

Brief Report on Oral Health Prevention Training in Yap State, FSM

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Introduction

Yap State is one of four states of the Federated States of Micronesia (FSM). FSM is one of the former Trust Territories of the Pacific that gained independence in 1986. The country is a self-governing democracy in free association with the U.S. negotiated under the Compact of Free Association.

Yap State consists of 138 islands and atolls of which 22 are populated. The main island of Yap has a population of about 5,000. The state hospital and Community Health Center are located in Colonia, the capital. Remote villages and the outer islands are served by dispensaries manned by Health Assistants and teams of Community Health Outreach Workers (CHW). There is a single dentist at the hospital in Colonia and seven dental nurses; four nurses are assigned to the clinic, two to the elementary schools and one to the early childhood education (kindergarten) program. No recent data on the oral health of the population has been published.

For most of the last decade, dental workers have had little access to continuing professional education. During the past two years, the CHW were employed and received a basic orientation to oral health. The purpose

of this report is to present some preliminary data on the oral health of 5-year old children on Yap Island and to describe the first formal training program for the dental personnel and CHW focused on public dental health and prevention of tooth decay.

ORAL HEALTH FINDINGS

A convenience sample of one classroom in each of two early childhood centers was surveyed. One was in the capital Colonia and the second was in a rural area of Yap. Thirty-nine children were examined with an average age of 61 months (range 48-72 months). The examinations were conducted in a knee-to-knee position using a dental mirror and a head lamp to improve visibility. The primary teeth were rated as either sound or decayed. Prior to the examinations, the dental nurses and CHW were trained using pictures of sound and decayed teeth and all of the examinations were supervised by two experienced dentists. When there were questions, one of the dentists was asked to examine the child. In addition, the dentists spot checked about 10% of the exams.

Thirty-eight of 39 children had at least one decayed primary tooth. The average number of decayed teeth per child was 16 with a range of 0-20 teeth.

ORAL HEALTH PROFESSIONAL TRAINING

The University of Washington offered a three-day training course under the auspices of the Pacific Association for Clinical Training at the University of Hawai'i. The objective of the training was to increase the skills and knowledge of oral health and CHW in the area of prevention of dental caries from infancy through school age.

Table 1. Outline of Pilot Preventive Program Interventions

Age Group	Activity	Personnel
Infancy to age 3	Home visits for: Assessment. Parent education. Distribute fluoridated toothpaste/toothbrush - 2/yr.	Community Health Workers
	Schedule for varnish and iodine. Apply fluoride varnish every two months and substitute topical iodine for varnish twice per year.	
Ages 3 to 5	Home visits for: Assessment. Parent education. Fluoridated toothpaste / toothbrush - 2/yr.	Community Health Workers
	Silver fluoride for cavities in primary teeth - 2/yr. Arrange referrals for extraction of abscessed teeth.	
Ages 5 to 6 (Early childhood education period)	Examination - 1/yr at start of school	Dentist and Dental nurses
	Distribute toothpaste / toothbrush for school and home 2/yr, once at start of school and again after Christmas.	
	Silver fluoride for cavities in primary teeth - 1/yr at start of school. Arrange referrals for extraction of abscessed teeth.	
School Age (elementary grades 1 to 3)	Examination at start of year. Toothpaste/toothbrush school and home - 2/yr at start of school and after Christmas	Dentist and Dental Nurses
	Occlusal sealants	
	Silver fluoride for cavities including permanent molars. Arrange referrals for extraction of abscessed teeth or fillings as possible.	

The 16 participants included the dentist, dental nurses and assistants and nine CHW. Three experienced public health dentists served as instructors. The program was organized around a formal program of primary and secondary prevention of tooth decay for children from infancy through school age. Table 1 describes the program.

The training consisted of seminar instruction using

slides and demonstrations and hands-on clinical sessions at the early childhood education centers. The clinical techniques taught were visual oral examination, application of sodium fluoride varnish for the prevention of caries in children under three years of age, application of an antimicrobial (iodine: Betadine®) for suppression of mutans streptococci in children under three years of age, and topical application of diammine silver fluoride to arrest active caries in children three years and older

Table 2. Yap Training Course Schedule

Day	Wednesday Dec 13	Thursday Dec 14	Friday Dec 15
Morning session 8:30 – 10 am	Oral Cavity in Health and Disease Oral Exam Tooth brushing and Toothpaste	Application of topical Iodine (Betadine®) Application of Silver Fluoride	Caries recording Written Examination
	Break	Break	Break
10:15 – 12 pm	Prevention of tooth decay	Hands on training on oral exams and application of fluoride varnish and Iodine	Hands on training on Application of Silver Fluoride
	Lunch	Lunch	Lunch
Afternoon session 2 to 4 pm	Home Visits to educate parents of young children about tooth decay and tooth brushing	Discussion and review of morning session	Review of written examination and presentation of certificates of completion

and to prevent additional tooth decay. The Pacific Association for Clinical Training (PACT) provided initial supplies of preventive materials. The training course schedule is described in Table 2.

The students were evaluated using a multiple choice and fill-in written examination covering the key elements of the prevention program and clinical procedures. A minimum score of 75% was required for passing. In addition, each student was observed examining and treating at least six children. All of the trainees passed the examination. After the exam, the trainees were debriefed. Certificates of completion were presented by the Executive Director of the Community Health Center in a formal ceremony.

Discussion

The preliminary oral health surveillance survey of preschool children demonstrated extraordinary levels of

tooth decay where nearly every child had cavities and where the number of cavities per child greatly exceeds every the worst areas of mainland U.S. Moreover, services are very limited and thus training in oral health prevention at the community level is a priority. In this training program the expertise of senior dentists from another Pacific Island jurisdiction (Republic of the Marshall Islands), and from programs for Alaska Native children and the University of Washington collaborated to deliver focused preventive instruction. A key element in going forward will be the active participation of the CHW in making oral health a priority within the villages and communities of Yap State. Moreover, the Community Health Center and dental program will need to join forces to be sure that the prevention program has the supplies and other materials needed to deliver an effective program to the

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13 years ago in Pacific Health Dialog, A. Pointer stated, "...where the text books fail is that they present an ideal situation, without describing the process of moving from the current reality towards the ideal." PHD, 1995; 2 (1): 167.