RESEARCH JOURNAL OF TRAUMA AND DISABILITY STUDIES

Volume: 2 Issue: 11 | Nov – 2023 **ISSN: 2720-6866**
http://journals.academiczone.net/index.php/rjtds

Microbiological Condition of the Oral Cavity of Bukhara Brilliant Silk Plant Workers

Kurbanova Nodira Isomitdinovna, Ph.D
Bukhara State Medical Institute, Associate Professor of the Department of Therapeutic Dentistry, Bukhara, Uzbekistan

Summary
It is known that a complex of occupational and industrial factors contributes to the development of chronic diseases of the oral cavity, such as hypertrophy of the palatine tonsils, subatrophic diseases of the oral mucosa, inflammation of periodontal tissues, carious and non-carious lesions of hard dental tissues.

Keywords: hygienic index, noise, vibration, oral cavity.

Relevance. Occupational hazards are present in the silk industry, as well as in other industries, where, along with other body systems, the oral cavity tends to adversely affect organs and tissues [1,4,5,7].

In modern production conditions, the body of workers is affected by a complex of pathogenic factors, such as toxic substances, vapors and aerosols, dust, temperature, humidity and air movement, industrial noise and vibration, and a number of other influences. They cause metabolic disorders in the body and thereby lead to pathological changes in the organs and tissues of the oral cavity. Determining hygienic indices contributes to the timely and objective implementation of health-improving and preventive measures among workers associated with exposure to harmful production factors. [Sabitova R.I. et al., 2016].

It is known that dental morbidity, both among the population and among workers in various industries, is currently quite high, and a further increase should be expected unless the conditions influencing the development of oral diseases are changed in a favorable direction and the quality of care is not improved. Dental care, which depends on various objective and subjective factors [Kazarina L.N., 2004; Pergaty HA, 2010].

Purpose of the study. Assessment of the immuno-microbiological state of the oral cavity of workers at the Bukhara Diamond Silk Factory.

Materials and methods. A total of 262 employees of the enterprise took part in the study; they were of working age (19-60 years), 106 (40.5 ± 3.0%) lived in the city, and 156 (59.5 ± 3.0%) became permanent residents. villages. They were formed as a core group. To compare the results, the local population living in nearby neighborhoods formed a control group. The control group included 421

Volume: 2 Issue: 11 | Nov – 2023 ISSN: 2720-6866
http://journals.academiczone.net/index.php/rjtds

people aged 19 to 55 years, not working at the Bukhara Brilliant Silk company.

Oral fluid or saliva was collected from workers and community members participating in the study to determine local immune factor parameters.

Salivary A secretion was determined by immunoglobulin A (sIgA) using enzyme-linked immunosorbent assay (ELISA).

The amount of lysozyme in saliva Kagramanova K.A. and Ermoleva Z.V. (1966) and Bektimirov A.M-T. and Adilov Sh.K. were modified (1987). To do this, the saliva in the solution was diluted 1:10 with 0.9% physiological solution, from which 1.0 ml of a sterile solution was taken, mixed with the same amount of a daily culture of Staphylococcus aureus, then incubated for 1 hour in a thermostat (37°C), then examined lysozyme titers.

In order to determine the cellular composition of mammary gland fluid (oral fluid), Leonov L.E. et al. (2002). The principle of the method is as follows: after centrifuging the resulting liquid for 30 seconds at 1000 rpm, a lubricant is prepared from the sediment, stained using the Romanovsky-Giemsa method, and the contents of the cells are examined under a light microscope at a magnification of 630 (7x90).

Traditional bacteriological methods were used to determine indigenous and facultative microflora of the oral cavity. Identification and differentiation of microorganisms were carried out in accordance with Bergey's Manual of Systematic Microbiology (1997). For growing microorganisms, food media produced by HiMedia (India) were used.

Results. In contrast to healthy individuals, a significant decrease in the relative indicator of lymphocytes ($P<0.05$) was noted in the oral fluid of workers - on average by 1.0±0.2% (a difference of 1.5 times). A similar result was obtained for the relative number of monocytes - on average 1.7±0.2% (1.6-fold difference, $P<0.05$). While neutrophils with rod nuclei in workers averaged 3.2±0.2% (1.1-fold difference, $P<0.05$), segmental neutrophils averaged 93.9±0.6% (difference 1.02 times), $P<0.05$). The difference between the population and workers was observed in lymphocytes (1.8 times, $P>0.05$) and monocytes (1.5 times, $P<0.05$). If the lysozyme titer showed 1.3 times more results in the comparison group than in the control group ($P<0.05$), then with increasing work experience this figure increased - 1.8 times, which corresponds to work experience (1:128 versus 1:72). , 2.3 times (1:168 versus 1:72) and 3.6 times (1:256 versus 1:72) -$P<0.001$.

According to the sJgA indicator, we observed the opposite picture in relation to lysozyme, if the population (comparison group) indicators did not differ significantly from the indicators of healthy individuals (control group) ($P>0.05$), a significant decrease in performance was observed. With work experience of up to 1 year, the decrease was 1.1 times (0.54±0.03 g/l versus 0.47±0.02 g/l, $P<0.05$), with work experience from 1 to 5 years at a depth of 1.5 times (0.53±0.03 g/l versus 0.36±0.02 g/l,

Volume: 2 Issue: 11 | Nov – 2023 ISSN: 2720-6866
http://journals.academiczone.net/index.php/rjtds

P<0.001), the difference in work experience of 5 years or more is 7 times (0.53± 0.03 g/l versus 0.32±0.01 g/l, P< 0.001).

Pathogenic cocci were detected in 7.5 ± 4.2% of healthy individuals (n = 3), in the comparison group this figure reached 15.9 ± 1.8% (n = 67), and in workers 34.0 ± 2.9 % (n = 89). E.coli and P.aureginosa were 3.9 and 1.9 times higher in the control (7.5±4.2%, n=3) and comparison groups (15.9±1.8, n=67) accordingly, which is convincingly explained by the abundance (29.4±2.8%, n = 77) - P<0.001. Symptoms of dysbacteriosis were observed in 142 (54.2 ± 3.1%) workers.

A similar trend was observed for gram-negative opportunistic bacteria (Klebsiella spp, Enterobacter spp, and Proteus spp), i.e. the indicators of the main group were respectively 2.8 and 1.8 times higher than the indicators of the control and comparison groups - 35.1. ± 12.5 ± 5.2% (n = 5) and 19.0 ± 1.9% (n = 80) versus 2.9% (n = 92). Bacteriodes spp., Fuzobacterium spp., Peptostreptococcus spp. were identified as anaerobic microorganisms. As for the level of their occurrence, it turned out to be less common among healthy individuals and the population not working at the enterprise - 5.0 ± 3.4% (n = 2) and 7.1 ± 1.3% (n = 30) -P<, respectively 0.05. However, among the other microorganisms mentioned above, the incidence among workers was high - 23.3 ± 2.6% (n = 61).

Conclusions. Thus, the study of the cellular composition of the oral fluid of silk factory workers showed that with increasing work experience, the results differed from the cellular composition of the control group, the relative content of lymphocytes and monocytes significantly decreased to 1.4-2.0. Times, the fact that these cells also decreased by 1.25-2.0 times compared to the comparison group indicates the influence of external factors on them. It was found that as the work experience of workers increased, the number of lymphocytes and monocytes in the cellular oral fluid decreased by 1.5 times, and neutrophils with rod-shaped nuclei - by 1.1 times. The titer of lysozyme in the saliva of workers was 2.6 times higher, and the amount of sIgA was reduced by 1.4 times, the microflora of the oral fluid S.saprophyticus and S.epidermidis in workers was 1.5 times higher than in healthy individuals, gram-negative bacteria E.coli and P.aureginosa are 3.9 times more common, Klebsiella spp, Enterobacter spp, Proteus spp are found 2.8 times more often and are directly proportional to the increase in work experience.

The fact that changes in lysozyme titer and sJgA concentration were inversely proportional to each other was explained by the negative influence of external influences on local immunity factors.

The percentage of detection of gram-negative pathogenic cocci significantly increased with increasing work experience, and the frequency of detection of gram-negative pathogenic cocci significantly decreased.

Volume: 2 Issue: 11 | Nov – 2023 **ISSN: 2720-6866**
http://journals.academiczone.net/index.php/rjtds

Bibliography

1. Leontyeva E.Yu., Bykovskaya T.Yu. Prevalence of dental diseases and their professional conditionality among medical workers // Kuban Scientific Medical Bulletin. – 2016. - No. 4 (159). - P.68-71.
2. Sabitova R.I. Kabirova M.F., Shakirov D.F. Features of local immunity of the oral cavity in periodontal diseases among petrochemical production workers // Clinical dentistry. – 2017. - No. 4 (84). – pp. 46-49.
3. Khabibova N.N., Kurbonova N.I. prevention of dental morbidity among silk reeling workers. Tibbiyotda yangi Kun journaling. 2020, 2(30)C-250-2530
4. Kurbonova N.I., Khabibova N.N. Optimization prevention of dental diseases among workers of silk-weaving production. Tibbiyotda yangi Kun journaling. 2020, 3(31)C-574-576
5. Fozilov U. A. Diagnosis and Prevention of Caries Development in Orthodontic Treatment //World Bulletin of Social Sciences. – 2021. – Т. 3. – №. 10. – С. 97-104.
6. Fozilov U. A. Prevention of caries development during orthodontic treatment //World Bulletin of Social Sciences. – 2021. – Т. 3. – №. 10. – С. 61-66.
7. Abdurazzakovich F. U. The Role and Importance of Obturators in the Optimization of the Treatment of Dental Caries //European Journal of Research Development and Sustainability. – 2021. – Т. 2. – №. 6. – С. 84-86.
8. Fozilov, U. A., and Olimov S. Sh. "Improving The Treatment of Abnormal Bite Caused by Severe Damage To The Jaw." *Journal of Advanced Zoology* 44.S-5 (2023): 370-378.
9. Abdurazzakovich F. U. Development of innovative diagnostic and prophylactic dental obturators aimed at preventing the development of caries and its complications in the orthodontic treatment of patients. – 2021.
10. Fozilov U. A. Evaluation of the efficiency of Demineralizing Agents in Treatment with Removable and Fixed Orthodontic Equipment in Children //International Journal on integrated Education. – 2020. – Т. 3. – №. 7. – С. 141-145.
11. Qurbonova NI Dental prevention of morbidity in silkwelding workers 2020. – VoL 10. Issue 5 May. – P. 1667-1669
12. Kurbonova N.I. Periodont kasalliklarini zamonaviy davolash usullari // Tibbiyotda yangi kun. - 2019. – 4 (28). – pp. 423-425.

Volume: 2 Issue: 11 | Nov – 2023 **ISSN: 2720-6866**
http://journals.academiczone.net/index.php/rjtds

13. Qurbonova NI, Khabibova NN, Ikhtiyarova GA Hygienic Condition Of The Oral Cavity And The Level Of Hygienic Knowledge Of Silk Motor Workers // European Journal of Molecular & Clinical Medicine, 2020, Volume 7, Issue 3, Pages 3027-3033
14. Kurbonova N. _ AND. Dental prevention of morbidity in silk-welding workers // Academicia: An International Multidisciplinary Research Journal. -2020. – VoL 10. Issue 5 May. – P. 1667-1669.