

PERMANENT TEETH ERUPTION FEATURES IN INTERMEDIATE SCHOOL AGED CHILDREN OF TASHKENT CITY

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Summary. Purpose: determining the quantity, symmetry and timing of teeth eruption termination in intermediate school aged children.

Material and methods: 820 children aged 11 to 14 years, including 415 boys and 405 girls studying in 4 public education schools in Tashkent were carried out dental examination.

Results: at the age of 11 and 14, an average number of erupted permanent teeth was greater in girls than in their male peers. The total increase in the number of teeth in 4 years was greater for boys than for girls at 11.25 versus 9.47 units. In children of both genders, the number of erupted teeth on the lower jaw was significantly higher than on the upper. In intermediate school aged children of both genders, the eruption of the first premolars, fangs, and second premolars is completed, and in girls, the lower second molars also occur. The revealed differences in children in the number of erupted antimer teeth, both in the upper jaw and in the lower, were unreliable, but left-side eruption were more characteristic for boys.

Key words: children from 11 to 14 years old, teeth eruption, permanent teeth, upper jaw, lower jaw.

ОСОБЕННОСТИ ПРОРЕЗЫВАНИЯ ПОСТОЯННЫХ ЗУБОВ У ДЕТЕЙ СРЕДНЕГО ШКОЛЬНОГО ВОЗРАСТА ГОРОДА ТАШКЕНТА

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Цель: определение количества, симметричности и сроков завершения прорезывания постоянных зубов у детей среднего школьного возраста.

Материал и методы: проведен стоматологический осмотр 820 детей в возрасте от 11 до 14 лет, из них 415 мальчиков и 405 девочек, обучающихся в 4-х общеобразовательных школах города Ташкента.

Результаты: в возрасте от 11 до 14 лет среднее количество прорезавшихся постоянных зубов у девочек было больше, чем у их сверстников мужского пола. Общий прирост числа зубов за 4 года у мальчиков был больше, чем у лиц женского пола и составлял 11,25 против 9,47 ед. У детей обоего пола число прорезавшихся зубов на нижней челюсти было достоверно выше, чем на верхней. В среднем школьном возрасте у детей обоего пола происходит завершение прорезывания первых премоляров, клыков и вторых премоляров, а у девочек также - нижних вторых моляров. Выявленные различия



у детей по количеству прорезавшихся зубов-антимеров, как на верхней челюсти, так и на нижней, носили недостоверный характер, но для мальчиков в большей степени было характерно левостороннее прорезывание.

Ключевые слова: дети от 11 до 14 лет, прорезывание, постоянные зубы, верхняя челюсть, нижняя челюсть.

ТОШКЕНТ ШАҲРИДАГИ ЎРТА МАКТАБ ЁШИДАГИ БОЛАЛАРДА ДОИМИЙ ТИШЛАРНИ ЁРИБ ЧИҚИШИНИ ЎЗИГА ХОС ХУСУСИЯТИ

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Мақсад: ўрта мактаб ёшидаги болаларда доимий тишларни сонини, симметриклигини ва ёриб чиқишини тугалланиш муддатини аниқлаш.

Материал ва услублар: Тошкент шаҳридаги 4-та умумтаълим мактабларида таҳсил олаётган 11 ёшдан 14 ёшгача бўлган 820 нафар болаларда стоматологик кўрик ўтказилган, улардан 415 нафари ўғил бола ва 405 нафари қиз болалар.

Натижалар: 11 дан 14 ёшгача бўлган ёшда доимий тишларни ёриб чиқиш сони эркал жинсдаги тенгдошларига қараганда қизларда кўпроқ бўлган. 4 йил мобайнида тишлар сонини умумий ўсиши аёл жинсидаги шахсларга қараганда ўғил болаларда кўпроқ бўлган ва улар 11,25 бирликни, қарама-қарши эса 9,47 бирликни ташкил қилган. Икки жинсга ҳам тегишли бўлган болаларда пастки жағда ёриб чиққан тишлар сони юқори жағдаги ёриб чиққан тишларга қараганда ишончли равишда юқори бўлган. Икки жинсга ҳам тегишли бўлган ўрта мактаб ёшидаги болаларда биринчи премоляр, қозик ва иккинчи премоляр тишларни, қиз болаларда эса шунингдек – пастки иккинчи моляр тишларни ёриб чиқишини тугалланиши содир бўлади. Антимер-тишларни ёриб чиқиш сони бўйича болаларда аниқланган фарқлар тепа жағлар каби, пастки жағда ҳам ишончли бўлмаган тавсифга эга бўлганлар, лекин ўғил болалар учун катта даражада тишларни чап томонлама ёриб чиқиши кўпроқ характерли бўлган.

Калит сўзлар: 11 дан 14 ёшгача бўлган болалар, ёриб чиқиш, доимий тишлар, юқори жағ, пастки жағ.

The eruption of permanent teeth is a physiological process directly related to the overall health of a child [2, 3, 5]. A significant discrepancy in the timing of tooth eruption, or a disruption of the sequence and/or pairing, is considered a pathological eruption [3, 6, 7, 8].



In Uzbekistan, no studies on the characteristics of permanent tooth eruption have been previously conducted. However, regional age- and sex-specific features of tooth eruption are of diagnostic and prognostic interest [4] and serve as a basis for developing targeted therapeutic and preventive measures.

Materials and Methods

Dental examinations of children were conducted at four randomly selected general education schools located in three districts of Tashkent. The study subjects were 820 students (415 boys and 405 girls) aged 11 to 14, of Uzbek ethnicity, who were born and permanently reside in Tashkent and had no chronic diseases. The criterion for the eruption of a permanent tooth was the appearance of any part of it - the incisal edge or one or more cusps of the tooth crown - above the gingival mucosa. The completion of eruption was defined as the age at which 95% of the examined children had an erupted tooth of a specific category [1]. Age groups were formed with one-year intervals. Statistical processing was performed using the Statistica-6 and Microsoft Excel-2013 software packages.

Results and Discussion

An analysis of the number of erupted permanent teeth in 11-year-old children showed that the total count for both sexes ranged from 12 to 28 teeth. Moreover, both boys and girls had the same number of permanent teeth in the upper and lower jaws, ranging from 6 to 14 teeth. At age 11, the average number of erupted permanent teeth in boys was significantly lower than in their female peers: 20.55 ± 0.40 versus 22.19 ± 0.47 teeth ($P < 0.01$). A comparative analysis of the number of permanent antagonist teeth showed that children of this age had more erupted teeth in the lower jaw than in the upper jaw: 10.43 ± 0.23 vs. 10.14 ± 0.21 teeth in boys, and 11.26 ± 0.25 vs. 10.92 ± 0.25 teeth in girls, but in both cases, the difference was not statistically significant ($P > 0.05$). The increase in the number of teeth in the 10 to 11-year age interval was 1.07 times higher in boys than in girls: 4.46 versus 4.18 teeth per year. In 11-year-old children, the observed differences in the number of antimeres in the upper and lower jaws were not statistically significant.

At 12 years of age, the total number of permanent teeth in boys ranged from 14 to 28, and in girls, from 16 to 28. Regardless of sex, the number of permanent teeth in the upper jaw ranged from 7 to 14, while in the lower jaw, the range for boys was 6 to 14 and for girls, 8 to 14. In the age group under review, the average number of erupted permanent teeth in boys was only 0.93 teeth fewer than in girls: 24.04 ± 0.34 versus 24.97 ± 0.30 ($P < 0.05$). The number of erupted teeth in the lower jaw was greater than in the upper jaw for boys (12.31 ± 0.19 vs. 11.71 ± 0.19 ; $P < 0.05$), while for girls, the difference was not statistically significant (12.70 ± 0.16 vs. 12.28 ± 0.17 ; $P > 0.05$). A comparison of the average number of antimeres showed that the identified differences in children of both sexes were not statistically significant. The annual increase in the number of teeth in the 11-to-12-year age interval was 1.26 times higher in boys than in girls: 3.49 versus 2.78 teeth. It was determined that by age 12, children of both sexes had completed the eruption of the maxillary first premolars; girls had also completed the eruption of the mandibular canines and first premolars.

At 13 years of age, the total number of erupted teeth in children, regardless of sex, was between 18 and 28. At the same time, 13-year-old boys had more permanent teeth in the upper jaw than in the lower (from 8 to 14 vs. 7 to 14), whereas for girls the opposite was true: 7 to 14 teeth in the upper jaw and 8 to 14 in the lower. In the analyzed age group, the average number of erupted permanent teeth in boys was slightly lower than in girls: 26.19 ± 0.27 versus 26.35 ± 0.23 ($P > 0.05$). In 13-year-old boys, the number of teeth in the lower jaw was less than in the upper jaw, while in their female peers, it was greater; however, in the former case, the difference was not statistically significant: 13.09 ± 0.16 vs. 13.15 ± 0.13 for boys ($P > 0.05$) and 13.42 ± 0.12 vs. 12.84 ± 0.16 for girls ($P < 0.01$). The increase in the number of teeth from age 12 to 13 was 1.56 times higher in boys than in their female peers: 2.15 versus 1.38 teeth. In the 13-year-old age group, boys reached the age of eruption completion for the maxillary second premolars, mandibular canines, and mandibular first premolars, while girls reached it for the maxillary second premolars. ($P < 0.01$). Analysis of the increase in the number of teeth from 12 to 13 years of age in boys was 1.56 times higher than in their peers: 2.15 versus 1.38 units.

At 14 years of age, the total number of erupted teeth ranged from 22 to 28 in boys and from 23 to 28 in girls. In boys, the number of permanent teeth in both the upper and lower jaws ranged from 9 to 14. In girls, the range was 11 to 14 for the upper jaw and 12 to 14 for the lower jaw. The average number of erupted permanent teeth did not differ between boys and girls: 27.34 ± 0.12 versus 27.48 ± 0.10 ($P > 0.05$). In 14-year-old boys, the number of erupted teeth was lower in the lower jaw than in the upper, whereas in girls the opposite was true; however, in both cases, the difference was not statistically significant ($P > 0.05$): 13.58 ± 0.09 vs. 13.73 ± 0.08 for boys, and 13.75 ± 0.06 vs. 13.71 ± 0.04 for girls. The increase in the number of teeth in the 13-to-14-year age interval was 1.02 times higher in boys than in girls, amounting to an annual increase of 1.15 versus 1.13 teeth. A comparison of the number of antimeres showed that in 14-year-old children, the identified differences in the number of antimeres in the upper and lower jaws were not statistically significant ($P > 0.05$). At 14 years of age, children of both sexes showed completion of eruption for the mandibular second premolars and maxillary canines; girls also showed completion of eruption for the mandibular second molars.

Conclusions

1. Between the ages of 11 and 14, the average number of permanent teeth emerging in girls was 1.01-1.08 times higher than in their male peers, but a significant difference in gender was found in 11 and 12 years ($P < 0.05-0.01$).

2. The annual increase in the number of teeth from 11 to 14 years was 1.02-1.56 times higher in boys than in their peers, and the total increase in the number of teeth over 4 years was 11.25 units in boys and 9.47 units in women.

3. In children of both sexes aged 11 to 14, the number of emerging teeth in the lower jaw in the permanent occlusion was significantly higher than in the upper jaw ($P < 0.05$ - in boys aged 12 and $P < 0.01$ - in girls aged 13), except for 13 and 14-year-old boys, in whom the number of permanent teeth in the lower jaw was slightly higher than in the upper jaw ($P > 0.05$).



4. In middle school age, the eruption of the following groups of teeth is completed: at age 12, in children of both sexes - the upper first premolars, and in girls also - the lower jaw molars and first premolars; at age 13, in boys - the upper second premolars, lower molars and lower first premolars, and in girls - the upper second premolars; at age 14, in children of both sexes - the lower second premolars and upper jaw molars, and in girls also - the lower second molars.

5. Comparison of the number of anti- teeth showed that the number of permanent teeth on the left side of the upper and lower jaws was greater in boys than in their peers, but the identified differences were unreliable.

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