

20. The application of irene's donuts innovative school program towards the oral health care

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Submission date: 10-Apr-2022 09:48PM (UTC-0700)

Submission ID: 1807471378

File name: 20. The application of irene's donuts innovative school program towards the oral health care.pdf (523.92K)

Word count: 1854

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Article in *Indian Journal of Public Health Research and Development* - January 2018

DOI: 10.5958/0976-5506.2018.01323.2

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The Application of Irene's Donuts Innovative School Program Towards the Oral Health Care and the Hygiene Index of Children with Special Needs

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ABSTRACT

Background: Children with special needs should get a special care of the teeth and mouth health from both the teachers at school and the parents at home. Most students at the public elementary school for exceptional children in Semarang, Indonesia (77%) suffered from dental caries requiring a particular attention. Irene's Donuts Oral Health School Innovative Program is a method that has been proven in reducing the risk of caries in the elementary school, so it needs to be tested then applicability to students in elementary school for exceptional children.

Method: The type of this research is a quasi-experimental study with a non-randomized pretest-posttest control group design. This study was conducted on 76 respondents with 38 respondents in the control group and 38 respondents in the experimental group.

Results: The pre and post-test result of dependent t-test against the Oral Hygiene Index (OHI-S) shows that the p-value is 0.000. The results of Mann-Whitney test on the behavior of dental and oral health care in the control group and the treatment group shows 0.024 of a p-value.

Conclusion: The conclusion from this research is that there is a difference between the OHI-S before and after the application of innovative Irene's Donuts program to the students in elementary school for exceptional children. Moreover, there is a difference between the behavior of the maintenance of the oral health before and after the application of the program.

Keywords - Exceptional children, Oral Health School Program, Irene's Donuts, OHI-S

INTRODUCTION

Oral health is necessary to improve public health because the mouth is a significant gateway entry of food into the human body. The effort is focused on promoted, and preventive activities are corresponding to the new paradigm of health policy reform. The main problem of oral health is the prevalence of dental caries (cavities pathogen) so high that almost every patient who came to the dental clinic units have a toothache complaint.

Childhood is a time of growth and development where the oral health should be optimal for dental health including for children with special needs whose masticatory function is not optimal and will affect the physical health in general ⁽¹⁾.

³Children with special needs are children who have abnormalities in the context of proper education in the maintenance of dental and mouth health should receive particular attention from teachers in school and parents at home. Most children with special needs in the public elementary school for exceptional children Semarang indicate that (77%) suffered from dental caries, so it needs particular attention ⁽²⁾. This phenomenon suggests that oral health school program in public elementary

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school for exceptional children has not run optimally. Innovative Irene's Donuts is a program developed in Indonesia with innovative methods where parents are involved in it. This program has been proven to reduce the risk of caries in the primary and secondary school but not tested on the students in elementary school for exceptional children⁽³⁾. The purpose of this study was to describe Oral Hygiene Index (OHI-S) and the behavior of dental and oral health maintenance children with special needs in the elementary school for exceptional children Semarang before and after application of innovative programs Irene's Donuts. Besides, it also aims at analyzing the differences OHI-S as well as differences in the behavior of the maintenance of oral health in children with special needs elementary school for exceptional children before and after application of innovative programs Irene's Donuts.

The benefits of this research are that it can improve oral hygiene condition children with special needs students and encourage behavior change maintenance of oral health in the right direction. It could also help the implementation of a program of activities which have not yet done so that the desired objectives can be achieved.

METHODOLOGY

The research is a quasi-experimental with a pretest-posttest control group. The population in this study is the children with special needs in elementary school for exceptional children of Semarang as many as 280 children. The sample is children with a special needs mentally disabled category as many as 72 children divided into two groups randomly: experimental and control groups. Data were analyzed by univariate analysis for the behavior. The frequency distribution was used to describe oral health maintenance and OHI-S before and after the application of the program. A dependent t-test was used to determine the differences in the behavior of oral health maintenance and OHI-S in the experimental group and the control group before and after the application of the program.

RESULTS

The results of the frequency distribution of OHI before treatment in control group indicated 11 respondents (28.9%) were in lousy category whereas

none of the respondents (0%) was found of this class in the treatment group. Those categorized as medium categories were 27 respondents (71.1%) in the control group while in the treatment group, 37 respondents (97.4%) were found in this type. None of the respondents (0%) fell into a proper category in the control group while in the treatment group was found one respondent (2.6 %).

After treatment, the results of the frequency distribution of OHI in control group indicated four respondents (10.5%) were in lousy category whereas none of the respondents (0%) remained in the treatment group. Those categorized as medium categories increased into 34 respondents (89.5%) in the control group while in the treatment group, 27 respondents (71.1%) were found in this type. None of the respondents (0%) fell into a right category in the control group while in the treatment group increased into 11 respondent (28.9%).

Before treatment, the result of the behavior of the frequency distribution of dental and oral health care in the control group was perceived as less in 11 respondents (28.9%). The medium category was one respondent (2.6%), and the excellent grade was 26 respondents (68.4%). After treatment, the result of the behavior of the frequency distribution of dental and oral health care in the control group was perceived as less decreased into nine respondents (23.7%). The medium category increased to 4 respondent (10.5%) and the excellent division slightly reduced to 25 respondents (65.8%)

Before treatment, the result of the behavior of the frequency distribution of dental and oral health care in the treatment group was perceived as less in 10 respondents (26.3%). The medium category was five respondent (13.2%), and the excellent type was 23 respondents (60.5%). After treatment, the result of the behavior of the frequency distribution of dental and oral health care in the control group was perceived as less decreased into two respondents (5.3%). The medium category declined to 3 respondent (7.9%), and the excellent class increased significantly into 33 respondents (86.8%)

The test results dependent t-test against Oral Hygiene Index (OHI) pre and post-test showed p-value equal to 0.000. Meanwhile, the results of test *Mann-Whitney* on the behavior of dental and oral health care in the control group and the treatment group showed the p-value of 0.024.

DISCUSSION

Oral Hygiene Index (OHI) of children with special needs studying in the elementary school for exceptional children in Semarang before and after application of Irene's Donuts innovative program showed that the p-value < 0.05. This figure shows the difference between the difference Oral Hygiene Index in the pre-post control group and the treatment group. This difference is influenced by various behavioral factors of oral hygiene, such as brushing teeth after meals and before bed at night, as well as the role of parents is so significant in providing information about the timing and how to clean teeth properly. The level of oral hygiene is closely related to a person's consciousness in oral health, one of which is about how to brush teeth correctly and adequately (4).

The results of different test behavior of dental and oral health maintenance between control and treatment groups showed no difference because the p-value = 0.024 is < 0.05. This indication shows that innovative Irene's Donuts needs more instrumental in changing the behavior of the maintenance of oral health in the right direction for children with special needs compared with the usual extension without involving the parents. This because they require special treatment either from parents or teachers. This is by the opinion which says that children with special needs are a child who had a significant abnormality/deviation (physical, mental, intellectual, social, emotional in the process of growth and development compared to the other children of their age, so they require special education services (5).

Frequency distribution results showed that in the control group decreased the percentage of respondents in the category of good dental health maintenance behavior and mouth that is 68.4% to 65.8%. Meanwhile, in the treatment group increased the percentage of respondents in this category from 60.5% to 86.8%. This is caused by children with special needs usually have a lack of understanding or misperception in children with special needs in control group who were given regular counseling without involving parents. One should pay attention that in children with special needs during treatment group, parents must be involved considering the children with special needs stay more at home much longer than in schools. This is by the opinion saying that the nearest home environment: parents, siblings, and caregivers are major shapers of children behavior (6).

The role over the application of innovative Irene's Donuts is the availability of suitable and right technique in the maintenance of oral health in the treatment group played by teachers and parents of children with special needs, such as brushing teeth regularly at least 2 times a day in the morning before breakfast and at night before bed. Information provided by teachers and parents also increases the understanding of teachers and parents of children with special needs in the maintenance of oral health, so the guidance and monitoring of the behavior of dental and oral health can be carried out both at school and home. The act of dental and oral health maintenance is indeed expected to reduce the risk of caries as this is consistent with the finding (7) that proves the school program innovative of Irene's Donuts applied in an elementary school can reduce dental caries.

CONCLUSION

Oral Hygiene Index for children with special needs in the elementary school for exceptional children of Semarang before the application program innovative school program called Irene's Donuts is still a lot in the category of the medium. However, after the application of the program, the group is improved into good. Similarly, before the implementation of Irene's Donuts program, less attention is given to oral health care but after application of the program, the focus is improved.

1 **Conflict of Interest:** The author has no conflict of interests related to the conduct and reporting of this research.

Source of Funding: Source of the fund for this project was by Health Polytechnic Ministry of Health, Semarang, Indonesia.

Ethical Clearance: Before conduct of the study written permission was obtained from Health Polytechnic Ministry of Health, Semarang, Indonesia. Consent and willingness were established from all the subjects who meet inclusion criteria of this study.

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