



STATE OF HARD TISSUES OF TEETH OF WORKERS IN OIL REFINING INDUSTRY

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✓ *Resume*

The workers of the main specialties of the Bukhara oil refinery were examined. The demographic characteristics, the level of education and the observance of oral hygiene in the compared groups of workers in the oil refining industry were determined. found in all employees of the refinery (100.00% prevalence of caries). On average, workers found 12.25 ± 0.53 carious teeth per one examined, fillings 2.41 ± 0.11 , the number of extracted teeth - 6.52 ± 0.24 . The results of this study prove the need to educate oil refinery workers about the need to maintain oral hygiene and the adverse impact of occupational hazards on oral diseases.

Key words: hazardous industries, dental caries, intensity of dental caries, oral hygiene.

СОСТОЯНИЕ ТВЕРДЫХ ТКАНЕЙ ЗУБОВ РАБОТНИКОВ НЕФТЕПЕРЕРАБАТЫВАЮЩЕЙ ПРОМЫШЛЕННОСТИ.

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✓ *Резюме*

Были обследованы рабочие основных специальностей Бухарского нефтеперерабатывающего завода. Определены демографические характеристики, уровень образования и соблюдения гигиены полости рта в сравниваемых группах работников нефтеперерабатывающей промышленности. выявлен у всех работников завода (100,00%-ная распространенность кариеса). В среднем на одного обследованного рабочими было обнаружено $12,25 \pm 0,53$ кариозных зуба, пломб $2,41 \pm 0,11$, количество удаленных зубов - $6,52 \pm 0,24$. Результаты данного исследования доказывают необходимость обучения работников нефтеперерабатывающих заводов необходимости соблюдения гигиены полости рта и неблагоприятному влиянию профессиональных вредностей на заболевания полости рта.

Ключевые слова: вредные производства, кариес, интенсивность кариеса, гигиена полости рта.

NEFTNI QAYTA ISHLAB CHIQISH SANOATI ISHCHILARDA TISH QATTIQ TO'QIMLARI HOLATI

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Buxoro davlat tibbiyot instuti

✓ *Rezyume*

Buxoro neftni qayta ishlash zavodining asosiy mutaxassis ishchilari ko'rikdan o'tkazildi. Neftni qayta ishlash sanoati xodimlarining kuzatuv guruhlarida demografik xususiyatlari, ma'lumoti va og'iz bo'shlig'i gigienasiga rioya qilish darajalari aniqlandi. Zavodning barcha xodimlari tekshirilganda (kariyesning tarqalishi 100%) ishchilar orasida o'rtacha $12,25 \pm 0,53$ kariyesga uchragan tish, plombalangan tishlar soni $2,41 \pm 0,11$ hamda olingan tishlar soni - $6,52 \pm 0,24$ aniqlandi. Ushbu tadqiqot natijalari neftni qayta ishlash zavodi ishchilarini og'iz bo'shlig'i

gigienasiga amal qilish zaruriyati va kasbiy zararli omillarning og'iz bo'shlig'i kasalliklariga salbiy ta'siri haqida yetarli bilimga ega bo'lishi zarurligini isbotlaydi.

Kalit so'zlar: zararli ishlab chiqarish omillari, tish kariesi, tish kariesining intensivligi, og'iz bo'shlig'i gigienasi.

Relevance

The state of human health is determined by a combination of two factors: its genetic component and environmental influences. The growth of industrial activity around the world has increased the standard of living of people, but also caused exposure to occupational hazards [1,2,4,7].

Oral health is an important component of overall health and quality of life. The oral cavity is a link between the external environment and the internal environment of the body and is primarily subject to occupational pathology due to direct exposure to occupational pollutants. [3,9].

Oral diseases such as caries, periodontitis, malocclusion, oral cancer and traumatic injuries of the teeth have a significant impact on the general well-being of a person [5, 6].

The basis of therapeutic and preventive measures is the data of mass examinations of the prevalence and severity of pathology in a certain contingent of the population [8, 10].

The purpose of this study is to assess the intensity of dental caries in oil refinery workers.

Material and methods

The workers of the main specialties of the Bukhara oil refinery, who agreed to participate in the study, were examined. Ethical clearance was obtained prior to the start of the study. Assessment of the intensity of caries was carried out on a homogeneous sample of workers in hazardous production with work experience in hazardous working conditions for at least 10 years and a sample of factory management workers comparable in terms of sex and age structure, not in contact with industrial hazards. 179 workers were examined, the control group consisted of 37 employees of the plant management.

Demographic data included age, location, and work experience, oral hygiene practices included type of oral hygiene aids, material and frequency, and tobacco and alcohol addiction were additional data. The researcher and the recording assistant before the start of the study underwent theoretical and practical training at the dental calibrator. The reliability of the examiner and registrar was determined. Internally, expert reliability for assessing the intensity of dental caries and periodontal disease was 0.91 and 0.87, respectively. Examination of the oral cavity was carried out in daylight and, if necessary, an additional source of artificial light was used, using oral mirrors. As an indicator of the intensity of the carious lesion, the value of the CFE index and its constituent elements (C - caries, F - filling and E - extracted teeth) were evaluated [10].

Statistical analysis Data were collected, tabulated and subjected to descriptive-statistical analysis using SPSS (version 21.0).

Result and discussion

Table 1 presents the demographic characteristics, educational level and oral hygiene in the compared groups of workers in the oil refining industry. The comparison groups were homogeneous in age, at the same time, it should be noted that the employees of the plant management had a significantly higher level of education and a higher level of oral hygiene. 89.39% of workers in hazardous production had the frequency of brushing their teeth once a day, and only 10.61% answered that they observe oral hygiene 2 times a day, while 45.95% of the plant management employees brushed their teeth 2 times a day.

Cariou teeth were found in all refinery employees (100.00% prevalence of caries). Table 2 shows the intensity of dental caries and the structure of caries in the comparison groups. It should be noted that the intensity of the lesion in the comparison groups did not have significant differences. On average, 12.25 ± 0.53 carious teeth per one examined were found among workers, and 11.32 ± 0.44 teeth were found among employees of the plant management ($P \geq 0.05$). At the same time, the number of untreated carious teeth among workers was more than 3 times higher than that of the factory management 3.32 ± 0.12 versus 1.10 ± 0.04 ($P \leq 0.05$); workers had significantly ($P \leq 0.05$) fewer

fillings, respectively, 2.41 ± 0.11 versus 6.79 ± 0.32 and significantly ($P \leq 0.05$) a greater number of extracted teeth - 6.52 ± 0.24 vs. 3.43 ± 0.16 .

Table 1

Demographic data, oral hygiene in comparison groups

№	Indicator	gradation	Workers n=179	P/m n=37
1.	Age	18 - 24	20(11,17)	4(11,08)
		25 - 34	32(17,88)	7(18,92)
		35 - 44	41(20,91)	7(18,92)
		45 - 54	52(29,05)	11(129,73)
		>55	34(18,99)	8 (21,62)
		Total:	179(100,0)	37 (199,0)
2.	Education	Primary	109(60,89)	4(10,81)
		Specialized secondary	62(34,64)	12 (32,43)
		Higher	8 (14,47)	21(56,76)
3.	Oral hygiene, daily brushing	1 time	160 (89,39)	20 (54,05)
		2 times	19 (60,61)	17 (45,95)

Table 2

The intensity of dental caries (CFE index) in the comparison groups

Indicator	Workers n=179	Plant managment n=37	P
C- Caries	3,32±0,12/27,10	1,10±0,04/9,71	P<0,01
F- dental fillings	2,41±0,4/19,67	6,79±0,32/59,98	P<0,01
E-extracted teeth	6,52±0,24/53,22	3,43±0,16/30,30	P<0,01
CFE - index	12,25±0,53/100,0	11,32±0,44/100,0	P>0,05

Note: in the numerator is the absolute value; in the denominator - in % of the index - CFE

With regard to dental caries, many aspects of its epidemiological characteristics remain unclear, however, the features of the distribution of its structural characteristics can be considered established and of not only theoretical but also practical value. Obviously, the epidemiology of caries evaluates not so much the mechanisms of the development of pathology as the conditions in which people with carious lesions are found. Thus, a comparative analysis of the results of epidemiological examinations of the features of the spread and course of the carious process, which are of a general nature within the surveyed contingent. Higher rates of untreated caries (element C); of extracted teeth (item E) and low rates of filled teeth (item F) in workers correlate with low levels of education and poor oral hygiene. The health of industrial workers is often neglected due to their harsh working conditions, busy schedules and poor economic conditions. Industrial workers are at risk of occupational diseases and dental problems because of their frequent shifts, low socioeconomic status, and neglect of oral hygiene. Thus, at refineries there is a resource for increasing the effectiveness of therapy for hard dental tissues.

Thus, the present study proves the importance of oil refinery hazards as a risk factor for the occurrence, development and severity of dental caries. The mechanism of the influence of industrial hazards on the damage to hard dental tissues requires further analysis.

Industrial hazards and harmful factors of the working environment can be one of the risk factors for dental caries. The importance of this fact lies not only in the need to take into account the influence of production factors in the diagnostic process. It is extremely important for practical dentistry to take into account the possibility of treating dental caries, taking into account the peculiarities of the influence of specific hazards of a particular production. Interaction with shop doctors and the enterprise safety service can be the key to the treatment of pathologies that are resistant to conventional restorative interventions.

Discussions. Refinery workers can be classified as a group of increased risk in terms of general health and oral health due to their constant exposure to occupational hazards, the severity and intensity

of the work process and the constant exposure to harmful chemicals. Unfortunately, despite the achievements of medical sciences and various primary health care services, patients are not routinely screened for oral hygiene.

The recommendation for shop and family doctors will help to strengthen the primary health care centers that serve as the first line of treatment for the population.

The present study was carried out to understand the dynamics and patterns of hard tissue pathology among workers exposed to oil refinery hazards. Currently, dental care in Uzbekistan is provided on a self-supporting basis, so the high cost of treatment may hinder the provision of qualified medical care. The results of the present study are consistent with a previous adult study showing the prevalence of tooth extraction as a substitute for more expensive dental treatment, making tooth extraction the preferred treatment option among low-educated, low-income occupational groups [9].

In the present study, many workers did not pay attention to oral hygiene and preferred to brush their teeth only once a day.

The same data were obtained by Baishya V. when examining the state of oral hygiene, oral hygiene practices and periodontal health of brick kiln workers in Odisha [3].

This may be due to a lack of knowledge about the need for effective brushing. Among workers in stone mines, a relationship has been established between poor oral hygiene and the prevalence of caries [2].

Clearly, refinery workers may not be aware of the importance of good oral hygiene. Which determines the need to educate and inform them about a healthy lifestyle and oral hygiene in order to maintain optimal oral health.

Conclusion

Refinery workers are a special, closed and highly professional group of the population that deserves attention in relation to oral health and general health due to the various occupational and hazards they face in their work activities.

Among this group, there is no awareness of oral hygiene measures, as a result of which they do not use modern and highly effective oral hygiene products. The results of this study prove the need to educate oil processing workers about the need to maintain oral hygiene and the adverse impact of occupational hazards on oral diseases. .

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