



Evaluating the Effect of a Community Health Advisors Training Curriculum to Address Oral Health Care in Aboriginal Villages in Mountain Area



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Background: In Taiwan, low income and minority families were found to have poorer oral health outcomes, lower dental visits, and fewer preventive behaviors. The use of tobacco, alcohol and betel nut among aboriginal living communities is remarkably high. Thus, the genetic, ethnic and their risk behaviors affect periodontal disease, caries and oral health problems. However, aboriginal families living in mountainous areas have limited medical resources but they are required to seek health care using interpreters through intermediaries who speak the local dialect in the language and culture of the people. Though community health advisors (CHAs) can be an effective way to provide health care to medically underserved populations.

Methods (CHAs): CHAs have been defined as someone with local knowledge and skills related to health care delivery in the community of an underserved and has no formal education. They are trained to provide health care in a health resource area in the specific focus of oral health care.

Results: The effects of CHAs Training Curriculum for health care in aboriginal villages in Mountain Area, Taiwan were evaluated. Each session was 2-3 hours long. The curriculum included oral hygiene, oral care, and oral hygiene education. The curriculum was designed to be culturally appropriate and to be delivered in the local language. The results showed that the CHAs were able to provide health care in the community.

Table 3. Comparison of CHAs' Oral hygiene behaviors between pre- and post-training (N=11)

Variables	pre-train (n=11)	post-train (n=11)	Diff	95%CI	P-value
Dental visit			0	0.35-0.63	1
1-6 months	2(18.18%)	2(18.18%)			
6 months or more	2(18.18%)	2(18.18%)			
Frequency of brushing teeth			0.14	-0.01-0.31	0.086
2 times	10(90.91%)	10(90.91%)			
3 times	4(36.36%)	3(27.27%)			
Brushing time			0.26	0.04-0.48	0.020
1-3 minutes	7(63.64%)	7(63.64%)			
3-5 minutes	4(36.36%)	4(36.36%)			
Brushing method			0.47	0.23-0.73	<0.001
Using floss method	7(63.64%)	4(36.36%)			
Not using floss method	2(18.18%)	3(27.27%)			
Using toothbrush replace			0.04	0.13-0.19	0.727
in 2 months	10(90.91%)	10(90.91%)			
3 months	1(9.09%)	1(9.09%)			
Using dental floss			0.00	0.17-0.21	0.843
1-2 times	10(90.91%)	10(90.91%)			
3-4 times	1(9.09%)	1(9.09%)			
Using fluoride toothpaste			0.31	0.14-0.48	<0.001
1-2 times	10(90.91%)	10(90.91%)			
3-4 times	1(9.09%)	1(9.09%)			



Results: The level of oral hygiene knowledge, attitude and self-efficacy toward oral hygiene care were observed significantly increased in CHAs after training. After training, CHAs were more likely to have modified floss method (OR=2.14), and flossing longer than 3 minutes (OR=2.14), and flossing toothbrush replace (OR=4.29).

Table 4. Comparison of the level of CHAs' oral hygiene knowledge, self-efficacy and attitude of CHAs between pre- and post-training (N=11)

Variables	Pre-train (n=11)	Post-train (n=11)	Diff	95%CI	P-value
Knowledge (SD)	60.00	85.00	25.00	12.50-37.50	<0.001
Self-efficacy (SD)	50.00	80.00	30.00	17.50-42.50	<0.001
Attitude (SD)	40.00	75.00	35.00	22.50-47.50	<0.001

Conclusion: The effects of CHAs Training Curriculum for health care in aboriginal villages in Mountain Area, Taiwan were evaluated. Each session was 2-3 hours long. The curriculum included oral hygiene, oral care, and oral hygiene education. The curriculum was designed to be culturally appropriate and to be delivered in the local language. The results showed that the CHAs were able to provide health care in the community.



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Background: In Taiwan, low income and minority families were found to have poorer oral health outcomes, lower dental visits, and less protective behaviors. The use of tobacco, alcohol and betel nut among aborigines living in mountainous communities distinguishes them from the general population, and these oral behaviors affect periodontal disease, caries and other oral health problems. However, aboriginal families living in mountain areas are not only hard to reach, but also have less opportunity to be exposed to the health care system, especially that are transmitted through interpersonal behaviors. Pamphlets and brochures are not effective because of the language and cultural differences. Hence, training community health advisors (CHAs) can be an effective way to address oral health care for the medically underserved population.

Community Health Advisors (CHAs)
Community health advisors has been defined as someone, paid or voluntary, who carries out functions relating to health care delivery, is trained in some way in the context of an interdisciplinary and has no formal professional or paraprofessional status, and is engaged in life-long education, presumably in a health-related area with specific focus of the intervention.

Objectives: To evaluate the effects of CHAs training curriculum for addressing oral health care in aboriginal villages in Southern Taiwan.

Methods: CHAs training was conducted from January to March in mountain areas. Seven training sites were held. Each training site lasted 4-6 consecutive weeks including 12-hour trainings. Each session was taught by one well-trained dental hygienist. The curriculum included training in knowledge of oral health and care, oral hygiene assessment, teaching techniques, communication skills, and hands-on practice sessions. 51 trainees finished the course and passed post-training exams. The pre- and post-data were collected by self-administered questionnaires. The logistic regression analyzed the pre- and post-training related factors. Chi-square tests, Paired test and Logistic regression were used to analyze the data between the pre- and the post-data.

Results: The level of oral hygiene knowledge, attitude and self-efficacy were observed significantly increased in CHAs (p<0.001). After training, CHAs were more likely to have multiple visits teaching (Chi-Square (2,34) = 10.00, p=0.006) and fluoride varnish (Chi-Square (2,34) = 10.00, p=0.006) to their patients.

Table 1. Comparison of CHAs' Oral hygiene behaviors between pre- and post-training (n=51)

Behavior	Pre (%)	Post (%)	p-value
Dental visits	27.06	33.33	0.210
Fluoride varnish	11.76	21.57	0.006
Multiple visits teaching	11.76	21.57	0.006
Hand hygiene	11.76	21.57	0.006
Oral hygiene assessment	11.76	21.57	0.006
Oral hygiene education	11.76	21.57	0.006
Oral hygiene counseling	11.76	21.57	0.006
Oral hygiene referral	11.76	21.57	0.006
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Table 2. Comparison of the level of oral hygiene knowledge, self-efficacy and attitude of CHAs between pre- and post-training (n=51)

Variable	Pre-Mean	Pre-SD	Pre-Min	Pre-Max	Post-Mean	Post-SD	Post-Min	Post-Max	F-value	p-value
Oral hygiene knowledge (0-11)	7.59	2.88	4.00	11.00	8.86	2.47	4.00	11.00	10.00	0.002
Oral hygiene self-efficacy (1-5)	3.79	1.18	1.00	5.00	4.11	0.82	2.00	5.00	10.00	0.002
Oral hygiene attitude (0-4)	1.94	1.12	0.00	4.00	2.11	1.00	0.00	4.00	10.00	0.002

Figure 1. Mountain distribution of training sites.

Figure 2. Distribution of CHA trainees' villages (n=51).

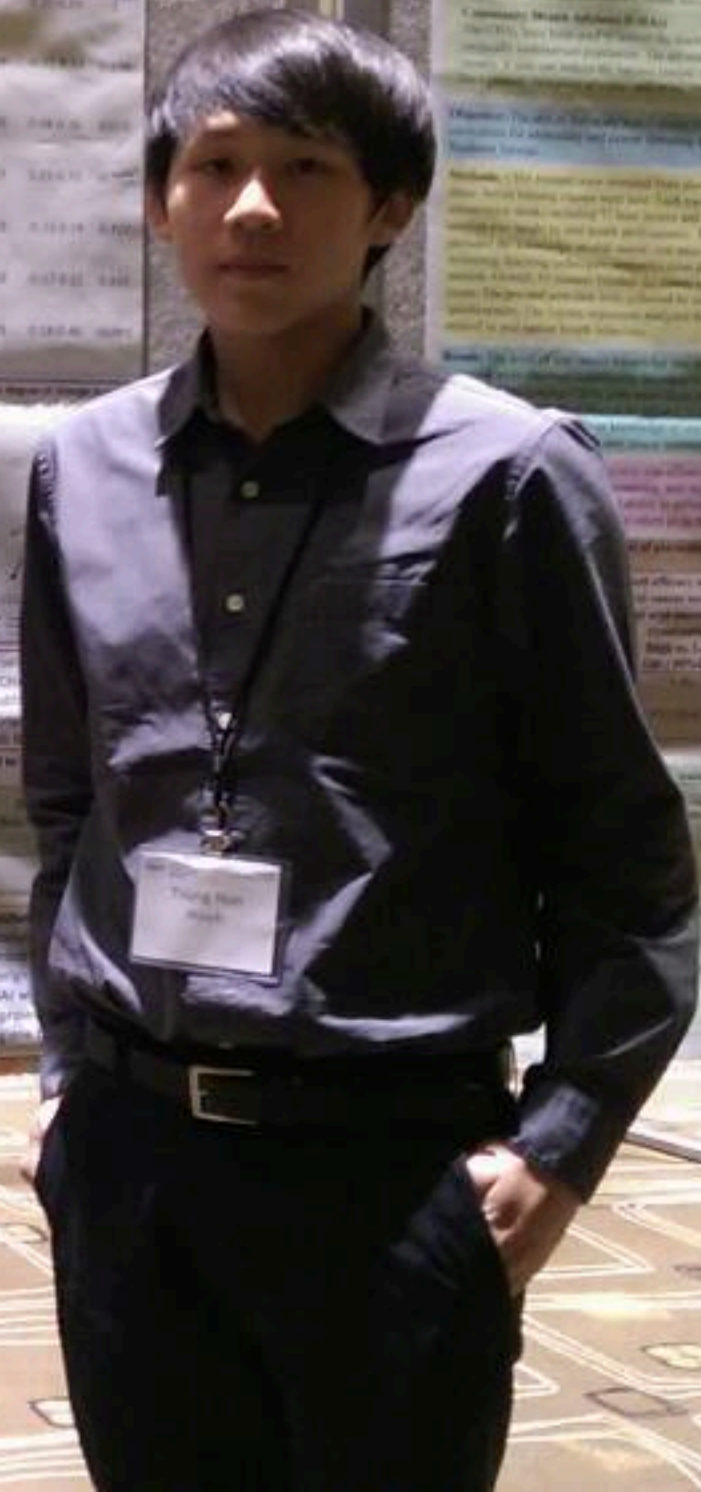
Village	n (%)
Yan	47 (92)
Yan	6 (12)
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Table 3. The level of oral hygiene knowledge of CHAs before (n=51).

Variable	Pre-Mean	Pre-SD	Pre-Min	Pre-Max
Oral hygiene knowledge (0-11)	7.59	2.88	4.00	11.00
Oral hygiene self-efficacy (1-5)	3.79	1.18	1.00	5.00
Oral hygiene attitude (0-4)	1.94	1.12	0.00	4.00

Table 4. The level of oral hygiene knowledge of CHAs after (n=51).

Variable	Post-Mean	Post-SD	Post-Min	Post-Max
Oral hygiene knowledge (0-11)	8.86	2.47	4.00	11.00
Oral hygiene self-efficacy (1-5)	4.11	0.82	2.00	5.00
Oral hygiene attitude (0-4)	2.11	1.00	0.00	4.00



Effects of a Community Health Advisors Training Curriculum to Address Oral Cancer Screening in Aboriginal Villages

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Background: Oral cancer is a common cancer in Taiwan. The incidence of oral cancer is increasing in aboriginal populations. The purpose of this study was to evaluate the effects of a community health advisors training curriculum on oral cancer screening in aboriginal villages.

Objectives: To evaluate the effects of CHAs training curriculum for addressing oral cancer screening in aboriginal villages in Southern Taiwan.

Methods: CHAs training was conducted from January to March in mountain areas. Seven training sites were held. Each training site lasted 4-6 consecutive weeks including 12-hour trainings. Each session was taught by one well-trained dental hygienist. The curriculum included training in knowledge of oral cancer screening, teaching techniques, communication skills, and hands-on practice sessions. 51 trainees finished the course and passed post-training exams. The pre- and post-data were collected by self-administered questionnaires. The logistic regression analyzed the pre- and post-training related factors. Chi-square tests, Paired test and Logistic regression were used to analyze the data between the pre- and the post-data.

Results: The level of oral cancer screening knowledge, attitude and self-efficacy were observed significantly increased in CHAs (p<0.001). After training, CHAs were more likely to have multiple visits teaching (Chi-Square (2,34) = 10.00, p=0.006) and fluoride varnish (Chi-Square (2,34) = 10.00, p=0.006) to their patients.

Table 1. Comparison of CHAs' Oral cancer screening behaviors between pre- and post-training (n=51)

Behavior	Pre (%)	Post (%)	p-value
Dental visits	27.06	33.33	0.210
Fluoride varnish	11.76	21.57	0.006
Multiple visits teaching	11.76	21.57	0.006
Hand hygiene	11.76	21.57	0.006
Oral hygiene assessment	11.76	21.57	0.006
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Oral hygiene referral	11.76	21.57	0.006
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Table 2. Comparison of the level of oral cancer screening knowledge, self-efficacy and attitude of CHAs between pre- and post-training (n=51)

Variable	Pre-Mean	Pre-SD	Pre-Min	Pre-Max	Post-Mean	Post-SD	Post-Min	Post-Max	F-value	p-value
Oral cancer screening knowledge (0-11)	7.59	2.88	4.00	11.00	8.86	2.47	4.00	11.00	10.00	0.002
Oral cancer screening self-efficacy (1-5)	3.79	1.18	1.00	5.00	4.11	0.82	2.00	5.00	10.00	0.002
Oral cancer screening attitude (0-4)	1.94	1.12	0.00	4.00	2.11	1.00	0.00	4.00	10.00	0.002

Figure 1. Mountain distribution of training sites.

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Village	n (%)
Yan	47 (92)
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