend? **	**22**	**100**	**0.02**
8. Which liquids are ok to put in your child's bottle that they can sleep with?	67	89	0.63
9. Caregivers can transfer bacteria/germs that cause dental caries by: sharing utensils	78	78	1
10. At what age can a child start using toothpaste with fluoride? **	**33**	**100**	**0.03**
11. Dental plaque is: food and bacteria*	**44**	**100**	**0.07**
12. Tooth decay can be prevented with: fluoride and brushing & flossing	44	78	0.25
13. How long should a child brush their teeth for?	56	100	0.13
14. Parents should keep their own teeth & gums healthy	56	100	0.13
15. When my child's gums are bleeding: pay attention to the gums & ask the dentist	100	89	1
17. Tap water that has Fluoride : is a good source of Fluoride	55	100	0.13
18. It is ok to give my baby or toddlers sweetened beverages in a sippy cup/bottle: only with meals	56	89	0.22
19. Taking Children for regular dental visits: is necessary to maintain good dental health	100	89	1
20. My child's first dental visit should be when their first tooth erupts or by age one year	55	100	0.13

Results:

- Comparisons showed that after the intervention, there was a significant increase (p=.0005) in total knowledge as well as in practices (p=.04) and borderline significance in attitudes (p=.08) regarding children's oral

- In the control group, there was a significant increase in knowledge (p=.04) and in practice (p=.04).

- Both groups had an increase in knowledge and practice but the intervention group had a significantly higher increase in knowledge.

Conclusions and limitations of this pilot study:

1. Caregiver's knowledge and practices about children's oral health can be increased with a targeted & culturally competent intervention consisting of at least an 8-hour training course.
2. Oral health attitudes may take longer to change or require different types of interventions and measurements to capture changes in attitude (avoid ceiling effect).
3. Limitation: Parents may have reported engaging in practices that are socially acceptable rather than what is truly representative of their actual behaviors.

Conclusions (cont'd)

4. A different approach and different types of questions be devised to better capture and understand the caregivers' true attitudes and practices as regards children's oral health.
5. Future studies should include a larger sample size (this project has low power) and longer follow-up time (6 months to 1 year) to examine long term changes in practices and stability of knowledge and attitudes
6. Future studies should include evaluation of knowledge, attitudes, and practices of the caregivers attending the COHWs' workshops and a follow-up of those caregivers
7. COHWs interested in pursuing careers in dentistry

Survey of the dental students/dental resident about this project (N=11):

- **Do you see COHW workers having a role in the future of dentistry? If so, what would it be?**

"Yes, I believe they can help bridge the cultural barrier and skepticism between some populations and the provider. They can help the provider be more aware of some cultures they are providing for and also allow for the patient to have a resource that may have more time to spend explaining and coaching through basic instruction."

"Dentists don't have enough time to give a thorough lesson on oral hygiene and diet, so people like the COHW could help bridge that education gap"

- **What did you find most fulfilling/useful about this project?**

"I enjoyed educating individuals who were genuinely interested in helping their community"

"It not only helped with improving oral health of child but overall health of whole family because mothers were trained"

"Watching the caregivers progress and seeking careers in dentistry"

Acknowledgments:

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The COHWs curriculum will be available publicly online at www.uclachatpd.org (June /July 2017)

Special thanks to the Project Manager Ms. Lesley Carrillo for helping to coordinate this project

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[2] Monsarrat P, Clinical research activity in periodontal medicine: a systematic mapping of trial registers. Journal of Clinical Periodontol 2016

[3] A Community Framework for Addressing Social Determinants of Oral Health for Low-Income Populations January 2017: http://www.chcs.org/media/SDOH-OH-TA-Brief_012517.pdf

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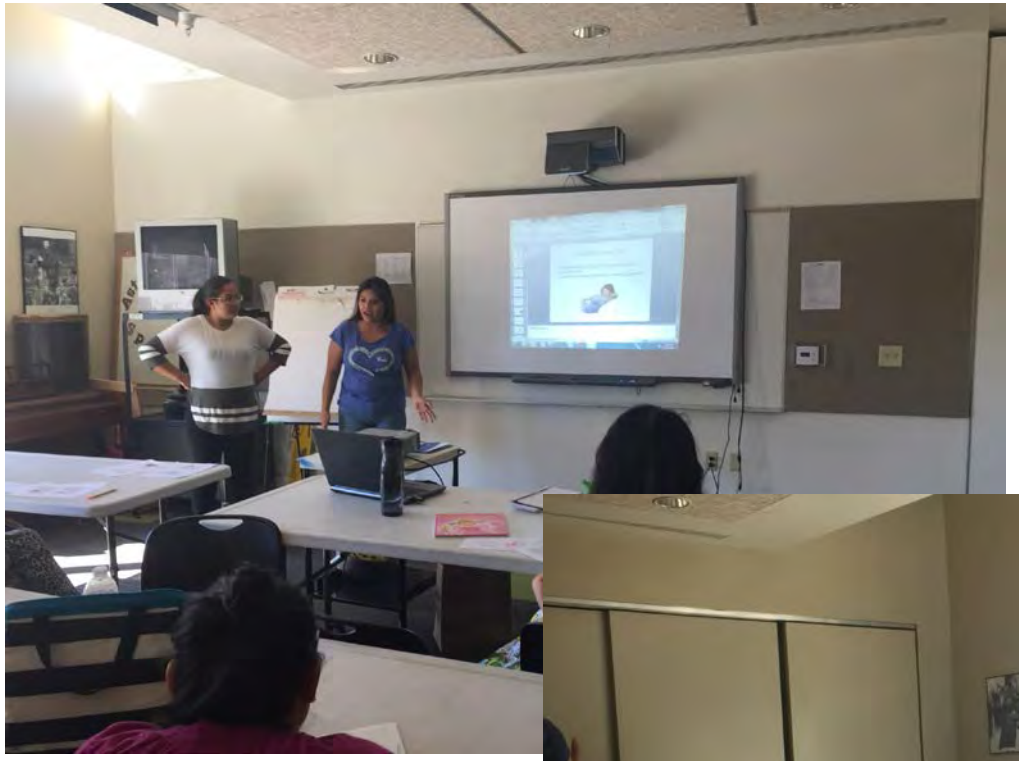
Questions?



Contact:

Dr. Ramos-Gomez at frg@dentistry.ucla.edu

Hamida Askaryar, Program Mgr.

at Haskaryar@dentistry.ucla.edu or call 310-825-8064