*2. Клінічна медицина*

### The epidemiological research of student-dentists regarding the need in orthodontic treatment using dental aesthetic index

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### Teeth-maxillous anomalies (TMA) are some of the widely-spread dental diseases. In Ukraine their prevalence is specific to each region but unfortunately has a stable tendency to grow. The epidemiological research in key groups according to WHO was conducted with the purpose to identify TMA the severity degree of morphological abnormalities to forecast the need and difficulties of orthodontic treatment. When studying the prevalence of TMA one only registers their presence but not the severity of the anomaly or the need in treatment. To identify the need in orthodontic treatment, rank the difficulty of orthodontic treatment in accordance the severity degree of morphological abnormalities under some or other forms of TMA, various indices are offered.

In post-Soviet countries P. Sieberth (1967) index is used which was modified by Yu. Malygin (1970, 1973). In countries of Europe and America the most famous one is Treatment Priority Index (TPI), (Grainger, 1967). Also widely used is the Index of Orthodontic Treatment Need (IOTN), (W.C. Shaw and R. Evans), (1989) which combines both teeth and aesthetic components. The Index of Complexity, Outcome and Need (ICON), C. Daniels and S. Richmond (2000) is also used.

WHO recommends the Dental Aesthetic Index (DAI), (N.C. Cons and other authors (1986) evaluate the occlusion at the individual level starting from 12 years in key age groups.

The purpose of this research is to identify the prevalence of TMA among student-dentists, define the severity of these TMA and the need in orthodontic treatment.

The research objects were 81 volunteers from 3rd year students of the Dental Faculty of Kharkov National Medical University, 43 guys and 38 girls aged 20 to 25 in the period of permanent formed occlusion. The research included general examination, oral examination with the use of periodontal calibrated probe, medical photography by Nicon Coolpix L5 camera and orthodontic mirrors, and assessing the condition of dentoalveolar system by Dental Aesthetic Index (DAI).

The index includes analyzing certain criteria and takes into account the regression coefficient (specific weight criterion in assessing the dental status) [Cons, N.C.; Jenny, J. Kohout, F.J. (1986). DAI: The Dental Aesthetic Index. Iowa City, Iowa: College of Dentistry, University of Iowa.]. Results of the evaluation of the dental status according to DAI were the sum of all ten criteria plus the regression coefficients and constants. According to the amount of received points, we interpreted the results and determined the degree of morphological changes under some or other forms of TMA, and also identified the need in orthodontic treatment.

The research results.After assessing the state of the teeth-maxillous system by means of DAI index, the following data were obtained.

Among all criteria under consideration the most widely spread was the impairment of mezial and distal interactions of jaws (general 70,37 % (44,44 % - men, 25,93 % - women)); the mesial displacement was found only in one case, in all other cases it was distal displacement. The crowding of teeth was second most frequent disorder (general 67,9 % (20,99 % - men, 46,47 - women)). The third widely spread criteria was «the greatest displacement in the front area of the upper jaw» (general 56,79 % (24,69 % - men, 32,1 % - women)).

The dental aesthetic index values less than 25 and a small need in orthodontic treatment were identified in 40,74 per cent of students. 29,63 per cent of the examined persons turned out in the interval of 26-30 and the need for selective orthodontic treatment. 16,05 per cent of students have DAI index between 31-35 and needed some kind treatment using orthodontic appliance. The index values of 35 and more were found in 13,58 per cent of volunteers, they were advised to take the complex treatment.

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