

## Dental Caries and Quality of Life of the 8-10 Years Old Children

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### Abstract

Dental caries influence reaches 60-90% children within 8-10 years old and most of adults. Moreover, dental caries will bring toothache that is able to give any obstacles of the quality of life. This research will apply analytical observational with cross sectional approach (August, 2017). The population is children within 8-10 years old in Banyuputih Villlage, Wringin District, Bondowoso. Sampling technique is purposive (92 sample). The variables are dental caries and the quality of life. The measurement for dental caries uses index def-t, while the quality of life by using Child Perception Questionnaire 8-20 (CPQ 8-10). The data will be analyzed by using Spearman Correlation Test to know whether or not the association between dental caries and the quality of life. The result showed that the mean of dental caries is 6,01 and the mean of the quality of life is 80,79. In short, it can be said that there is correlation between dental caries and the quality of life ( $p=0,002$ ) with the negative correlation effect. In conclusion, there is a correlation between dental caries and the quality of life, so, the highest percentage of dental caries, the lowest quality of life will be.

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### Introduction

A study in the Beji District of children under 6 years old was 53.9% suffering from caries rampant.<sup>1</sup> Toothache becomes the most common problem in several developing countries. Nevertheless, health policymakers do not make some well-planned finishing as the most priority. It happens because they tend to think that dental health never causing death. This problem gives the significant effect of the quality of life, whether social aspect, psychological aspect or even to lose people's life.<sup>2,3,4</sup>

Dental caries belongs to most oral hygiene in all over the world. It has the highest prevalence and gives the social effect significantly, either gives the influence about 60-90% for the children and also the adults.<sup>5</sup> Based

on the health and welfare sides, it is showed that 70-95% of children have dental caries which do not get any treatment in Southeast Asia. It gives effect on periodontal disease, oral cancer, and oropharynx cancer.<sup>6</sup>

Furthermore, National Health Research reported that in 2013, there was 28,9 % of children within 5-9 years old have the teeth problem. Besides, about 62, 4 % they do not enjoy their learning process because of toothache about 3, 86 days per year.<sup>7</sup>

Moreover, children at the age of -8-10 years old have a high risk of dental caries because they eat inappropriate food that is out of their parents' control. They often eat sweet food which becomes the cause of having dental caries.<sup>8,9,10</sup> Banyuputih Village, Wringin District is one of villages that is far from Bondowoso, where they have low economy social status, and have less well educated people

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### Materials and methods

This research was done with analytical observational with a cross-sectional approach in Banyuputih Village, Wringin District, Bondowoso

(August, 2017). The sampling was 92 children within 8-10 years old. The variables were dental caries and quality of life. The measurement of dental caries used the de-t index, meanwhile the measurement of quality life used Child Perceptions Questionnaire 8-10 (CPQ 8- 10). The data will be analyzed by using Spearman Correlation Test to know whether or not the correlation of dental caries with quality of life.

### Results

The research of the correlation between dental caries and the quality of life on children 8-10 years old in Banyuputih village in Wringin District, Bondowoso, showed that the mean and standard deviation of dental caries and quality of life such as follows (table 1).

Variables	Minimum Score	Maximum Score	Mean	Standard Deviation
Dental Caries	0	14	6,01	2,94
Quality of life (QOL)	40	100	81,40	17,58

**Table 1.** The Mean and Standard Deviation of Dental Caries and Quality of Life.

Table 1 shows that the mean of dental caries is 6,01 and the standard deviation is 2,94. The mean of Quality of Life is 80,79 and its standard deviation is 18,08. The relationship between dental caries with quality of life by using Spearman Correlation test can be seen on Table 2.

Variables	Sig.	Correlation Coefficient	Notes	The direction of relation
Dental Caries - Quality of life	0,002	-0,315	There is a relation	Negative

**Table 2.** Spearman Correlation Test of Dental Caries and Quality of Life.

Table 2 shows that there is a relation between the dental caries and the quality of life (p=0,002) with the negative result for the

direction of relation. It means that the highest risk of dental caries, the lowest quality of life will be.

### Discussion

Based on the research of the correlation between dental caries and the quality of life with 92 children of 8-10 years old involved in Banyuputih village in Wringin District, Bondowoso, it stated that the mean of dental caries was 6,01 (belonging to the high category) (table 1). This case is in line with the research that was done by Peresini (2004), the research showed that children with the mean of the def-t 6 have a high dental caries category.<sup>11</sup> The mean quality of life is 81,40 (good category) (table 1).

There was a correlation between dental caries and the children's quality of life. It is proved by looking at the result of Spearman Correlati test (p=0,002) with the negative directions (table2), so, the highest dental caries, the lowest children's quality of life will be. The research that was done by Sachdev *et al.* (2016) showed that the children had *Severe Early Childhood Caries* (S-ECC), which means that having lower weight and height than the other children who had low dental caries. The people's quality of life will be at a low level if they have high dental caries.<sup>12</sup>

Sheiham (2006) stated that the children who had a cavity in their tooth and involved pulp were reported that there were 13,7% children who got weight loss from their 80% normal weight. The children who had dental caries and get good dental hygiene shows the positive effect significantly towards the quality of children's life on few major, especially for improving the growth of them.<sup>13,14</sup>

The children's toothache problem can be related to the decreasing of the quality of life. It happened because they will feel uncomfortable because of the pain and the infection which gave harmful impacts such as the difficulties of chewing the food, sleep disturbance, low motivation in studying, low performance at school, the disruption of socialization, the reducing of self-confident, the obstruction of children's growth that brings influence for the children's life.<sup>15,16</sup> On the other hand, in some cases, children's dental caries also made the causes of losing teeth in early age which made them have the possibility of psychological

trauma, so, it gave the influence of their quality of life. Thus, from the explanation above, it had been proved that dental caries gave influence children's quality of life.<sup>16</sup> According to this case, dental caries prevented and the planning of dental caries was needed on the children's early age to anticipate the severe health problems, and also to create the children's better life.

### Conclusion

It can be concluded that there was a correlation between dental caries and 8-10 years old children's *quality of life* in Banyuputih Village, Wringin District, Bondowoso, the higher dental caries, the lower children's quality of life will be.

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### Declaration of Interest

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