

# Technical training project for school health examination in Cambodia.

## カンボジアにおける学校歯科健康診断技術研修

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## 1. Introduction

The Cambodian economy is recently developing. However the living and educational environment is completely different between in the urban area and in the countryside area. It may affect the children's oral environment.

Dental caries causes not only difficulty to chew but also occasionally the severe infections to threaten the patients' lives. Our university has been trying to build the school dental examination system in order to prevent the children from suffering from tooth loss. Besides, in order to understand the oral health status and lifestyles of the Cambodian children, we performed the oral examinations at two schools; Westline School (WS) in the capital of Cambodia, Phnom Penh (P.P) and No.11 School (11S) in Kandal Steung (KS) .

## 2. Material and method

### 2.1 Subjects and method

We examined 40 children at WS (2nd grade:1 child, 4th grade:14, 5th grade:16, 6th grade:9)

and 66 children in 11S (5th grade:34, 6th grade:32) following school dental examination system conducted by the Japanese Ministry of Health, Labor and Welfare. The examination was performed by two pediatric dentists who have more than 4-year experience at university hospital.

## 2.2 The procedure of school dental examination system conducted by the Japanese Ministry of Health, Labor and Welfare

In Japan, it is decided by law to perform the school checkup every year for children who are between 7 and 15 year-old. Observation points are dental caries, dental arrangement, occlusion, temporomandibular joint, gingival inflammation, and plaque adhesion. The procedure is described below.

1. Check the child's condition and problems on the questionnaire.
2. Examine posture, face and mouth from outside.
3. Put your finger on the temporomandibular joint and check the temporomandibular joint and occlusion when opening and closing.
4. Check the adhesion of plaque on the front teeth.
5. Check the gingiva of the front teeth.
6. Examine the caries with mouth opened.

### Description method:

- erupted tooth (/,-)
- dental caries ;caries (C) , carefully observation needed (CO) , already treated (○)
- missing adult tooth (△)
- careful milk tooth (×)

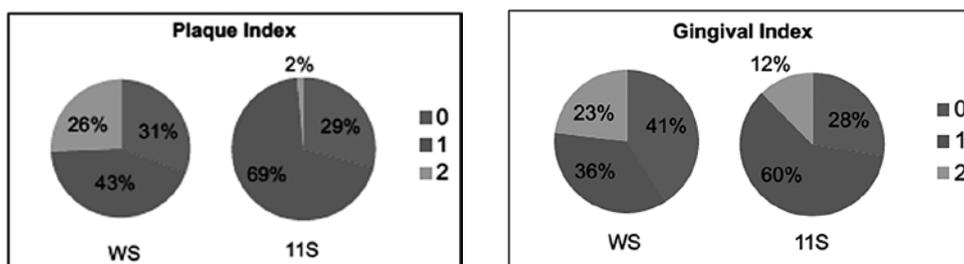
### Criteria of dental arrangement, occlusion, temporomandibular joint, and gingival inflammation.

- 0 : no problem
- 1 : careful watch
- 2 : detailed examination needed

### Criteria of plaque adhesion

- 0 : no plaque
- 1 : plaque attached within 1/3 of front tooth crown
- 2 : plaque attached over 1/3 of front tooth crown





#### 4. Discussion and our suggestions

Our goal of this project is to propose Japanese style school dental checkup and help Cambodian government to build their style. In Japan, the number of children who have dental caries is decreasing and DMFT score of 12-year-old children is under 1.0 recently. This is thought to be caused by school dental checkup, fluoride-containing dentifrice and universal medical insurance system.

The aim of school dental checkup is not to make final diagnose of children's dental sickness and treat but to assist them to glow up without dental troubles. There are a lot of adverse effects caused by dental caries; decreased masticatory function, influence on permanent teeth, influence on dentition, influence on soft tissue, induction of permanent dental caries, influence on pronunciation, induction of bad habits and so on. Besides, the tooth pain may cause the lack of concentration and occasionally severe infection such as infective endocarditis. In Japan, if oral problem is observed, children need to go to see dentists in order to get close inspections. This system makes children aware of brushing teeth and minimalize their dental illness.

The causes of dental caries are thought to be three; bacterial factor, dietary factor, and host factor (Keyes's cause theory) . Bacterial factor is *streptococcus mutans* infection from parents, dental plaque formation and suppression of enamel decalcification. Preventive measures are the decrease in the number of mutans in the oral cavity of parents such as the treatment of parents' caries and decreased transmission to children such as delaying the timing of giving sucrose to children, not chewing food. To prevent dental plaque prevention, it is important to enforce oral cleaning and limit sugar intakes. Fluoride application and Fisher sealant are effective for suppression of enamel decalcification.

In terms of dietary factor, dietary survey is necessary. It includes the balance of nutrition, presence or absence of unbalanced diet and how to eat snacks. Guidance contents are described below;

1. Reduce the number of snacks (determine the time and place of snacks) .
2. Refrain from snacking on sticky, stagnant foods.
3. Stop eating foods and drinks containing sucrose before bedtime or during sleep.
4. Do not eat or drink while playing.
5. Chew chewy foods well.
6. Clean the oral cavity after ingesting food and drink containing sucrose.

Generally, as the economy develops, the sugar intake increases. Therefore different tendency

was found in WS and in 11S. In WS more children had sever PI and GI and it is thought to be caused by more sugar intakes. On the other hand in 11S there were few children who experienced dental treatments. In countryside area such as KS, most of parents don't recognize the importance of oral care and there are few dental clinics. From these facts, dental education and prevention are extremely important.

We think that it is necessary for Cambodian government to build the school dental checkup system and promote health education. Even in Cambodia, there are large regional differences, and efforts to prevent dental caries should not be uniform.

**COI :**

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