



The application of dental health education to managers and foster children of the Seruni and Rumah Bintang Foundation in Bandung

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Abstract. Background: Seruni and RumahBintang Foundation are 2 foundations in Bandung that are engaged in the social sector by fostering foster children in the category of orphans and children from disadvantaged families.

Associated with oral and dental health, many studies prove that the dental and oral health status of foster and street children which includes oral hygiene status, caries index and tooth supporting tissue index are at an unfavorable level. JKG Polytechnic lecturers and students of the Bandung Ministry of Health plan to conduct service activities in the form of dental and oral health care for foster children under the guidance of the two foundations with a focus on dental and oral health education.

Methods:The methods of implementation include: providing dental and oral health training for managers of the two foundations, providing assistance when trained managers conduct toothbrush coaching and counseling for elementary and preschool children who are trained students, and dental health checks of the target students who are divided into 2 semesters and runs from June to October 2017.

In the first semester, the communityservice program was completed in the form of consecutive dental health training for 7 and 5 managers of the Seruni and RumahBintang foundations, caries index and oral hygiene index examinations in 18 and 13 elementary / preschool students under the guidance of the foundation.

In the second semester lbM activities included the dissemination of results of dental health checks of students trained to trained managers, refreshing training materials to managers as a form of strengthening, mentoring in developing dental health education programs and joint toothbrushes in both foundations.

Results: Managers were quite good in delivering educational and coaching skills for brushing teeth to students.

Keywords: target students, oral hygiene index, caries index, joint toothbrush

Introduction

Foster children are members of the community who will be the future successors. Health is their need, as well as dental and oral health. Preventive promotion efforts are expected to change their behavior to achieve better dental health.

Previous research has been carried out at the Umbulharjo shelter in Jogjakarta which shows that dental and oral hygiene conditions are still low. 53.5% have high caries degrees. This situation can be attributed to the condition of their knowledge at a moderate level (93.1%) and its nature still "knows", it has not been implemented [1].

The RumahBintang Indonesia Foundation, located on Jln Ahmad Yani No. 363 Bandung and the Seruni Foundation on JlnKampus IIA No.13 Babakan Sari Kiaracondong Bandung are 2 foundations engaged in social sector and accommodating and financing foster children in the surrounding area.

The Department of Dental Nursing in Bandung Health Polytechnic is an institution of professional dental nurses. One of the competencies expected from graduates is to be able to prevent caries and periodontal tissue disease occurring in both ordinary patients and vulnerable group patients including groups of foster children. From the facts above, the JKG Poltekkes Bandung plans to conduct community

service involving lecturers and students on managers and foster children at RumahBintang and Seruni Foundation with a focus on dental and oral health education.

Community Service

Method

To overcome dental and oral health problems for foster children at RumahBintang and the Seruni Foundation in Bandung, the community service methods applied were as follows: 1) Cooperated with the manager of the RumahBintang and Seruni Foundation in Bandung. Managers of the foundation act as stakeholders who function as motivators, facilitators and educators for foster children so that they can understand about dental health education and apply waSF to maintain oral health properly. 2) Applying the concept of Dental and Oral Health Care for foster children with priority activities focused on providing education about dental and oral health for the management of the foundation. The forms of the activity are: a) providing training to the managers of the RumahBintang and Seruni Foundation. Each of which consists of 5 people, with the aim is to increase knowledge related to dental and oral health and teaching the correct brushing techniques. The impact, on the manager will arise a sense of confidence and enough material in providing dental and oral health counseling to foster children. The skills of the managers in using media/teaching aids are also expected to increase, b) Accompanying trained managers in conducting health education to foster children at RumahBintang and Seruni Foundation by using the provided media (flipchart and power point counseling), c) Accompanying managers trained in carrying out coaching skills to brush teeth to foster children RumahBintang and Seruni Foundation using counseling media that have been provided (jaw and toothbrush model), d) Accompanying trained managers in arranging joint toothbrush programs for all foster children at

RumahBintang and the Seruni Foundation in Bandung.

Target

Target of the community service program at the two foundations was: 5 managers of the RumahBintang Indonesia Foundation, 7 managers of the Seruni Foundation, 13 elementary and PRESCHOOL students at RumahBintang Foundation and 18 elementary students at Seruni Foundation.

Outputs

Outputs that are expected to be achieved are the availability of care services for foster children at the level of preschool and elementary school education with trained managers as implementers, namely:

- a) Obtaining the dental health status data of foster children under the guidance of the two foundations including dental hygiene status and caries index.
- b) Improved manager's knowledge of dental and oral health. The indicator was trained managers were able to correctly answer cognitive questions about dental and oral health after training.
- c) Improved manager skills on how to maintain dental and oral health. The indicator was trained manager could show the correct brushing technique when observed in joint toothbrush activities during training.
- d) The joint toothbrush program for all foster children at the RumahBintang and the Seruni Foundation is scheduled and implemented continuously.
- e) Dental and oral health education/ counseling programs carried out by trained managers, are scheduled and the teaching aids that have been produced can be utilized for these activities.

Training

The training material consists of 5 modules as shown in the table below:

Table 1. Training

| | Materials Material: | Time: |
|----------|--|----------------|
| Module 1 | Identify types, functions, numbers, periods of human teeth and structure of teeth. | 1 hour |
| Module 2 | Getting to know cavities: causes, symptoms, how to deal with disorders | 1 hour |
| Module 3 | Getting to know dental supportive diseases: Causes, symptoms, how to deal with disorders | 1 hour |
| Module 4 | Knowing destructive food and constructive food | 1 hour |
| Module 5 | Knowledge and skills of brushing teeth | 3 hours The |

Training method consists of lectures, demonstrations, simulations and questions and answers. Media training consists of power points, handouts, jaw and toothbrush models. The training will be held for 8 effective hours which will be held for 2 daSF. The training participants were the management groups, each of which consisted of 5 people from the RumahBintang Foundation and 7 people from the Seruni Foundation. Training evaluation will be conducted with written observation tests. Written tests are applied to cognitif aspect about dental health materials delivered during training. Observation tests are applied when the manager provides counseling and teaching how to brush teeth properly to foster children.

Assistance to Trained Managers

Assistance to trained managers is carried out after completing the training. Mentoring was carried out when: a) the trained manager made a joint toothbrush program and an extension counseling program for all foster children, b) the trained manager guided foster children to do toothbrushes together and conducted counseling on dental health material. The purpose of mentoring is to provide opportunities for managers to practice the knowledge and skills that have been obtained, with the guidance of implementing lecturers and building the confidence of trained managers.

Activities Conducted

Table 2. Activities carried out at Seruni and RumahBintangFoundation at First Semester (June – August 2017)

| No | Activity Description | Realized Time Implementation | | Target | | Method |
|----|---|--|--|--------------------------------------|------------------------------------|--|
| | | SF | RBF | SF | RBF | |
| 1. | Situation analSFis and targeting of time and place of training. | June, 20 th | June,20 th | 7 SF manager | 5 RBF manager | Discussion |
| 2. | Preparation of training materials | July, 10 th -12 nd | July, 10 th -12 nd | Power point and handout | Power point and handout | Independently& Group |
| 3. | Pre test Training Module 1, 2,3 | July,17 th | July,24 th | 7 SF manager | 5 RBF manager | Lectures, Questions and answers Discussion |
| 4. | Training Modules 4 and 5 | July,17 th | July,24 th | 7 SF managers | 5 RBF managers | Lectures, Questions and answers Discussion |
| 5. | Evaluate the results of training in terms of knowledge | July,17 th | July,24 th | 7 SF managers | 5 RBF managers | Written test (post test) |
| 6. | Evaluation of training results in tooth brushing skills in jaw models | July,18 th | July,25 th | 7 SF managers | 5 RBF managers | Observation on the skills test |
| 7. | Dental health examination | July, 23 rd | July,30 th | 18 SF elementary/p reschool students | 13 RBF- elementary school students | Direct examination |

Ktr: SF = Seruni Foundation

RBF = RumahBintang Foundation

Table 3. Activities carried out at Seruni and RumahBintangFoundation at Second Semester (September – November 2017)

| No | Activity Description | Realized Time Implementation | | Target | | Method |
|----|--|--------------------------------------|--------------------------------------|----------------------|----------------------|-----------------------------------|
| | | SF | RBF | SF | RBF | |
| 1. | Dissemination of dental health examination results to foundation managers | Sept,22 nd | Sept,23 rd | 7 SF managers | 5 RBF managers | Discussion |
| 2. | Refreshing training and brushing skills skills to trained managers Sept. | Sept,22 nd | Sept,23 rd | 7 SF managers | 5 RBF managers | Discussion, Questions and Answers |
| 3. | Manager assistance in compiling dental health education programs and joint toothbrushes | Sept,22 nd | Sept,23 rd | 7 SF managers | 5 RBF managers | Discussion |
| 4. | Implementation of joint toothbrush program by trained managers for students in Patronage Elementary School | Oct,13 rd | Oct,21 st | 18 students assisted | 13 students assisted | Observation and direct briefing |
| 5. | Finishing community service report | Nov,1 st -3 rd | Nov,1 st -3 rd | Lecturer of JKG | Lecturer JKG | |

Ktr: SF= Seruni Foundation
RBF = RumahBintang Foundation

Results and Discussion

Results of Activities in First Semester and Discussion

Results of dental health education training for managers of the Seruni and RumahBintangFoundation shows an increase in knowledge and understanding of human teeth (number, type, function, time of eruption, period of growth), frequent diseases of teeth and their supporting tissues, foods that support and damage dental health, and the way to prevent dental diseases and oral hygiene maintenance. The average results of the managers of Seruni Foundation pre-test before training were 52.85 and after training 82.85. On the same test, the average pre-test results of the managers of RumahBintang Foundation before getting training was 55.0 and it 89.0 after training

The results of the training on tooth brushing skills were evaluated on the jaw model. From 7 SF training participants, 5 people were able to show correct brushing technique on all tooth surfaces in the mouth and 2 people still mistakenly brushed their teeth in the maxillary teeth facing the palatum. Of the 5 training participants at the RBF,

4 people have carried out the correct tooth brushing movements for the entire surface of the tooth, while 1 person still has difficulty brushing teeth on the surface of the upper jaw facing the palatum and the lower mandibular surface facing the tongue. Some research results do show that the surface of the maxillary teeth facing the palatum and the surface of the lower jaw teeth facing the tongue are surfaces that are often not brushed.

The results of the caries index examination and dental hygiene index for 18 elementary school students under the guidance of the Seruni Foundation showed: the average DMF-T was 1.88 and def-t was 4.3, while the average oral hygiene index was estimated to be 2.68 with the criteria being moderate. When referring to the DMF-T and def-t index required by WHO, which is good if the value is ≤ 2 , the dental caries index is still in good criteria, but the caries index of primary teeth is poor, because there are 4 until 5 of his deciduous teeth have cavity.

The results of the caries index examination and dental hygiene index for 13 elementary school students under the guidance of RumahBintang Foundation showed: the average DMF-T was 0.07 and def-t was 8.15, while the

average oral hygiene index was 2.48 with the criteria is moderate. When referring to the DMF-T and def-t indexes required by WHO, which is good if the value is ≤ 2 , the dental caries index is still in good criteria but the caries index of primary teeth is poor, because there are average 8 until 9 of their deciduous teeth have cavity. This is because children under the guidance of RumahBintang Foundation are mostly elementary school students in grades 1,2 and 3 and some preschool children when they are in the period of primary teeth and mixed teeth. And this shows the actual condition that many deciduous teeth are caries vulnerable. That is, on average, the children examined have 8 to 9 teeth cavities.

Seeing the conditions above, elementary school students in both foundations need to be exposed to education of dental health, especially practical skills on how to brush teeth properly and correctly, namely in terms of technique, time, frequency in a day. Trained managers in both foundations need to be notified of the results of the health examinations of their fostered students and then together with the lecturers of the Dental Nursing Department to design a Dental Health Care program for students with emphasis on dental health education and training in brushing skills.

Results of Activities in Semester 2 and Discussion

Dissemination of the results of dental health examinations of elementary school students to the managers of the two foundations who have received dental hygiene training in first semester, have been done. There were 18 elementary school students aged 7-12 years assisted by Seruni Foundation, who were in a period of mixed dentition, which means in their oral cavity, there are both permanent and deciduous teeth that will gradually be replaced by the permanent tooth.

During this mixed dental period, children are susceptible to caries which can be caused by: a) elementary school children are often exposed to a cariogenic pattern of snacks, b) the presence of deciduous teeth with varying degrees of mobility because they will be replaced by replacement permanent teeth, often causes children to be lazy to eat, especially to brush their teeth, c) the process of erupting teeth often accompanied by

pain or discomfort in the gums where the teeth will grow, even this triggers a sense of laziness to chew on that side, also to brush the tooth at that region. This is evidenced by the high rate of caries in primary teeth and permanent teeth in elementary school children assisted by the Seruni foundation (4.3 and 1.88 respectively). The level of oral hygiene is in the moderate criteria (2.68) when compared with the level of good oral hygiene (0.0 - 1.2).

There were 13 students in PRESCHOOL and elementary schools assisted by RumahBintang Foundation, with ages ranging from 3.5 to 9 years. Children aged 3.5 to 5 years, in their oral cavity there are only primary teeth, and those aged 6 to 9 years are in the period of mixed dentition. Thus, the preschool and elementary children assisted by RumahBintang Foundation have more of their primary teeth. But, the condition of the existing primary teeth shows a high caries level (8,15). This means that in the mouth of the child, on average there are 8 to 9 primary teeth that experience caries. This figure is very high, if it refers to the standard set by WHO, $dmf-t \leq 2$. The level of oral hygiene is in the moderate criteria (2.48).

The best intervention applied to the condition of the child's teeth in both foundations is patching (PTI = Performance Treatment Index) to reduce the number of tooth decay. But this community service is not enough to procure dental fillings, so an alternative that can be pursued is a preventive promotive program to prevent more tooth cavity being formed, namely by brushing teeth education.

Referring to the evaluation of the results of the training conducted in semester 1 in terms of tooth brushing skills, there were 2 surfaces that were difficult to brush and were not brushed when the manager was given the education of brushing skills using a jaw model, namely the surface of the maxillary teeth facing the palatal and the surface of the lower teeth facing the tongue. For this, the community service lecturer gives a refreshing direction for trained managers about that subject. This is a strengthening action to make trained managers are more confident when giving counseling to their students and are right in providing education in brushing skills using a jaw model.

Furthermore, the managers were asked to make a schedule for implementing dental health and joint

toothbrushes for each of their assisted elementary / preschool students. At the Seruni Foundation, dental health education and joint toothbrushes are held at the 2nd week of each month, when children are gathered in the foundation to receive monthly compensation collected from donors. At RumahBintang Foundation the activity is held on the 3rd week of every month. Managers who have been trained at the Seruni Foundation have carried out dental health education activities for their elementary school students and joint toothbrush activities on October 13th, 2017, while at RumahBintang Foundation, the activity was held on October 21st, 2017.

With the implementation of community service activities in the form of dental health education, examination of dental hygiene and caries index at elementary school students, refreshing training materials for managers, and mentoring and coaching to managers to provide counseling and teaching skills for brushing, the optimal degree of dental and oral health children at both foundation can be realized.

Conclusion

Community Service activities are carried out by lecturers of the Dental Nursing Department, Health Polytechnic Bandung. The results are achieved in the form of: 1) Training at 7 managers of Seruni Foundation and 5 managers of RumahBintang Foundation with cognitive evaluation in the form of pre-posttest and evaluation of tooth brushing skills; 2) Dental health and dental hygiene examination at 18 elementary and 13 preschool and elementary students under guidance of Seruni and RumahBintang Foundation.

The results of the training on managers were quite impressive where there is an increase in the achievement of the average pre and posttest score (the average correct answers before and after training are 52,82 to 82,85 at Seruni Foundation and 55,0 to 89,0 at RumahBintang Foundation)

The caries index of primary and permanent teeth in both foundation showed poor criteria (dmf-t = 4,3 at SF and 8,15 at RBF), while the results of the examination of dental hygiene in two foundations on the criteria of moderate.

Dissemination of the results of dental health examination has been done on foundation managers who have been trained.

Further, lecturers implemented refreshing training material as a form of reinforcement for managers, and together made a schedule of health education and toothbrushes.

Trained managers at both foundation have carried out dental health education and joint toothbrushes for their assisted preschool and elementary school students according to the schedule prepared.

Dental Nursing Department students are involved in several community service activities so that students are expected to gain insights and experience, especially how to train community members as dental health partner.

Suggestion

For elementary students who have a high caries index, especially if the caries is about permanent teeth that have erupted or primary teeth that teething their replacement is still long, those students need to be filled and not enough if the intervention is only in the form of brushing teeth. Thus the community service activities need to be supported by more funds to procure the material of dental fillings.

Dental health education and training skills should be applied into a sustainable program in the two foundation because trained managers was received dental health education kits and the students have got toothbrush kit.

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