Oral Health Promotion for Children in Vanuatu

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Introduction

Industrialisation and urbanisation of Pacific nations has brought a change in lifestyle and an increase in sugar consumption, resulting in oral health deterioration. Access to oral health professionals in Vanuatu is limited with a ratio of 1:34,000 people resulting in limited knowledge in oral health as well as inadequate care and longer waiting periods (Finau, 2012). With 80% of the population living in rural communities; only 50% having constant access to clean drinking water, and no regular monitoring of water fluoridation since 1980 it was evident these factors would be driving forces in the creation of a program for the Ni Van community (Bule, 1986). Additionally, there are no current oral health programs implemented that are directed at the child population of Vanuatu, which led to the development of the program ‘Shining Smiles on Efate Island’.

Aim

To create and present a program that will be implemented into various primary schools on Efate Island, Vanuatu to increase the awareness and understanding of the importance of a healthy diet and good oral hygiene. The program will focus on the education of both children between the ages of five to ten as well as the teaching staff at the schools. A significant goal for the project is for the oral health program to not only be remembered and regularly implemented, but also continuously applied into their daily lives. By increasing the awareness of the importance of good oral health via oral hygiene instruction and education, the program aims to benefit the oral health of the target group, as well as indirectly targeting families and other members of the community, and the overall health of the target group. Through a series of interviews with various allied health professionals in Port Vila and recording the plaque scores and dmft/DMFT scores of students at Mele Primary School, a thorough needs analysis will be formulated to enhance the project’s quality. This allows for a better understanding of the needs of the target population, consequently benefiting the overall development and implementation of our program plan on Efate Island.

Methods

A needs analysis was initially conducted via a thorough review of evidence based literature. Observation as well as interviewing key local figures of Vanuatu also aided in identifying common risk factors. In order to obtain baseline data, caries experience and plaque scores were measured in 91 children (kindergarten; Class 1 and Class 6) between the ages of 3 – 13 using the dmft/DMFT index and the Silness and Löe plaque index. A program plan was also devised and implemented to 800 students at two primary schools on Efate Island. The program included interactive components such as open discussions with the children, activities that tested and educated the children on various foods and their impact on their oral health, oral hygiene instruction involving the children with disclosing solution and tooth models and decay identification with various pictures of different stages of carious lesions. The workshops focused on different aspects of oral health and concluded with the issuance of toothbrushes, toothpaste and pamphlets to the children. Staff were administered with laminates named ‘Oral Health Information & Guide for Staff’ as well as a simplified version of the program plan. Pre and post questionnaires completed by teachers and students allowed for process and impact evaluation of the program.

Results

The mean dmft for kindergarten and class 1 was, respectively, 6.5 and 4.36. The mean DMFT for class 1 and class 6 was 0.81 and 2.93. The plaque index ranged from 0-10, 11-20, 21-30 and 30-36 with kindergarten percentages scoring at 22.2%, 33.3%, 27.7% and 16.6% respectively. Class 1 had 0%, 18.9%, 52.8% and 28.3% respectively and class 6 had 0%, 16.6%, 40% and 44.3% respectively. Incorporating the results of the pre and post questionnaires showed an increase in knowledge and understanding of the importance of diet and oral hygiene amongst both children and teachers. Observation and interviewing key local figures highlighted the significant need for an Oral Health and Nutritional Policy to be implemented across all schools.

Discussion

The decrease in dmft scores between kindergarten and class 1 is likely to be the result of natural exfoliation. Limitations of the study included language barriers, large numbers of students and the influence of other peers. It would be of great benefit to the program if yearly visits were made to Vanuatu in order to follow up on the continual implementation of the program ‘Shining Smiles on Efate Island’ by teachers and dental personnel that had been taught how to apply the program. Also, an Oral Health Policy with an included Nutritional Policy that is regularly monitored would greatly benefit the population of Vanuatu as a whole and specifically, children.

Conclusion

The results tabulated from the Sillness and Loe plaque index indicate the correlation between the increase in age and plaque scores, highlighting the need for oral health promotion and education. DMFT scores from class 1 to class 6 indicate an increase of 2.12, further identifying the need for oral health education and diet modification. All in all, the teachers and students found the program to be fun, engaging, and educational. It was concluded that that the ‘Shining Smiles on Efate Island’ program was effective at increasing the knowledge and awareness of the importance of oral hygiene and diet. If continuously implemented at schools, this program will continue to greatly benefit the children participating in the program.

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