



RESULTS OF A STUDY OF THE DEPENDENCE OF DENTAL HEALTH AND QUALITY OF LIFE AMONG WORKERS OF ENTERPRISES OF THE CHEMICAL INDUSTRY

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Introduction. The technological process of production enterprises, the various products they produce are objects of production risks that can pose a threat to the environment, as well as to the health of workers. Today, it is impossible to completely get rid of the risks of production, therefore, the organization of labor, especially for workers, creating hygienic conditions, keeping the incidence of various diseases, including dental diseases, achieving a high level of connection between dental health and the quality of life of workers, increasing labor productivity is one of the urgent problems of Preventive Medicine and Dentistry.

Keys words: treatment, diagnostics, teeth, modern methods.

Automation of technological processes at enterprises of the chemical industry all over the world, the introduction of distancing management, the widespread use of Informational Technologies, minimized the direct contact between workers and chemical agents used in the technological process, but their effect still remains. In order to improve the economic efficiency of production, the synthesis of new chemical agents and their introduction into production have been attributed to the health of workers, especially workers, to the condition of the oral cavity.

The origin of various pathological conditions is indicated in clinical-dental as well as experimental ways. When they are introduced into the technological process, the safety of experimental animals has been proven both, the degree of negative impact on the human body has not been fully studied, the period between synthesis and introduction into production is short, and there is not enough data on close and remote results on the impact on the organs and tissues of the body, on the functional state.

In our country, great work is being carried out to provide highly qualified medical care to the population, to prevent the formation of occupational diseases among workers of industrial enterprises, to reduce the trend for the development of dental diseases, to ensure medical safety in the absence of these conditions. Based on this, it is important to determine the dental health of workers of different ages working in industrial enterprises, to assess whether they are related to the quality of life, on the basis of which it is important to develop new approaches to the Prevention of dental diseases in workers working in the chemical industry [1.3.5.7.9.11].

Purpose of the study was to identify cause-and-effect correlations between dental disease progression and production risk factors as well as dental health and quality of life in workers in chemical production.

Materials and methods. 715 19-55-year-old workers working in the stock company "Navoiazot" were obtained as.

Assessment of the quality of dental life concentrates on the identification of clinical indicators and social complications, the dental condition leads to changes in the body's regulatory functions, social status and behavior, as a result of which the ability to work and productivity decrease, becoming obsessed with fasting anxiety at home and getting into the educational process.

Many questionnaires and scales have been developed to assess the quality of dental life. These methods, which allow you to assess the quality of dental life, are used to determine the effectiveness and effectiveness of medical interventions, assess the quality of medical care, assess the medico-sanitary needs of the population, understand the causes and complications of various dental diseases, and improve clinical decision-making.

In the results of numerous studies, the following indices are most commonly used today to assess the quality of life of dental patients: Oral Health Impact Profile (OHIP), Dental impact Daily Living (DSDL), Oral Health-related Quality of Life (OHR QoL).

These surveys are being used in epidemiological studies, assessing the need for dental care of the population, assessing the state of dependence between dental health and quality of life. However, today, such surveys have not been carried out among workers of production enterprises, subjective cases of the impact of production risks have not been assessed. However, assessing the need of workers for dental treatment on the basis of subjective indicators is important for planning to improve the provision of dental services.

For this reason, it is considered important for each study to choose a way to assess the quality of life of the population.

Assessment of the quality of dental life concentrates on the identification of clinical indicators and social complications, the dental State leads to changes in the normative functions, social status and behavior of the body, as a result of which the ability to work and productivity decrease, becoming obsessed with household worries and getting into the educational process [2.4.6.8.10.12].

Results and discussion. To do this, workers operating at the Enterprise "Navoiyazot" JSC, located in the Navoi region, were involved in research. They numbered a total of 715 and were between the ages of 19-55. All studied ($n=715$) were distributed by seniority as follows: up to 5 years - 133 ($18.60 \pm 1.46\%$); from 5 to 10 years - 146 ($20.42 \pm 1.51\%$); from 10 to 20 years - 275 ($38.46 \pm 1.82\%$); 20 years and over the side - 161 (22.52 ± 1.56). In order to determine and assess the relationship between quality of life and dental health of those who are engaged in production, to make a reasonable conclusion on the basis of subjective and objective indicators, we found it necessary to use the OHRQoL survey with the introduction of our modification in studies.

Oral Health Related Quality of Life (OHRQoL) survey published in 1996 by Kressin N. et al. recommended from the sides. It contained a total of 10 questions, each with 5 answers, with the recommendation to define the answers as: never, very rare; rare; frequent; very frequent.

Each answer was rated 4 out of 0: "Never" - 0; "very rare" - 1 point; "rare" - 2 points; "frequent" - 3 points; "very frequent" - 4 points.

Respondents were asked to specify only one answer to each question. The scores counted for each respondent were 0 points to 40 points, but as the answers to each question varied, the total scores ranged from 0-40 points.

In order to assess the answers received, the following gradations were recommended from our side:

0-10 points - dental health is in moderation, the quality of life is at a high level, the "physiological link" between dental health and the quality of life of the respondent is strong;

11-20 points - dental health in moderation, stress on quality of life, partially reduced at the expense of restlessness, the "physiological link" between dental health and the quality of life of the respondent has moderate strength;

21-30 points - dental health is alarming, quality of life is reduced, the "physiological link" between dental health and quality of life is weak, there is a "pathological link" (weak and medium strength);

31-40 points - dental health is alarming, quality of life is sharply reduced, there is no "physiological link" between dental health and the quality of life of the respondent, "pathological linkage" is strong.

Indicated the presence of dental diseases, including periodont diseases, among the workers of this enterprise. In order to determine the degree of connection between dental health and quality of life, the terms "physiological attachment" and "pathological attachment" were introduced by us for the first time. "Physiological attachment" suggests that high levels of dental health and quality of life did not cause medical, social, and individual problems for people involved in the investigations. The "weak", intermediate strength, and "strongness" of these bonds were studied and elicited using the method of correlating (Pearson-wise) these "between" bonds.

In cases where dental health is alarming and the patient quality of life has shown a downward trend, the term "pathological bonding" is used, which is determined using the ham correlation method (Pearson method) - "weak", "medium strength", "strong bonding". These Terms make it possible to indirectly determine the degree of dependence between dental health and patient quality of life, and are recommended for use as an additional clinical-dental prognostic criterion.

When the answers given by the respondents - workers (n=715) were analyzed, the results were evaluated on each worker, then these results were summarized and cited according to this group of workers, at the end of this analysis, dental health and quality of life were cited in terms of the duration of workers' activities at the same enterprise, that is, their work experience [12.14.16.18.20.22.23].

It appears that about half (49.09%) of those surveyed said they did not experience this. This showed that dental health was in moderation, at a higher level if there was a quality of life associated with that condition (Figure 1). It was concluded that these workers have a high level of working capacity and work productivity according to these indicators. If we take into account that the above-mentioned diskomfort bothers 21.26% of workers "very rarely", then the above conclusion also applied to them.

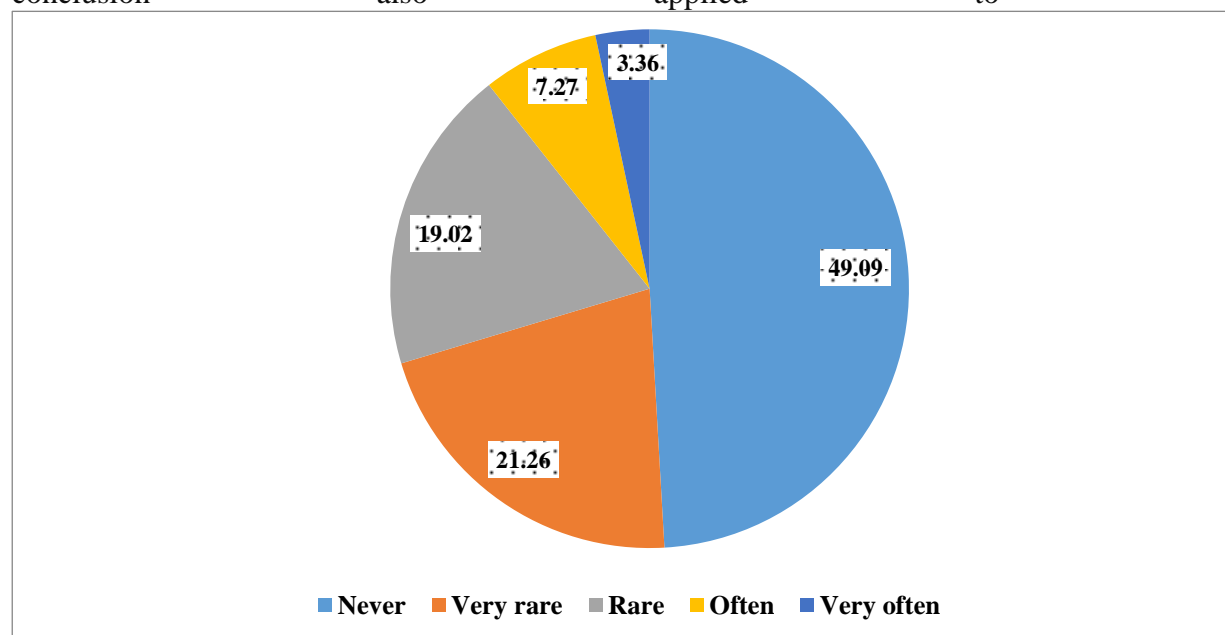


Figure 1. Distribution of respondent responses to dyskomfort perception in the oral cavity and jaw %

It is noteworthy that 7.27% and 3.36% of those studied reported "frequent" and "very frequent" discomfort sensations in the oral cavity and its organs, respectively. This indicates that they have identified medical-dental problems in dental health, they have a high need for dental professionals. Since the degree of occurrence of these problems is described in detail, we did not find it necessary to dwell on them.

It has been proven that dental health problems, in turn, along with a decrease in working capacity and work productivity, lead to a decrease in the quality of life. In all of them (n=76, 10.63%) from

the subjective answer to the first question, "dental health is alarming, quality of life is reduced" workers were included in the risk group and received separate control. From this, the answers of these women to other questions were carefully studied.

The second question asked on the basis of this survey to workers employed in production involved in research was "how often do you feel difficulties when consuming cold and hot drinks as a result of dental problems?", and the results of the responses to it were as follows (Table 1): "never"- 46.99±1.87% (n=336); "very rare" - 20.70±1.52% (n=148), "rare" - 15.94±1.37% (n=114); "frequent" - 11.05±1.17% (n=79), "very frequent" 5-5.32±0.84% (n=38).

1-table

Answers to the feeling of difficulties when cold and hot drinks are consumed as a result of dental problems

| Answers | In absolute numbers | In relative (%) numbers |
|------------|---------------------|---------------------------|
| Never | 336 | 46,99±1,87 |
| Very rare | 148 | 20,70±1,52 |
| Rare | 114 | 15,94±1,37 |
| Often | 79 | 11,05±1,17 |
| Very often | 38 | 5,32±0,84 |

The results obtained show that most workers do not have such problems - "never", respectively - 46.99±1.87% and "very rare" - 20.70±1.52, if 15.94±1.37% were convinced that 83.64% of all tested (n=598) had no dental health problems, given that workers rarely disturbed them by the problem asked above. 118 of the respondents (16.36%) reported "frequent" and "very frequent" annoyances on the issue. This condition has shown that dental health is alarming in these workers, depending on this, the quality of life has decreased.

If we individually see 10.63% of workers with dental health concerns as a result of answering the previous question, we have seen all those who are part of the risk group within 117 workers whose dental health is alarming on the second question.

So, all workers who felt dyskomfort in the oral cavity felt dyskomfort even when consuming hot-cold drinks, which, in parallel with the proof that both questions are related, became the basis for thinking that the dental health of the workers of this enterprise was alarming, the quality of life decreased. It was also shown that the formation of a risk group under these same indicators was correct.

The third question, " Do you feel dyskomfort in your diet as a result of dental problems?", and the responses to it were analyzed by the workers. It is important that this question is one of the necessary factors affecting the quality of life, complementing the 2 questions analyzed ahead of the questionnaire.

The results obtained from the studies are presented in Table 2 in the form of absolute and relative numbers.

It appears that in 68.95% of cases, respondents did not complain about dental health (respondents who responded "when" and "very little-less"), there was no change as a life in itself. A notable aspect is that 13.01% (n=93) of workers have said that this dyskomfort is a frequent irritant, with objective examination methods also confirming that they are a nuisance and showing that there are dental problems in the oral cavity in the form of dental pathological disorders.

Table 2

Parameters of the responses of Examiners on dyskomfort perception in nutrition as a result of dental problems

| Answers | In absolute numbers in relative (%) numbers | In absolute numbers in relative (%) numbers |
|-----------|---|---|
| Never | 307 | 42,94±1,85 |
| Very rare | 186 | 26,01±1,64 |
| Rare | 129 | 18,04±1,44 |

| | | |
|------------|----|-----------|
| Often | 64 | 8,95±1,07 |
| Very often | 29 | 4,06±2,33 |

Thus, on all three questions, workers who complained of the same annoyance were identified by the respondents. Dental problems such as dyskomfort in the oral cavity and dyskomfort in the jaw, sensation of hot-cold, dyskomfort in the oral cavity in nutrition, which occurs in 10.63-16.37% of cases attract attention, dental health in these workers was interpreted as alarming, decreased quality of life, the normative connection between dental health and quality of life was weakened, and the "physiological connection" between them disappeared and "pathological connection" was proven. To describe the dependence of dental health and quality of life, it has been proven that criteria such as "physiological bonding" and "pathological bonding", recommended by us, can be applied in an indirect assessment of the quality of life of workers engaged in production.

From the results of the analysis conducted on the clinical part of the questions presented in the questionnaire, the subsequent part of the questions - the individual-psychological part-was transferred. The three questions presented in this part evaluated the impact of dental problems, including periodontic disorders, on the quality of life they have on the psychological state of workers. The analysis was carried out on the basis of the written answers of respondents to their questions.

"How disturbed Is your sleep caused by dental problems?", to which all respondents (n=175) responded differently. Ham objected that these responses were caused by dental problems encountered in the form of symptoms of dental diseases (pain, etc. The results of the answers are presented in absolute and relative (%) numbers in Figure 2.

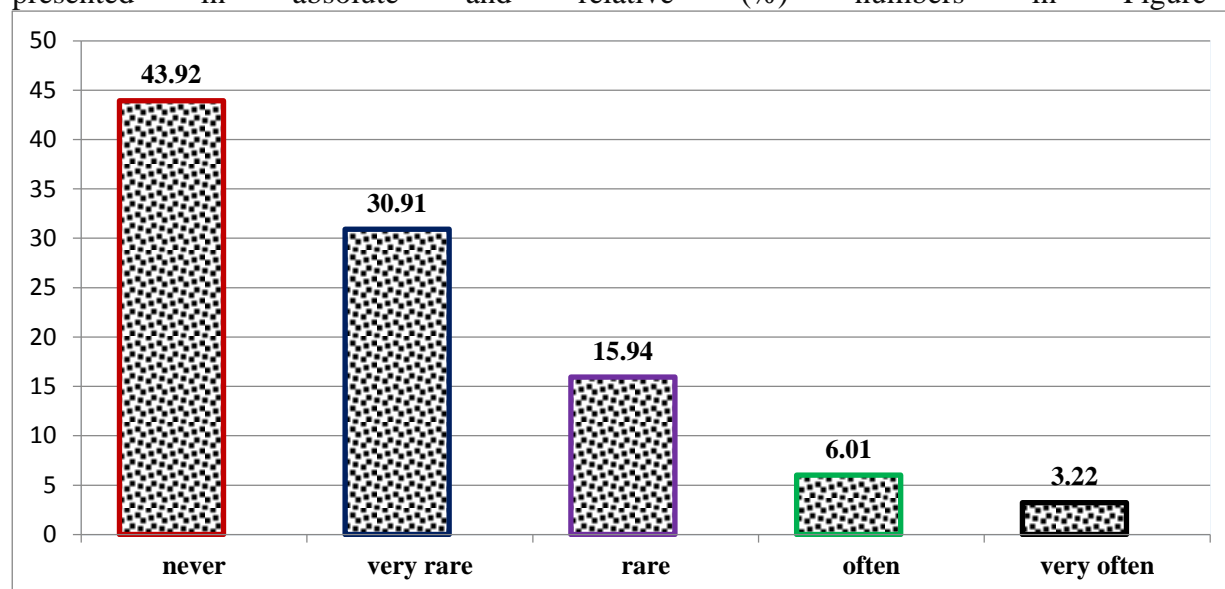


Figure 2. The results of the response to the violation of the sleep of respondents as a result of dental problems, %

The results obtained showed that such a problem was "never" observed ($43.92 \pm 1.86\%$, $n=314$) and that "very rarely" detected ($30.91 \pm 1.73\%$, $n=221$) workers accounted for $\frac{3}{4}$ of the workers involved in all studies, if we also add to this a contingent of workers who "rarely" disturbed this problem ($15.94 \pm 1.37\%$, $n=114$), 9 out of every 10 workers denied this problem.

Only 9.23% of respondents – respectively "frequently" ($6.01 \pm 0.09\%$, $n=43$) and very "frequently" ($3.22 \pm 0.66\%$, $n=23$)-were told that dental problems disturbed them and their sleep was disturbed. Workers with reduced quality of life due to alarming dental health accounted for 9.23%, becoming workers included in the risk group as a result of previous studies.

Clinically subjective (on the basis of a survey) and objectively determined (the diagnosis of dental status, including periodont diseases), it has been confirmed that workers with anxious dental health will also have changes in the individual-psychological state.

Thus, an analysis of answers to questions 4-6 related to all three psychological characteristics shows that between 7.55% and 11.23% of the workers of this enterprise (n=715) involved in research responded positively to the questions posed, which showed that their dental health (the presence of dental diseases, including periodont diseases) was alarming, as a result of which they As a result, the "physiological link" between dental health and quality of life disappeared, resulting in a "pathological link". These criteria indicate the need for individuals in this category to take a new approach to the primary prevention of dental diseases. The cited criteria, the survey used not only accurately assess dental health among workers, but also make it possible to assess the degree of its impact on the quality of life parameters, the degree of interdependence between these indicators, but also increase labor productivity, while the clearly planned primary prevention bases on their basis have a positive effect on the lifestyle of workers [11.13.15.17.17.19.21.23].

In response to this question, as well, 9.23% (n=64) showed that the positive response of the respondents ("often" and "very often" the mood falls) reduced the quality of life in them, in addition to the fact that dental health is alarming. On this response, too, a proven indicator was observed as a result of previous results - dental health and quality of life are inextricably linked with one another, alarming Dental Health observed in workers led to a decrease in quality of life.

Many of the respondents involved in the study reported that dental problems never negatively affected their moods ($51.05 \pm 1.87\%$, n=36), with a certain proportion being "very rare" ($22.94 \pm 1.57\%$, n=164) and "rare" ($16.78 \pm 1.40\%$, n=120). It recognized that dental health was alarming, so that the quality of life did not decrease either, which means that these workers were interpreted as a "physiological link" between the level of dental health and quality of life.

In the process of clarification in the process of filling out the questionnaire, it turned out that they felt guilty about their dental problems. This was explained to the respondents by the fact that they did not conduct timely oral hygiene, dental preservation conversations at all, did not teach the technique of cleaning the tooth with toothpaste and a toothbrush, but to the detection they did not even think about themselves.

In our opinion, both at the enterprise and in the neighborhood, conversations are held about dental diseases, their primary prevention, written propaganda tools are distributed, QVP and family polyclinics have information on this right, family polyclinic trainers are trained among doctors and secondary medical personnel who carry out primary prevention of dental diseases, these diseases were taken, dental health worried people and related persons with reduced quality of life, including The positive changes observed in personal life they have also been shown to have a positive effect on cocktail productivity.

From our side, the answers to the modified OHRQoL questionnaire were practically identical with the results of subjective parameters and objective observation, it seems that although the indicators of positive answers to the questions posed differ, all workers who gave such answers belonged to the "risk group" depending on the amount of positive answers given and the intensity of them, determining the degree of, including the development of primary prevention of periodont diseases is facilitated, the development and implementation of concrete measures is facilitated, as a result of which dental diseases (periodont diseases) prevention is optimized, as a result of which dental health improves, which in turn leads to an improvement in the quality of life of workers.

Through a modified OHRQoL survey from our side, dental health indicators were found among workers and they were studied to be related to quality of life.

The following laws were established on the basis of the developed criteria describing the quality of dental health and life of workers of the chemical enterprise "Navoiyazot" JSC according to the gradation recommended by US:

first, the modified OHRQoL survey was recommended for the study of the interdependence of dental health and quality of life of workers working at enterprises of the chemical industry;

secondly, 4 gradations based on scores were recommended to assess workers' dental health - 0-10 points; 11-20 points; 21-30 points; 31-40 points. On the basis of these gradations, risk groups were allocated and it was recommended to develop primary preventive measures for suitable dental diseases;

thirdly, in order to optimize and understand the assessment of the relationship between dental health and quality of life of workers, the concepts of "physiological bonding" and "pathological bonding" were introduced, the levels of which in turn were expressed in a way of weak, medium and strong bonding;

fourth, the dental health of 16.36% of all employees of this studied enterprise is alarming (there are dental diseases, including periodont diseases), the quality of life was found to be reduced, when the degree of connection between dental health and quality of life in them was studied, it was found that the "physiological connection" was weak or non-existent, and; fifth, a register of workers was created, which was included in the risk group for alarming dental health and a decrease in quality of life, and Dentists of the Chemical Industry Production Enterprise were given constant control and timely treatment recommendations; sixth, these activities, in which the workers of this allocated enterprise were included "risk groups", were carried out, they achieved a high level of quality of life, in turn, they increased labor productivity.

Conclusions. The modified OHRQoL questionnaire was recommended for the study of the interdependence of dental health and quality of life of workers working in chemical industry enterprises. To assess the dental health of workers, 4 gradations based on points were recommended - 0-10 points; 11-20 points; 21-30 points; 31-40 points. On the basis of these gradations, "risk groups" were allocated and it was recommended to develop measures for the primary prevention of suitable dental diseases, including periodont diseases; for the first time, the concepts of "physiological attachment" and "pathological attachment" were introduced in order to optimize the assessment of the relationship between dental health and quality of life of workers and determine the degree of change, which in turn were expressed in the form of weak, medium and strong physiological attachment and weak, medium and strong pathological attachment; dental health of 16.36% of all studied workers is alarming (there are dental diseases), it was found that the quality of life decreased, when the relationship between dental health and quality of life in them was studied, "physiological attachment" appeared weak or absent, and "pathological attachment", which was found to be moderately strong or strong; a register of workers was created, whose dental health was included in the alarming and risk group, and Dentists of the Chemical Industry Production Enterprise were given constant control and timely treatment recommendations. These activities, in which the allocated "risk group" was held, they were achieved that the quality of life was at a high level, in turn they increased labor productivity.

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