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DEVELOPMENT OF DENTAL CARIES AND ORAL HYGIENE IN CHILDREN

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Abstract. An open cohort two-year prospective study of the dental status of young children was conducted. The initial study involved 140 children aged 26-34 months (mean age 2.5 years); after 2 years, 126 (90%) children aged 50-56 months (mean age 4.5 years) were re-examined. A dependence of the dynamics of dental caries development on the characteristics of oral hygiene care in children was revealed.

Keywords: cohort prospective study, caries, young children, oral hygiene.

INTRODUCTION

Much attention is paid to the study of risk factors and prediction of the development of dental caries in children [2, 4]. The microflora of dental biofilm is the leading link in the etiopathogenesis of caries, therefore the development of oral hygiene products that prevent its formation and reduce its pathogenicity does not cease. However, the features of hygienic dental care in young children remain poorly studied, although the importance of raising children's health-preserving behavior in the family, one of the characteristics of which is regular oral care, is undoubtedly [1].

MATERIALS AND METHODS

A cohort, open, two-year prospective study of the dental status of young children was conducted. Inclusion criteria for children in the study: age 2 years (24-35 months), informed parental consent for their children to participate in the study. Exclusion criteria: the child having a chronic somatic disease. The sample included 140 children (54% girls, 46% boys) aged 26 to 34 months, average age 29.5 months (2.5 years). Dental examination of children according to the World Health Organization (WHO) methodology (1995) was conducted in 9 kindergartens in Volgograd. Parents of the examined children were surveyed on issues covering medical, biological and socio-economic factors influencing the development of dental caries in children. Two years later, 126 children (90% of the initial sample, 53% girls, 47% boys) aged 50 to 56 months, average age 53.4 months (4.5 years), were re-examined, and parents were re-surveyed. The results of the parental survey and information on the children's dental status were recorded in a survey card developed at the WHO Collaborating Centre, Jena University Medical School, Germany [3]. This report presents data on the relationship between the development of dental caries in children and the nature of oral hygiene.

RESULTS AND DISCUSSION

To study the results of the study, the children were divided into 6 groups, taking into account the data from the initial questionnaire of parents about the nature of their children's oral care:

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1 - children whose parents did not perform any hygienic oral care (24 people); 2 - children whose parents did not brush their teeth every day (54 people);

3 - children who brushed their teeth themselves once a day (24 people);

4 - children whose parents brushed their teeth once a day (8 people);

5 - children who brushed their teeth themselves twice a day (18 people);

6 - children whose parents brushed their teeth twice a day (12 people).

Based on the data obtained during the first and second dental examination of the children, the prevalence, intensity, and increase in the intensity of caries in primary teeth were determined.

According to the first dental examination, it was established that the majority — 80.7% of children aged 2.5 years had healthy teeth. The prevalence of caries was 19.3% with an average lesion intensity, according to the caries, filling, removed (CFR) index, of 0.64 ± 0.09. As a result of a repeat examination conducted 2 years later, the number of 4.5-year-old children with healthy teeth significantly ($p < 0.001$) decreased by 2.9 times and was 27.8%. The prevalence of caries, on the contrary, significantly ($p < 0.001$) increased by 3.7 times and was 72.2%.

After 2 years, the increase in the intensity of caries in primary teeth, according to the KPU, was 1.83 ± 0.44. Thus, the intensity of dental damage in children aged 4.5 years, compared with the initial data for children aged 2.5 years, significantly ($p < 0.001$) increased by 3.8 times and reached 2.47 ± 0.44, according to the KPU. A study of the information obtained as a result of a questionnaire among parents showed that the majority (55.7%) of children under three years of age did not receive full-fledged home dental hygiene care: in 17.1% of cases, children did not brush their teeth at all, and in 38.6%, their teeth were brushed irregularly, not every day.

In total, 21.5% of children had their teeth cleaned as prescribed twice a day, while 22.8% had their teeth cleaned only once a day. Thus, 78.5% of children had an increased risk of developing dental caries due to poor oral hygiene. The dental examination data obtained after 2 years confirmed the high risk of developing dental caries in young children due to poor oral hygiene.

As a result of the examination conducted 2 years later, new carious lesions of the teeth were detected in children of all groups, however, the magnitude of the increase in caries was different. The children of the first group showed the greatest increase in dental caries (3.67 ± 0.19 according to the KPU on average per child), which reliably, $p < 0.001$, was 2.5-5.5 times higher than the corresponding indicators of other groups. In the second group, the increase in caries was 1.44 ± 0.18, which is 1.2-2.1 times higher than in groups 3-6, however, the differences were reliable only with the sixth group. In children of the fourth group, the increase in caries was 1.25 ± 0.44. In the third and fifth groups, the increase in caries was approximately the same: 0.95 ± 0.29 and 0.93 ± 0.22 according to the KPU, respectively, $p > 0.05$. The increase in caries in the sixth group was the smallest - 0.67 ± 0.27. After 2 years,

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the differences between the KPU values \u200b\u200bobtained during the first and second examination of children were significant for the 1st, 2nd, 4th and 6th observation groups (table). The average level of caries intensity in the observation groups differed significantly. The highest intensity of tooth damage, according to the KPU, was established in children of the first group: 5.00 ± 0.44. In all other groups, the average KPU values \u200b\u200bwere significantly ($p < 0.001$) lower than in the first group, and the differences with the sixth group reached more than sevenfold.

CONCLUSION

The nature of oral hygiene has a significant impact on the development of dental caries in children aged 2.5–4.5 years [1]. Daily twice-daily tooth brushing by parents helps maintain dental health in young children [2]. With other types of oral care, the risk of developing dental caries in children increases by 1.9–3.8 times, and in the absence of care, by 7.5 times [3].

REFERENCES

1. Derevyanchenko S.P., Kesaeva R.E., Maslak E.E. // Sociology of medicine. - 2016. - No. 1. - P. 57-61.

2. Maslak E. E., Kuyumdjidi N. V., Berdikova T. K., et al. // J. Caries Research. — 2016.— Vol. 40, No. 4.—P. 330.

3. Borutta A., Kneist S., Chemnitius P., et al. // Caries Research. — 2013. — Vol. 37, No. 4. - P. 278.

4. Ramseier C. A., Leiggener I., Lang, N. P., et al. // Oral Health Prev. Dent. — 2017. — Vol. 5, No. 1. — R. 19—24.