

Comparative characteristics of structural specificities of microcrystallisation of oral fluid under the influence of Miswak

El- Masri Rawad, El-Masri Houssein, Al-Shaban Maryam, Yussuf Mashavu,

Garmash O.V., and Emelyanova N.Y.

Scientific leader: M.D., professor Nazaryan R.S.

The Kharkov national medical university

Pediatric Dentistry, Pediatric Maxillofacial Surgery and Implantology Department

Харківський національний медичний університет

Кафедра стоматології дитячого віку дитячої щелепно-лицьової хірургії та імплантології

Topicality: In the oral fluid mineralizing potential can be characterized by crystal formation. These crystal take a major role in the structural and mineralizing properties of saliva. Many factors can influence on the quantity and quality of the crystals in the oral fluid. Salivary glands function, food, drinks, usage of toothpastes and others.

Thus the **aim** of our study was to investigate the influence of Miswak as a toothpaste and as sticks(used in ancient times).

Materials and methods: Our study was performed on 10 students of medical faculty. The method of modification by P.A. Leus was used to investigate the oral fluid microcrystallization. The study was performed during 4 weeks on the same students. Oral fluid was retrieved from the students before the test as a reference. Subjects were given Miswak toothpaste to be used regularly 2 times per day for 2 weeks. After 2 weeks, oral fluid was retrieved from the subjects and toothpaste was changed to Miswak sticks . The duration of usage of Miswak sticks was also 2 weeks. Oral fluid was picked up by a sterile pipette directly from the mouth and deposited on a glass slide in 3 drops. After drying under room temperature the

samples of oral fluid were examined under a microscope with a magnification of at most x100 (the entire drop within eyeshot). The type of microcrystalization of oral fluid was determined under the classification of Dubrovina (1988). Evaluation was performed on a scale ranging from 5 points.

Results: The crystals inside the first group of oral fluid smears before using miswak showed different results depending on the physiology and life style of each subject. It is known that normal caries resistant oral fluid corresponds to 4-5 points by this classification. But in our first research, before the participants used miswak, non of their drops of dried oral fluid reached 3,4,5 points by Dubrovina. This shows that resistance to caries is low in this group of students. In the 2nd step of our investigation, when all students used toothpaste with miswak, in 50% of cases , dry drops of oral fluid corresponds to 3 points by Dubrovina, and 30% 4 points. In the 3rd step of our investigation, when students used miswak sticks, dry drops of oral fluid in 80% corresponds to 4 points.

Conclusion: the data obtained shows the increased of microcrystals inside saliva thus increase of the remineralization capability of oral fluid leading to decreased cariogenic changes of teeth. This result should be taken in consideration by therapeutic and preventive dentist and miswak should be recommended for patients suffering from multiple caries affection of teeth.