

SUMMARY

A mutual dependency between the anterior guidance and the anatomical formation of the lateral teeth occlusal plane in young adults with conditions of the physiological norm of occlusion.

The aim of the study was to determine the relationship between the morphology of the occlusal surface of the posterior teeth and the anterior controlling factors in young adults under the conditions of the physiological occlusion.

The research was carried out on plaster models obtained from diagnostic impressions of 50 people aged 18-21 with full dentition (Angle's class I). The models were scanned with the Zirkonzahn S600 ARTI optical scanner. The premolars and molars were then dimensioned using the Exocad software. All precise measurements of the anatomical details of the chewing surfaces were made on virtual models. The over bite and over jet of the central incisors were also measured. The data was analyzed statistically.

The occlusal surfaces of the posterior teeth were characterized by high variability in the distance between the tops of the cusps, the height of the cusps, the angle of the cusps and the angle of the fissures, both in the upper and lower teeth. A statistically significant negative correlation was found between the vertical bite and the distal angle of the slopes of the distal buccal cusps for the second superior molar ($R = -0.338892$ and $p = 0.016065$). There is also a statistically significant positive correlation between the horizontal bite and the distance between the tops of the mesial and palatal buccal cusps for the second upper molar ($R = 0.398537$ and $p = 0.004149$).

As a result of the statistical analysis, clearly different results were obtained for the group of studied women and men. There are statistically significant relationships in the general group of respondents, without taking into account sex, which do not occur in the group of women or men themselves. Conversely, taking into account the results of the statistical analysis taking into account gender, there are several statistically significant correlations in the group of women and in the group of men, which were not visible in the general group. The relationships that are confirmed both in the overall group and in groups taking into account gender were considered to be the most significant in the non-statistical sense.

It is noteworthy that in the group of men the correlations of the horizontal and vertical bite with the morphology of some details of the chewing surfaces are much stronger than the correlations in the group of women.

The morphology of the occlusal surface of the second superior molars is significantly related to the size of both the vertical and horizontal bite.