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Research Paper

Comparative Analysis Between Age and Endodontic Treatment of The Temporal Dentition

*Dr. Dobrinka Damyanova Phd[1],Dr. Sirma Angelova PhD[2]
[1]*Assistant Professor, Medical University-Varna,Bulgaria, Faculty Of Dental Medicine, Department Of Pediatric Dental Medicine*
*Corresponding author: *Dr. Dobrinka Damyanova Phd*

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ABSTRACT
Background: *In case of exacerbation of chronic pulpitis of temporary tooth, the processes pass extremely fast from one phase to another. Pulpitis chr. fibrosa - under carious dentin we establish communication with the pulp. Pulpitis chr. ulcerosa has available communication with the pulp, also occurs directly with careful drilling.*
Objective: *Perform a comparative analysis between age and endodontic treatments of temporary dentition.*
Material and Methods: *Children 67, 37 girls and 30 boys, mean age 5.1 ± 0.8 years, minimum age 4 years, maximum age 6 years with a prevailing share of 6 year olds were studied. Time and place of observation: The study was carried out in the Faculty of Dental Medicine, Varna, 2015-2017, with the permission of the University Scientific Research Committee, with informed consent from each parent. The selection of children is random. Surveillance Authorities: PhD student specialized in pediatric dentistry. Registration of data: in the statistical maps.*
After processing the results and determination of the highlights was conducted by actual survey data processing package for mathematical and statistical analysis SPSS v 20.0.
Results: *When performing the comparative analysis between age and the one-on-one treatments of the dentition, we found a statistically significant difference ($\chi 2 = 28.92$ $p < 0.05$). At the age of 4 and 5, the relative share of endodontic treatment of teeth 64 (21.10% for 4 years and 15.00% for 5 years) prevailed, while in 6 years, the teeth were 65 (21.40%). Of the two children studied, no endodontic treatment has been performed. Children with 2 endodontic treatments have the highest relative share on average for temporary dentition (46.30%), followed by one treatment average in the dentition (22.40%).*
Conclusion: *1. We found a statistically significant difference between age and endodontic treatments of the dentition of the tested children. 2. At the age of 4 and 5, the relative share of endodontic treatment of teeth 64 is prevalent, whereas in 6 years these are the teeth 65. 3. On average, one child was treated with 2.25 ± 1.39 endodontic treatments, with as many as 8 endodontic treatments in the dentition.*
Keywords: *endodontic treatment, pulpitis, lesions d4, temporary teeth*

I. INTRODUCTION

According to Iman P et al., 2015 In case of exacerbation of chronic pulpitis of temporary tooth, the processes pass extremely fast from one phase to another. Pulpitis chr. fibrosa - under carious dentin we establish communication with the pulp. Pulpitis chr. ulcerosa has available communication with the pulp, also occurs directly with careful drilling [1, 2, 10]. In the temporary teeth in the short functional stages, there is hardly any evidence of acute pulpitis (unlike permanent teeth). The complication of the pulpitis of the temporary teeth in the gangrene includes the microorganisms - Bactroides putrificus, bact. perfringens, bact. coli, bact. fusiformis, staph. aureus. Methods of pulpotomy for treating irreversible pulpitis and their complications are used [3].

From 4 to 6 years of age, the functional (active) pulp exchange period is characteristic [4]. Toxins and enzymes of dentin degrading microorganisms will stimulate the pulp to protect and build up a transparant sclerotic protective dentin (under dental caries), a secundary protective dentin (in the pulp chamber below the

site of carious destruction). The way to penetrate deeply the etiological factors is blocked. Biological methods of treatment and, more often, indirect pulp capping for the treatment of reversible closed pulpits are employed [8] . The method of direct pulp capping for the treatment of the reversible and open pulpitis of temporary teeth is less commonly used [5, 6, 7].

Objective: Perform a comparative analysis between age and endodontic treatments of temporary dentition.

II. MATERIAL AND METHODS

Children 67, 37 girls and 30 boys, mean age 5.1 ± 0.8 years, minimum age 4 years, maximum age 6 years with a prevailing share of 6 year olds were studied.

Time and place of observation: The study was carried out in the Faculty of Dental Medicine, Varna, 2015-2017, with the permission of the University Scientific Research Committee, with informed consent from each parent. The selection of children is random.

Surveillance Authorities: PhD student specialized in pediatric dentistry. Registration of data: in the statistical maps.

o **Diagnostic scale - codes:**

d1b - white caries lesion, visible without drying.
d2 - white enamel cavity lesion.
d3- dentinal lesion without pulp involvement
d4 - dentinal lesion with pulp involvement
A - active (d1b, d2)
NA - inactive (d1b, d2)
Reversible caries lesions - (d1b, d2)
Irreversible caries lesions - d3 and d4.

Non-carious lesions and hypomineralised spots were excluded from the study after the diagnosis we made.

Applied methods for endodontic treatment of the pulp of the examined temporary teeth of the studied children from 4 to 6 years of age. The methods used for endodontic treatment of the pulp of temporary teeth are pulpotomy, methods of indirect and direct pulp capping - biological methods in the temporary dentition.

After processing the results and determining the highlights, the actual study was performed by processing the data with a mathematical-statistical processing package SPSS v 20.0. The U test using Man and Whitney method, X^2 test, and Pearson correlation are used.

III. RESULTS

Children 67, 37 girls (55,20%) and 30 boys (44,80%), mean age 5,1 ± 0,8 years, minimum age 4 years, maximum age 6 years with predominant share of 6-year old children (41.80%) (Figure 1).

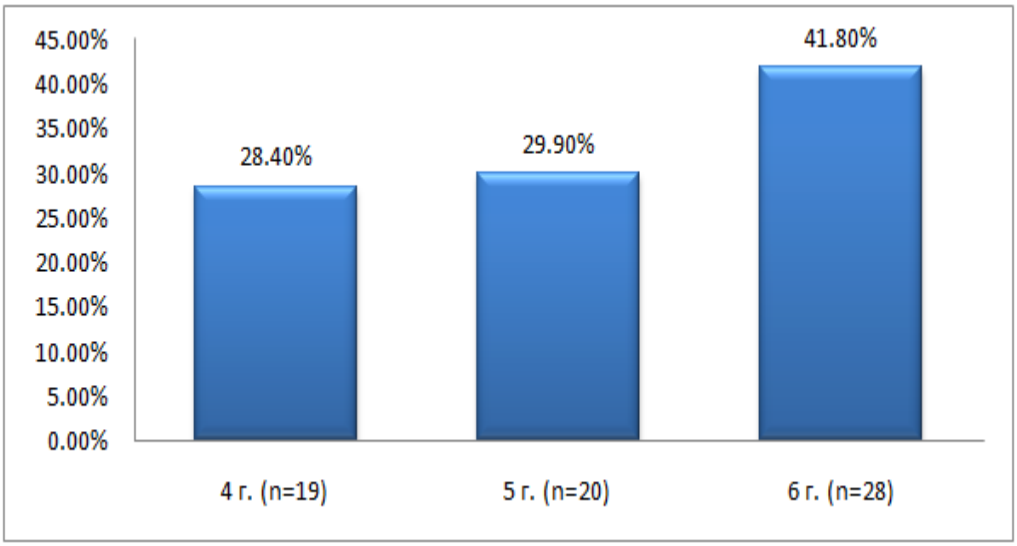


Fig. 1. Age distribution of the examined children

The results of the comparative analysis of the examined children by gender and age did not show a significant difference, as in the two groups the children were 6 years old (40,50% for the girls and 43,30% for the boys).

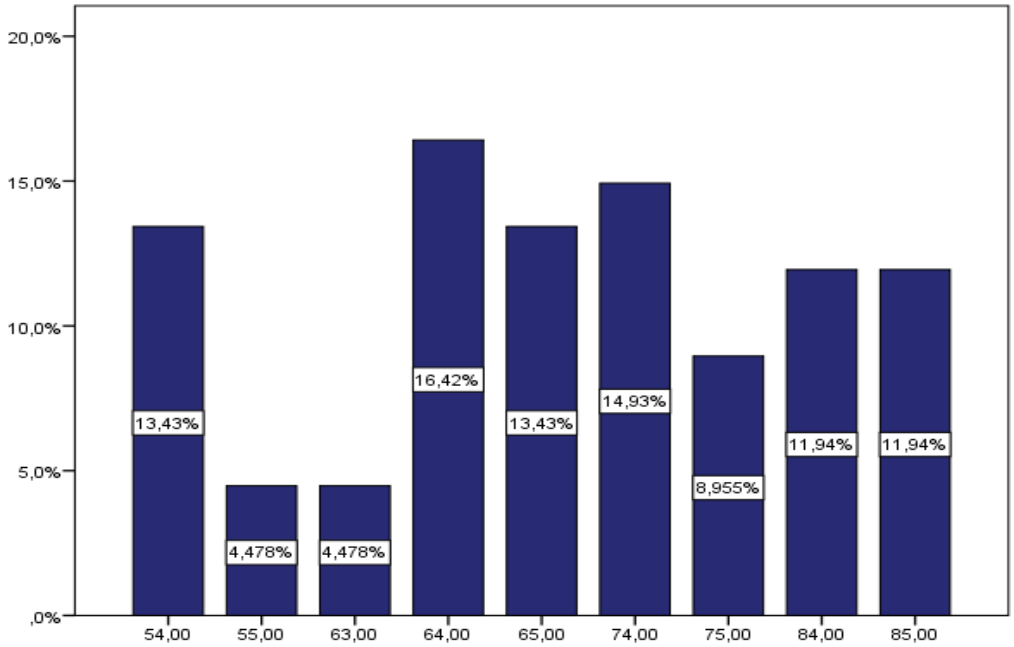
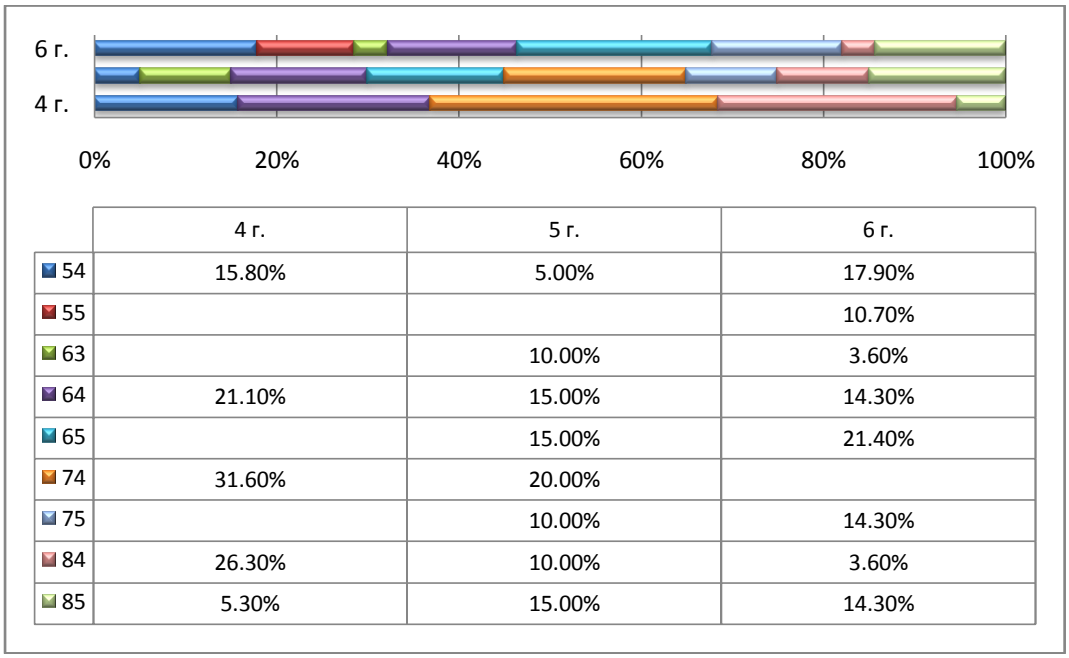


Fig. 2. Relative share of temporary teeth with endodontic treatment

The results of Fig. 2 show that in our sample the relative proportion of pulpitis of teeth 64 - 16.42% (upper first temporary molars on the left) prevails, followed by temporary teeth 74 - 14.93% and 54 and 65 (13.43%).



	4 r.	5 r.	6 r.
54	15.80%	5.00%	17.90%
55			10.70%
63		10.00%	3.60%
64	21.10%	15.00%	14.30%
65		15.00%	21.40%
74	31.60%	20.00%	
75		10.00%	14.30%
84	26.30%	10.00%	3.60%
85	5.30%	15.00%	14.30%

Fig. 3. Comparative analysis of endodontically treated temporary teeth according to age

When performing the comparative analysis between age and the one-on-one treatments of the dentition, we found a statistically significant difference ($\chi 2 = 28.92$ $p< 0.05$). At the age of 4 and 5, the relative share of endodontic treatment of teeth 64 (21.10% for 4 years and 15.00% for 5 years) prevailed, while in 6 years, the teeth were 65 (21.40% (Figure 3).

Of the two children studied, no endodontic treatment has been performed. Children with 2 endodontic treatments have the highest relative share on average for temporary dentition (46.30%), followed by one treatment average in the dentition (22.40%).

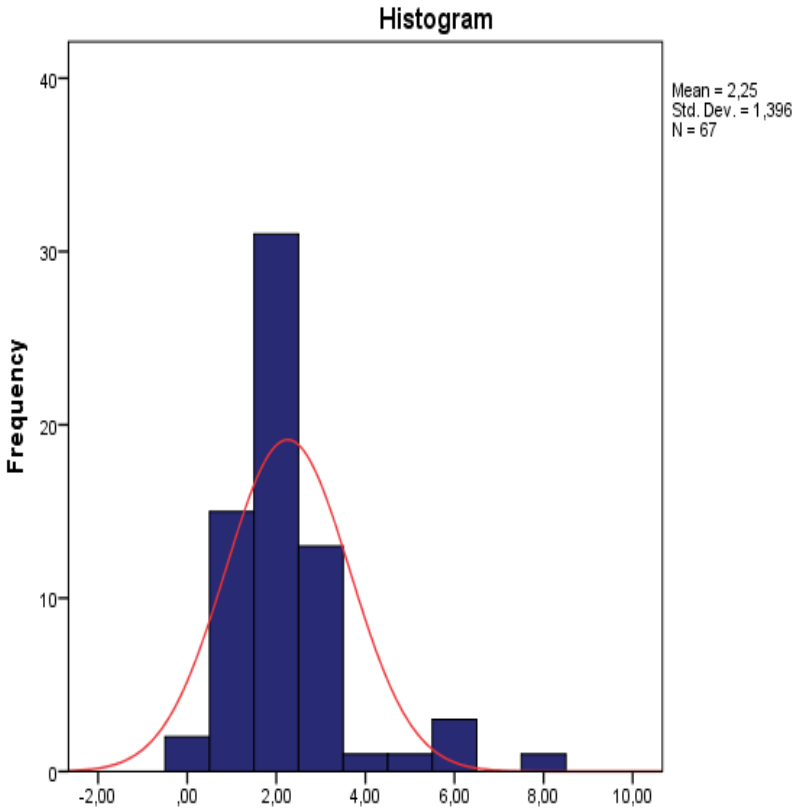


Fig. 4. Histogram of the number of endodontic treatments

On average, one child was treated with 2.25 ± 1.39 endodontic treatments, as well as up to 8 endodontic treatments in the dentition (Figure 4).

IV. DISCUSSION

In our study Children with 2 endodontic treatments have the highest relative share on average for temporary dentition (46.30%), followed by one treatment average in the dentition (22.40%). At the stage of absorption of the root teeth, the pulp is in a period of bio-morphosis [4]. The exchange and defensive capabilities of the pulp are reduced. Odontoblasts are functionally unfit. Sclerotic and protective dentin can not be formed after the biological treatment methods. All cells, nerve fibers and blood vessels are astheniac. As a result, necrotoxins are an etiological factor for the occurrence of inflammatory processes in the pulp.

At the stage of root resorption and bio-morphosis, pulp inflammation is rapidly reflected in the periodontal complex. In a significant period of time, such as I-st and III stage in temporary teeth, inflammation can not be separated only in the pulp from the periodontal complex [9, 11].

V. CONCLUSIONS

1. We found a statistically significant difference between age and endodontic treatments of the dentition of the tested children.
2. At the age of 4 and 5, the relative share of endodontic treatment of teeth 64 is prevalent, whereas in 6 years these are the teeth 65.
3. On average, one child was treated with 2.25 ± 1.39 endodontic treatments, with as many as 8 endodontic treatments in the dentition.

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