

Early childhood caries prevalence among children with cleft lip and palate at padjajaran university dental hospital

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Received 29 June 2022; 1st revision 19 October 2022; 2nd revision 30 November 2022; Accepted 14 Desember 2022; Published online 28 December 2022

Keywords:

Prevalence; ECC; cleft lip;
cleft palate; oral cleft

ABSTRACT

Background: Cleft lip and/or palate (CL/P) is a congenital abnormality that can be a risk factor for Early Childhood Caries (ECC). ECC is caries that occur in children aged 0-71 months. Poor oral hygiene often found in CL/P patients due to anatomic defects, treatment devices, and surgical scars that can facilitate the colonization of *Streptococcus mutans* and *Lactobacilli* as caries-causing bacteria. This study aims to determine the prevalence of ECC in children with CL/P aged 2-6 years at Padjadjaran Univeristy Dental Hospital from 2018 - June of 2021.

Method: The study used a descriptive observational method with a cross-sectional approach. The data used is secondary data which is CL/P patients aged 2-6 years medical records at Padjadjaran University Dental Hospital from 2018 until June 2021. The sample obtained using total sampling is 102.

Result: The prevalence of ECC in children with CL/P was 46.08%. Unilateral complete palatognatoschizis was the most found CL/P cases (49.02%), including patients with ECC (21.57%). Male is the most common gender in this study (62.75%) also the gender with the most ECC (28.43%). Most children aged 13-24 months (66,67%), while 25-60 months (22,55%) had the highest ECC cases. Most of the CL/P patients came from West Java (95.10%), including patients with ECC (43.14%)

Conclusion: Children with CLP have a high risk of caries, regardless in this study, the prevalence was not that high. Although, there are still a hefty amount of children who experience ECC. Oral hygiene must be a concern of parents from an early age to prevent ECC.

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doi: <http://dx.doi.org/10.30659/odj.9.2.247-257>

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Odonto : Dental Journal accredited as Sinta 2 Journal (<https://sinta.kemdikbud.go.id/journals/profile/3200>)

How to Cite: Silvyani *et al.* Early childhood caries prevalence among children with cleft lip and palate at padjajaran university dental hospital. Odonto: Dental Journal, v.9, n.2, p.247-257, December 2022

INTRODUCTION

The worldwide incidence of cleft lip and/or palate (CL/P) is about 1/700 live births every year.¹ American and Asian populations are approximately 1 in 500, European 1 in 1000, and African 1 in 2500.² CL/P can be caused by a genetic disorder such as chromosome abnormalities or genetic mutation for syndromic, whereas non-syndromic can be caused by environmental factors such as maternal smoking and alcohol use during pregnancy.³ Orofacial cleft defect occupies the second position out of the eight most common types of congenital abnormalities in Indonesia with a percentage of 20% of 956 cases.⁴ CL/P proportion of children aged 24-59 months is 0,12%.⁵

Oral hygiene in CL/P patients is frequently found in a poor condition due to use of the intraoral appliances during treatment.⁶ The application of orthodontic appliances, obturators, and other appliances can help children during breastfeeding and speaking.⁷ However, *Streptococcus mutans* and *Lactobacilli* as bacteria that initiate caries were facilitated to colonize.⁸ Worth et al.,(2007)⁹ show that an individual with an orofacial cleft has a higher risk of caries.

American Academy of Paediatric Dentistry defines ECC as “the presence of one or more decayed (non-cavitated or cavitated lesions), missing (because of caries), or filled tooth surfaces in any primary tooth in a child aged 71 months or younger”.¹⁰ ECC could be the major problem in children’s dental and oral health.¹¹ Prevalence of ECC in Asian countries such as China in the 2-year-old group (26,6%), United Arab Emirates (83%), and Vietnam (91,9%).^{12,13} *Riskesdas (Riset Kesehatan Dasar)* which is done by the Ministry of Health of the Republic of Indonesia in 2018 shows that caries prevalence in the 3-4-year-old group (81,5%) and the 5-9-year-old group (92,6%).⁵

Britton *et al.*,(2010)¹⁴ search in West Scotlandia by comparing caries prevalence in children aged 6 months – 6 years with CL/P with national data of the same age. ¹⁴The result was showed that a higher prevalence of caries found in children with CL/P (62,8%) more than the national data (42,3%) in the 4,5-6-year-old group.¹⁴

CL/P and ECC affect a child’s quality of life.^{15,16} Pain, difficulty in eating and drinking, and decreased self-esteem of children because of their appearance felt by them.¹⁷ It shows how important it is to prevent caries in children with CL/P which is a risk factor for ECC.⁹ Many many studies have been carried out on the prevalence of caries in Indonesia or another country, but the research that specifically discusses the prevalence of caries in children with CL/P has never been done in Indonesia. This is the basis for conducting research with the aim of knowing the prevalence of ECC in children with CL/P at Padjadjaran University Dental Hospital in 2018-2021. The result can be used as the basis for prevention that can improve the child's quality of life.

METHOD

This study was a descriptive observational cross-sectional. Population of this study is CL/P patients aged 2-6 years old at Padjadjaran University Dental Hospital.^{24,25} Recently, the study used a total sampling method. So, all of the population were a sample.²⁴ The sample studied consisted of 102 children found at Padjadjaran University Dental Hospital. The data were secondary data conducted on the medic records of the CL/P patient from 2018 to June 2021. The difficulty in this study was that the dentist did not fill in all

the odontogram in the patient's medical record after checking the medical records one by one. This can happen due to dentists prioritizing good and fast service because of the large number of patients.¹⁸

The following criteria were included in this study: CL/P patients aged 2-6 years old were registered on medical records from January 2018 to June 2021 with a filled odontogram. The primary teeth boxes should be filled with one or more caries signs. Patients with a medical record that isn't filled or can't be read were excluded.

Data were classified by year of observation, classification of CL/P, age group (months), and their

province of origin that is shown in a table. Classification of cleft types based on ICD-10.¹⁹ This study was sent to the Research Ethics Committee of Padjajaran University for approval with (1009/UN6.KEP/EC/2021).

RESULT

The size of the sample that was suitable for inclusion criteria was 102. The distribution of sample characteristics is shown in Table

Table 1. The distribution of sample characteristics

Characteristics	2018		2019		2020		2021		Total	
	n	%	n	%	n	%	n	%	n	%
Gender										
Males	2	1,96	8	7,84	20	19,61	8	7,84	38	37,25
Females	2	1,96	12	11,76	22	21,57	28	27,45	64	62,75
Age Group (months)										
24-30	1	0,98	13	12,75	32	31,37	22	21,57	68	66,67
31-37	2	1,96	7	6,86	10	9,80	12	11,76	31	30,39
38-44	1	0,98	0	0	0	0,00	2	1,96	3	2,94
Age Average (months) ± (DS)	30,29 ± 8,57									
Origin (province)										
West Java	4	3,92	18	17,65	39	38,24	36	35,29	97	95,10
Central Java	0	0	2	1,96	0	0	0	0	2	1,96
East Java	0	0	0	0	1	0,98	0	0	1	0,98
DKI Jakarta	0	0	0	0	1	0,98	0	0	1	0,98
Banten	0	0	0	0	1	0,98	0	0	1	0,98
Parent's Occupation										
Housewife	1	0,98	4	3,92	19	18,63	13	12,75	37	36,27
Civil's Employee	0	0	1	0,98	5	4,90	8	7,84	14	13,73
Entrepreneur	1	0,98	4	3,92	5	4,90	2	1,96	12	11,76
Labor	0	0	4	3,92	5	4,90	4	3,92	13	12,75
Seller	0	0	0	0	0	0	2	1,96	2	1,96
Teacher	1	0,98	0	0	1	0,98	0	0	2	1,96
Driver	0	0	0	0	1	0,98	1	0,98	2	1,96
Farmer	0	0	2	1,96	0	0	0	0	2	1,96
Nurse	0	0	0	0	1	0,98	1	0,98	2	1,96
-	1	0,98	5	4,90	5	4,90	5	4,90	16	15,69
Total	4	3,92	20	19,6	42	41,18	36	35,29	102	100,00

Table 1 shows all of the samples was 102. Males were the most common gender with 64

(62,75%) patients. Age group 13-24 months (66,67%) was the most frequent. The number of

samples decreases as the patient ages. The average age group of this study is $30,29 \pm 8,57$. Age grouping as shown in Table 1 uses.²⁰

West Java is the origin of the most frequent patient (95,10%). All of the patients. Patients domiciled on Java island. Sample frequently found in 2020 (41,18%), whereas in 2018 least of all (3,92%).

The distribution of sample characteristics with ECC cases per year can be seen in Table 2. Males are the most common (28,43%) and the least (34,31%) of all gender who experience caries. The age group of 25-60 months of this study was the most frequently found with caries (22,55%), whilst 13-24 months was the age group mostly free of caries. (46,08%).

Table 2 reveals West Java was the origin for the most patient who experience caries

(43,14%), and simultaneously free caries (51,96%). The highest number of ECC cases can be found in 2021 (19,61%), whereas 2020 was the year with the lowest number of cases (23,53%).

Table 3 demonstrates the distribution of CL/P patients with ECC regarding cleft type and age of the patient in 2018 – 2021. Mostly, cleft type in this study was palatognatoschizis unilateral complete (49,02%). It is frequently found with caries (21,57%) in every age group, yet frequently free of caries (27,45%). The age group of 13-20 months with palatognatoschizis unilateral cleft type is the highest group with ECC cases (11,76%). Classification of CL/P cases with the second highest number of ECC patients also came from palatognatoschizis cases, but with bilateral complete palatognatoschizis classification. (6,86%). Gnatoshizis wasn't found in this study.

Table 2. Distribution of ECC cases per year, gender, age group, and origin of CLP patient in 2018-202

Characteristics	2018		2019		2020		2021		Total											
	ECC		No		ECC		No		ECC		No									
	n	%	n	%	n	%	n	%	n	%	n	%								
Gender																				
Female	2	1,96	0	0	2	1,96	6	5,88	9	8,82	11	10,78	5	4,90	3	2,94	18	17,65	20	19,61
Male	2	1,96	0	0	3	2,94	9	8,82	9	8,82	13	12,75	15	14,71	13	12,75	29	28,43	35	34,31
Age group (months)																				
13-24	1	0,98	0	0	2	1,96	11	10,78	10	9,80	22	21,57	8	7,84	14	13,73	21	20,59	47	46,08
25-60	2	2	0	0	3	2,94	4	3,92	8	7,84	2	0	10	9,80	2	1,96	23	22,55	8	7,84
61-71	1	1	0	0	0	0	0	0	0	0,00	0	0	2	1,96	0	0	3	2,94	0	0
Province																				
West Java	4	3,92	0	0	4	3,92	14	13,73	16	15,69	23	22,55	20	19,61	16	15,69	44	43,14	53	51,96
Central Java	0	0	0	0	1	0,98	1	0,98	0	0	0	0	0	0	0	0	1	0,98	1	0,98
East Java	0	0	0	0	0	0	0	0	1	0,98	0	0	0	0	0	0	1	0,98	0	0
DKI Jakarta	0	0	0	0	0	0	0	0	1	0,98	0	0	0	0	0	0	1	0,98	0	0
Banten	0	0	0	0	0	0	0	0	0	0	1	0,98	0	0	0	0	0	0,00	1	0,98
Total	4	3,92	0	0	5	4,90	15	14,71	18	17,65	24	23,53	20	19,61	16	15,69	47	46,08	55	53,92
																		102 (100,00)		

Table 3. Distribution of ECC cases per age and CL/P classification in 2018-2021

Cleft Type	13-24		25-60				61-71				Jumlah				Total						
	ECC		No		ECC		No		ECC		No		ECC		No		n	%			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%							
L	U	C	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	
		I	1	0,98	1	0,98	0	0,00	0	0,00	0	0,00	0	0,00	1	0,98	1	0,98	2	1,96	
	B	C	0	0,00	1	0,98	3	2,94	0	0,00	1	2,13	0	0,00	4	3,92	1	0,98	5	4,90	
		I	0	0,00	0	0,00	0	0,00	0	0,00	1	2,13	0	0,00	1	0,98	0	0,00	1	0,98	
	Lg	U	C	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
			I	0	0,00	1	0,98	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	1	0,98	1	0,98
B		C	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	
		I	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	
P		U	C	0	0,00	1	0,98	1	2,13	0	0,00	0	0,00	0	0,00	1	0,98	1	0,98	2	1,96
			I	1	0,98	3	2,94	1	0,98	1	0,98	0	0,00	0	0,00	2	1,96	4	3,92	6	5,88
	B	C	0	0,00	2	1,96	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	2	1,96	2	1,96	
		I	1	0,98	3	2,94	2	4,26	1	0,98	0	0,00	0	0,00	3	2,94	4	3,92	7	6,86	
	G	U	C	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
			I	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
B		C	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	
		I	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	
Pg		U	C	12	11,76	25	24,51	10	9,80	3	2,94	0	0,00	0	0,00	22	21,57	28	27,45	50	49,02
			I	0	0,00	2	1,96	0	0,00	1	0,98	0	0,00	0	0,00	0	0,00	3	2,94	3	2,94
	B	C	6	5,88	7	6,86	1	2,13	1	0,98	0	0,00	0	0,00	7	6,86	8	7,84	15	14,71	
		I	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	
	Lp	U	C	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
			I	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
B		C	0	0,00	0	0,00	1	2,13	0	0,00	0	0,00	0	0,00	1	0,98	0	0,00	1	0,98	
		I	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	
Lgp		U	C	0	0,00	1	0,98	3	2,94	1	0,98	1	0,98	0	0,00	4	3,92	2	1,96	6	5,88
			I	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
	B	C	0	0,00	0	0,00	1	2,13	0	0,00	0	0,00	0	0,00	1	0,98	0	0,00	1	0,98	
		I	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	
	Total			68 (66,67)				31 (30,39)				3 (2,94)				47 46,08 55 53,92				102 (100,00)	

*L: Labioschizis; Lg: Labiognatoschizis; G: Gnatoschizis; P: Palatoschizis; Pg: Palatognatoschizis; Lp: Labiopalatoschizis; Lgp: Labiognatopalatoschizis; U: Unilateral; B: Bilateral; C: Complete I: Incomplete

DISCUSSION

ECC is caries found in one or more teeth with or without cavities in children aged 71 months or younger. Caries seen in this study were based on observation in medical records and odontogram records.. This study did not perform a through ECC examination.

Table 1 showed that most of the samples came from the age group of 13-24 months (66.67%). The dominance of this age group is caused by the fact that newly born with cleft lip and palate are almost entirely registered at the

Foundation for Cleft Lip and Palate Sufferers (YPPCBL).

The dental hospital of Unpad cooperates with YPPCBL in treating registered cleft lip and palate patients. Patients were immediately referred to the dental hospital of Unpad for treatment, either to perform surgery, manufacture tools to support normal functions, or monitor dental and oral health. The treatment of cleft lip and palate patients is generally carried out sequentially and continuously from the age of 3

months depending on the classification of cleft lip and palate.²¹ The age distribution of the sample in this study is in line with previous research conducted at YPPCBL, Bandung that cleft lip and palate patients enrolled in 2018-2019 dominated by the age of 0-24 months.²²

Table 2 showed that 46.08% of children in this study had ECC.²³ The highest incidence of ECC is in the age group of 25-60 months (22.55%) of all age groups. Table 2 also shows that 21 (30.88%) of 68 children in the 13-24 month age group experienced implicit ECC. However, this incident should have avoided by age, time of occurrence, and regular visits to the dentist as a regular treatment for cleft lip and palate.²⁴ This is not expected to occur in this age group because the younger the child is, the fewer the number of teeth that have erupted compared to the older age, although according to Peterka et al. (1993)²⁵ there is a delay in the eruption of the primary lateral incisors because the eruption site is around the cleft.^{25,26} The place for caries-causing bacteria to colonize and the time available for the caries process to occur is also less.²⁷

The data in Table 2 showed that the number of cleft lip and palate patients found in other age groups is not as much as the 13-24 month age group, but the percentage of cleft lip and palate patients who experience ECC increases with age. The percentage of ECC in the youngest age group was 30.88%, then 74.19% in the 25-60 month age group, and 100.00% in the oldest age group of 61-71 months. This is in accordance with previous research that the higher the age, the more caries found, but the inequality in the number of patients in each age group in this study must also be considered.²⁸⁻³⁰

Caries is a multifactorial disease.³¹ Bacteria that cause caries require an optimal site for colonization.¹² The alteration of the substrate from deposits of food in the oral cavity will be changed to acid by a bacterium over time it can become caries.³² More and more teeth erupt with age.³² The surface of the teeth in the oral cavity increases, so it can increase the chances of being a place for bacteria to colonize.³³

Various things can affect the occurrence of ECC in patients with cleft lip and palate patients. The main focus of cleft lip and palate patients is caries, not dental and oral health. However, their main focus is the various medical procedures needed to correct anatomical defects in their child.³⁴ Another cause of caries in cleft lip and palate patients is the habit of parents giving snacks to them. Their parents often give high-sugar snacks after going through the cleft lip and palate treatment procedure.³⁵ Wrong feeding timing can also affect the occurrence of ECC in children, as shown by research conducted in Southern Thailand.³⁶ This condition happens because parents do not have the heart to refuse an abnormal child's request.³⁶ Bottle feeding to put children to sleep at night also influences the occurrence of ECC.⁸ Research by Ann et al., (2012)³⁷ showed that 99% of parents knew the types of food that caused tooth decay, but 64% of parents did not know that milk could cause tooth decay. Forty-five percent of parents even add sugar to the milk. This indicates that the parents in the study were not aware of the hidden sugar content in these foods that could cause caries.

The use of an acrylic-based intraoral device also increases the risk of cleft lip and palate patients experiencing ECC.³⁸

Streptococcus mutans increases in number with age and the time of using the device.⁸ Previous studies have shown that *Streptococcus mutans* and *Lactobacilli* are more common as caries-causing bacteria in children with cleft lip and palate patients than in normal children.²⁷ The high number of caries-causing bacteria is caused by malocclusion and enamel defects in the form of reduced enamel matrix production which can cause enamel hypoplasia.^{39,40} These enamel defects accelerate the caries process by the accumulation of plaque.⁴⁰ Malocclusion in cleft lip and palate patients also makes it difficult for children to clean the oral cavity.⁴¹ Children's interest in maintaining oral health is also reduced because of the difficulty in cleaning the oral cavity where there are anatomical defects and it is not uncommon for children to feel afraid.^{42,43} Plaque formation in the anterior region is more than in the posterior region due to the influence of salivary flow rate and intraoral movement due to decreased elasticity of the lips after surgery on the cleft and palate.²⁷ The anterior portion of the dental arch is more than the posterior segment due to the influence of salivary flow rate and intraoral movement due to decreased lip elasticity after cleft and palate surgery.²⁷ The condition of cleft lip and palate patients which is a risk factor for ECC is also supported by the results of previous studies.¹⁴

Male (67.25%) is the most common sex found based on Table 1. Previous literature does not show whether there is a gender predilection for the incidence of cleft lip and palate patients, but several studies have revealed that more males experience cleft lip and palate than females.^{22,28,44} Noorollahian et al.,(2015)⁴⁵. The difference in results can be caused by genes in

male embryos have a higher tendency to interact with the surrounding environment.⁴⁶

Table 2 showed that cleft lip and palate male patients experienced more ECC (28.43%) than female patients (17.65%). These results are consistent with other studies.^{23,47} The fact shows that men have more physical activity than women so there can be an increase in the need for food.⁴⁷ The type of food consumed affects the occurrence of ECC, one of which is food with high sugar content, but it is possible that this result may be influenced by the number of men who are far more numerous in this study.⁴⁸ It can also be caused by psychological differences between boys and girls related to differences in the genetic conditions of the two sexes. therefore, men tend not to pay too much attention to themselves, including regarding oral health.⁴⁹

West Java was the highest origin of the CL/P patients (95,10%) Furthermore, the highest origin with ECC cases (43,14%) as shown as Table 1 followed by Central Java (0,98%), East Java (0,98%), and DKI Jakarta (0,98%). Padjadjaran University Dental Hospital was located in Bandung, West Java which is closer to the domicile of most of the CL/P patients. None of the samples are domiciled outside Java.

Distance is one of the predisposing factors for a person to seek treatment because the distance of a health facility can be an obstacle.⁵⁰ The type of service available at a health facility also affects a person in seeking treatment.⁵¹ Severity of the disease also affects individuals to seek treatment at the health facility compared to self-medication.⁵⁰

Handayani et al.,(2003)⁵² showed that Indonesians are more careful if their baby gets sick and tend to take it to a medical professional.

Almost all samples in the study were registered with YPPCBL, which is a foundation that helps cleft lip and palate patients in getting treatment at a low cost or even free of charge.⁵³ The affordable cost is also a consideration for someone who is less able to seek treatment at a health facility rather than taking care of it themselves.⁵¹

The data obtained in this study indicate that majority of the patient's parents are housewives, then private employees, entrepreneurs, and laborers. A study conducted in Depok compared the prevalence of dental caries in children aged 3-5 years with working and non-working mothers. This study results revealed that the prevalence of dental caries in children was higher in mothers who did not work.⁵⁴ Working mothers have less time for their children, but earn an income that can help increase knowledge, including dental and oral health.⁵⁵ The income can also meet the needs of prevention and treatment in health.^{54,56}

The results difference also because of the social environment.⁵⁷ Working mothers will have a wider social environment.⁵⁴ The social environment can help in exchanging information, one of which is about children's health, while mothers who do not work tend to have a narrower social environment and influence the mother's knowledge of the child's dental and oral health.⁵⁷

Research by Sjamsudin et al.,(2017)⁴⁴ based on data collected from 2011-2015 showed that the highest incidence of cases in West Java is cleft lip and palate, followed by cleft lip and cleft palate.⁴³ Another study stated that most patients at YPPCBL Bandung, West Java for the period January 2018 – December 2019 were cleft lip and palate patients.²² Complete unilateral

palatognatoschizis cases (27.45%) dominated in this study. This result can be the reason that this classification is also the classification of the incidence of ECC (14.71%). Unilateral cleft cases with more caries incidence were also found in the previous literature.⁵⁸ Cleft palate involvement with the highest caries incidence is in accordance with the studies of Nagappan et al.,⁴¹ Kirchberg et al.,²⁸ Paul & Brandt⁵⁹, and Johnsen & Dixon³⁵, although all types of the cleft are risk factors for caries. Cleft palate may result in poorer oral hygiene than clefts in other areas.⁸ The attachment of plaque to the teeth is strengthened by fluid from the nose which flows vigorously into the oral cavity.⁶⁰ Food impaction causes the food to move through the nose which is then vomited up back into the oral cavity.⁸ The food is present in the oral cavity for a long time, thereby increasing the risk of caries. Other literature showed that there is no significant difference in the incidence of caries in children with cleft lip and palate with all classifications examined.⁴⁵

Based on previous studies, the classification of cleft unilateral cases had a lower prevalence of dental caries when compared to cleft lip and palate cases with combined clefts.⁶¹ Several studies have shown the opposite, that there is no significant difference between the incidence of ECC and cleft lip and palate classification.^{60,62} The number of sample characteristics in this study was not evenly distributed in each group, therefore further research is needed to analyze the characteristics of cleft lip and palate patients. Research that discusses the behavior of maintaining dental health in cleft lip and palate patients that is associated with the incidence of ECC also needs to be investigated further in the next study.

CONCLUSION

Children with cleft lip and palate have a high risk of caries, regardless in this study, the prevalence was not that high. Most of the ages found were less than or equal to 24 months might be the reason because one of the factors for caries is time. Although, there are still a hefty amount of children at that age who experience ECC. Oral hygiene of children with CLP must be a concern of parents from an early age to prevent ECC.

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