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Severity of childhood caries in primary school

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ABSTRACT

INTRODUCTION: The severity of caries in children of primary school age children from several studies have shown increasing age of increasing severity kariesnya. Caries can be measured by the index of PUFA for children’s teeth. Caries need to know to determine the success of a health program that had been implemented and to determine the condition of dental health to be used as a basis for policy making. Objective: Objective of research is to measure the severity of dental caries in primary school children. Materials and methods: material used is an index check form PUFA, mouth mirror, sonde, tweezers, tray and CPTITN probe. How to research is to examine the state of all teeth in children at State Primary School Cikawiri and Mekarjaya, Village Cimenyan, Bandung regency, then the findings in the teeth was listed on the criterion P for teeth that have experienced caries marked by the entry ball end CPTITN up with existing involvement pulp, the criterion if there ulcers, if any criteria if criteria A fistula and if there is an abscess. All of the above criteria are caused by caries. Results: The results showed caries in SDN Cikawiri and Mekarjaya Cimenyan Desa Bandung regency at very low criteria as much as 2.1 and 6.8 percent, high enough criteria for 15.3 percent and 17.6 percent, high criteria as much as 15.8 and 10.8 percent and very high criteria as much as 42.6 and 33.8 percent. Research Conclusions: The severity of dental caries in primary school age children in SDN Cikawiri and Mekarjaya are at very high criteria.

INTRODUCTION

Caries remains to be a major challenge for public health, and is a major problem for children. The caries lesion, the most commonly observed sign of dental caries disease, is the cumulative result of an imbalance in the dynamic demineralization and remineralization process that causes a net mineral loss over time. Dental caries remains a common chronic disease and, in the absence of treatment, it may progress until the tooth is destroyed.¹

During the last seventy years, the data of caries from throughout the world are collected by def-t/DMF-T index. This index can not provide information about dental caries with pulp involvement and the existence of dental abscess that can be more serious than the caries
Itself. It results in the negligence of people to the high level of caries lesion, the severity and the correlation of the caries with the health and quality of life. A survey or research must be able to provide relevant information on the severity of illness for health policy maker. By the examination of caries using PUFA Index, this necessity relevant information can be fulfilled.

The Pulp, Ulcer, Fistula, and Abscess system (PUFA), are focused on staging the most severe levels of caries disease. Index of PUFA/puta was used to assess the severity of untreated caries. PUFA/puta is an index used to assess the presence of oral conditions and infections resulted from untreated caries in the primary (puta) and permanent (PUFA) dentition. This index records the involvement of pulp (P/p), ulceration (U/u) of oral mucosa due to tooth fragment, fistula (F/f) and abscess (A/a). The results show that most of the caries found involve the pulp exposure both in the permanent (P) and deciduous (p) on the entire sample. Overall caries prevalence on 6-year-old is 62% with the highest component of dental caries and there are 8 permanent teeth having caries with pulp involvement. For the age of 9-years-old, 65.5% with a 10% permanent dental caries and 12 years old is the highest prevalence of caries in permanent teeth, which is 25.3%. It is concluded that 9-year-old children in the mixed dental period shows severe caries. (Pratiwi, 2013)

According to the above data, researcher is interested in doing the research on the severity of childhood caries in SD Mekarjaya and SD Cikawirl Bandung Regency.

MATERIALS AND METHODS

Material used in the research was assessment form of puta index, mouth mirror, sonde, tweezers, tray and CPITN probe. The variable of the research was the severity of caries assessed by puta index.

The research was conducted to the population of students in SDN Cikawirl and Mekarjaya Bandung, with saturated sampling technique in which all students were served as the subject of examination. The assessment of puta Index was conducted by assessing the condition of whole teeth of the students in Sekolah Dasar Negeri Cikawirl dan Mekarjaya, Desa Cimenyan, Bandung Regency. After that, the finding resulted from the assessment was recorded in puta index assessment form. These findings then were classified as P for the teeth which have undergone caries by the entry of CPITN ball end, up to the pulp involvement. Findings were classified as U for teeth with ulcer, F for fistula, and A for teeth with abscess. All the above criteria are caused by caries.

Puta index was calculated by accumulating puta score of each individual, similar to the accumulating of DMF-T/dmf-t score. The score of each individual ranges between 0-20 for puta of primary teeth and 0-32 for puta of permanent teeth. Puta for population was calculated from the average, and it has decimal score. The score then was classified according to the def-t Index into some categories: very high, high, rather high, low, and very low. The very low criterion is with caries score ranging from 0.0 to 1.1; the low criterion has caries severity score ranging from 1.2 to 2.0; the moderate criterion of caries severity ranges
DISCUSSION

Among the entire students of 6-12 years-old accessed in Desa Mekarjaya and Cikawir, the severity of caries with the category of very high level reaches 33.8 percent and 42.6 percent, consecutively. This result is lower than the result of Pratiwi research in Pinrang Regency, North Sulawesi, in which PUFA/pufa index of 6 years-old students reach 62% and for 12 years-old students reach 39.5%. This condition happened as a result of the clinical presentation of caries disease is a caries lesion; the severity of the disease and of individual caries lesions are as the result of complex personal, biological, behavioral, and environmental factors. Some factors are protective, such as the presence of fluoride in the biofilm, whereas others lead to hard tissue destruction, such as lower plaque pH. Caries risk assessment is the organized process of evaluating these protective and pathogenic factors and provides the foundation for selecting treatment interventions.¹

The above scores show that the severity of caries is very high in almost 40 percent of the total students accessed in both schools. This high level of severity indicates that childhood caries is often neglected. This negligence of childhood dental caries frequently result in some problems related to the health condition, significant pain, facial abscess, eating disorder, and losing of some serious school time. Some references state that there is more than 51 millions school hours have been missed in every year due to the illness related to dental problems. Caries causes not only pain and discomfort, but also financial problem for the parents.⁷

There are 264 students in both school has undergone the severity of caries, and it shows that childhood caries has been neglected. This result is almost the same as Pratiwi research which states that there are 450 students have undergone the severity of caries, in which this caries is not treated well.² Untreated caries will cause some problems, for example, if untreated caries progresses into the dental pulp there are possibly three main pathways for this association: 1) pain and discomfort result in reduced food intake; 2) reduced quality of life affects children’s growth and development through restricted activity, reduced sleep, concentration deficits, and so on; and 3) odontogenic Infections may result in cytokine release which might impact on growth.³

The above results are a bit difficult to be compared to the previous research. It is difficult to compare the results obtained from other studies with the present one because of the differences with respect to the methodology, age groups and cultural aspects of the various sub sets of the population both within and between countries.⁶ Various research shows that an untreated caries affects the quality of life and general growth in children; Benzian et al.³ (2011) reported that children with odontogenic infections have increased risk of below normal BMI as compared to children without odontogenic infections.⁴ There is a positive correlation between the OHIP score and the PUFA score among the study population i.e. with the PUFA scores increasing, it has a detrimental effect on the oral health related quality of life of the individual. Correlation between pain and PUFA showed statistically significant relation indicating children with positive scores for PUFA had often suffered pain

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In oral cavity. Whenever pain comes children are given symptomatic medication to relieve pain but no dental visit are planned or treatment is arranged for these children.\(^{10}\)

This information gathered by PUFA/pufa for untreated caries will provide health planners with relevant information about severity of disease and help in planning measures to treat dental caries according to severity. It will also help in evaluating access to emergency treatment and exposure to fluoride as component of basic package of oral health care (BPOC).\(^{11} It is imperative that dental researchers, policy makers and practitioners focus on the systems which assess the consequence of untreated carious lesions and its impact on the quality of life, so that they come out with a much improvised comprehensive oral health policy to address the oral health problems of the masses in our country.\(^{12}\)

CONCLUSIONS

The severity of caries of primary school students in SDN Cikawirl and Melarkaya is categorized as high level of severity.

REFERENCES


