

WHEN ARTIFICIAL FEEDING THE FREQUENCY OF DENTAL ANOMALIES IN CHILDREN

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ABSTRACT

A large number of works are devoted to the study of the causes of malocclusions and the position of individual teeth. Artificial feeding of infants is considered as one of the factors contributing to the occurrence of such anomalies. This opinion is based on theoretical premises, i.e., the proven interdependence of the normal function of organs and their full development. It has been established that non-functioning or malfunctioning organs are stunted in growth and often change their shape. This situation is clearly demonstrated by various dental anomalies.

It is known that the lower jaw of a newborn is in a distal position. It gradually moves forward and by the time the primary incisors erupt, it is established in a more anterior position necessary for the formation of an orthognathic bite. There is a method for this movement of the lower jaw and its growth. There is natural (breast) feeding of the child.

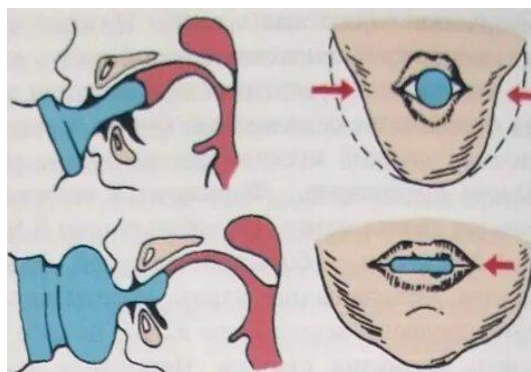
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INTRODUCTION

The act of sucking the mother's breast is usually divided into 2 phases. The first phase is to grab the nipple and squeeze it with the gingival rollers and the baby's lips, the second phase is to move the lower jaw forward to squeeze out the milk and backward when swallowing it. At the same time, the tongue fills the oral cavity, which has a favorable effect on the formation of the palatal vault, and the active contraction of the orbicular muscle of the mouth and other muscles of the perioral region determines their good performance.



(a) (b)



Rice. 1 Normal soft nipple for infant feeding (a) and the position of the baby's nipple, lower jaw, lips and tongue during sucking

In bottle feeding, a long, soft nipple with a wide opening is usually used, through which the milk flows freely into the baby's mouth, without any effort on the part of the infant (Figure 1). In this way, the lower jaw does not produce the anteroposterior movements necessary for its increased growth and correct positioning relative to the upper jaw, as a result of which it can be stunted and delayed in its infantile, distal position. This creates prerequisites for the formation of a distal and deep bite. However, the above-mentioned authors do not provide their own observations related to the state of occlusion in bottle-fed infants. We set ourselves the task of checking the dependence of the frequency of dentoalveolar anomalies on the method of feeding infants in order to clarify the reliability and degree of influence of artificial feeding on the state of the dentoalveolar system. Material and methodology. We examined 150 pupils of kindergartens and schoolchildren of grades 1-10 in Samarkand, among which we selected 2 groups of 100 children each. Group 1 consisted of children who received artificial vskarm livation; 2nd (control) children who were naturally (breastfed) and lived in the same conditions. The remaining 50 children were not included in the study because they received mixed feeding.

Each of the 2 groups (artificial and natural feeding) was divided into 3 age subgroups: the 1st subgroup included 40 children aged 3 to 6 years (the period of milk occlusion); in 2 subgroups of 60 children aged 7 to 12 years (period of alternating occlusion); in 3 subgroups of 50 adolescents aged 13-17 years (period of permanent occlusion).

We made a special examination card, which included anamnesis data, information about the type of feeding, hereditary and other diseases, the presence of bad habits, the way of breathing (nasal, oral, mixed), the condition of teeth and occlusion. In the registration of dentoalveolar anomalies, the classification of D. A. Kalvelis (1958) was used. All the digital material was processed by the method of variational statistics according to A. A. Merkov (1963). Results of the study and their discussion. Data on the prevalence of dentoalveolar anomalies in the examined children of these age subgroups, who received different types of feeding (artificial, natural), showed that the frequency of their varieties in children of different ages is not the same. Thus, if in the first two age subgroups (from 3 to 6 years) there was no difference in the number of anomalies in the position of individual teeth in children of the 1st and 2nd groups, then in the third age subgroups (from 13 to 17 years) the number of such anomalies in children of the 1st group who received artificial feeding increased. In this study group, they were found in $14.1 \pm 1.0\%$, and in the control group, in $5.0 \pm 1.9\%$ of children. Perhaps this is due to the presence of persistent residual changes in the children of the 1st group and the gradual age-related self-regulation of the occlusion in the examined 2nd group.

Of the varieties of malocclusion in children of preschool early school age (1st and 2nd subgroups), the most common were distal and deep occlusion, and much less often open, mesial and cross-bite. There was no significant difference in the incidence of open, mesial and crossbite in children of the first and second age subgroups. At the same time, a significant difference in the prevalence of deep occlusion in children of groups 1 and 2 was established: in group 1, it was present in $10.1 \pm 1.6\%$ of those examined, and in group 2, in $7.2 \pm 1.0\%$. This difference is particularly noticeable in the first age subgroups (from 3 to 6 years): $15.3 - 1.6$ and $3.0 \pm 1.2\%$, respectively. The difference in the frequency of distal occlusion is most

pronounced. In all age subgroups, this anomaly was detected much more often in children of group 1 (artificial feeding) than in group 2 examined.



Rice. 2 The Müller-Balters nipple, which is similar in shape to the nipple of the mother's breast (a), and the position of the nipple, lower jaw, lips and tongue of the infant during sucking (b).

Table 1 shows that the prevalence of distal occlusion in children of group 1 in all age subgroups is higher than in children of group 2 (control).

Thus, the results of our study showed that in all age subgroups, children of the 1st group who were on artificial feeding had more dentoalveolar anomalies compared to children of the 2nd group who received natural feeding, which allows us to conclude that it is necessary to improve the method of artificial feeding of infants in order to prevent or mitigate its negative impact on the growth of the lower jaw and the formation of occlusion.

Such attempts are known. In a number of countries, nipples are produced that are similar in shape to the nipple of the mother's breast, they are more elastic, with a small hole, and do not fill the oral cavity. Sucking milk through such a nipple requires a certain amount of force associated with the movement of the lower jaw (Fig. 2, a, b). There are also pacifiers connected to the vestibular plate, which can be classified as prophylactic orthodontic appliances

Taking into account the fact that in our country all children, including newborns, are subject to dispensary observation, we consider it appropriate to draw the attention of pediatricians to the need for proper organization of artificial feeding of infants by using nipples of rational design and accelerating their industrial production.

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