



Article

Assessment of the Mental State of Patients in the Treatment of Dental Diseases in Mechanical Engineering Workers

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Abstract: This study evaluates the psychophysiological condition and oral health status of mechanical engineering workers exposed to occupational hazards. A comprehensive multi-year study was conducted using clinical, instrumental, and laboratory methods on workers with varying lengths of service. The findings reveal a strong association between occupational exposure (dust, vibration, noise, and chemical agents) and the prevalence of dental diseases, including caries and periodontal disorders. Psychophysiological factors, particularly stress and adaptation to dental treatment, were also found to influence oral health outcomes. An integrated system for early diagnosis, prevention, treatment, and rehabilitation was developed and implemented. This approach significantly reduced the severity and prevalence of dental diseases, improved quality of life, and enhanced work productivity. The results highlight the importance of a comprehensive approach that integrates clinical and psychophysiological aspects in maintaining workers' oral health.

Keywords: oral health, mechanical workers, occupational hazards, psychophysiological factors, dental diseases, prevention, rehabilitation

1. Introduction

The dental health of mechanical workers is characterized by a high prevalence (satisfactory or unsatisfactory) of caries and periodontal pathologies, which is due to the influence of harmful occupational factors (dust, vibration, gas pollution). A comprehensive assessment of the functional state of tissues, hygiene skills and psychophysiological adaptation to dental treatment is required. Modern manufacturing processes in mechanical engineering are affected by a number of negative factors - metal aerosols, vibration, heat and noise, and organic compounds-which significantly negatively affect the organs and tissues of the oral cavity. These include inflammatory and destructive periodont diseases, as well as a high incidence of functional disorders of the chewing system, which work in this area. The inefficiency of traditional treatments requires an integrated approach that combines dentistry, hygiene and rehabilitation. One of the most important indicators of Public Health, defined as the state of mental and social well-being in modern production workers in mechanical engineering, is the health of the working population. Modern production workers in mechanical engineering are characterized by a high degree of morbidity, including somatic diseases, occupational and work-related diseases, as well as a significant decrease or loss of labor capacity due to inconveniences in temporary and permanent work ravines, as well as a high mortality rate, especially among men of working age. The proportion of elderly people in the working population is increasing, which also reduces the level of working capacity. It is known that the socio-economic development of the country largely depends on the health and working capacity

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of workers. One of the main tasks of ensuring the medical and dental health of modern production workers in mechanical engineering is the maintenance of Labor potential, the quality of life and health of workers, reducing the consequences of industrial injuries, accidents, occupational diseases, timely provision of preventive and therapeutic services, availability and effectiveness of medical care. One of the main problems of providing medical care to workers of industrial enterprises in the modern health and health system remains one of the urgent tasks waiting for a solution in medical practice in the absence of structural-functional interaction between medical specialists and ensuring continuity of treatment and preventive measures within the framework of periodic medical examinations and subsequent stages of The need to continue experimental and hygienic research on this problem, taking into account the evidence presented, has not lost its relevance.

2. Purpose and Objectives of the Study

Scientific justification and development of preventive measures and implementation of a comprehensive system of preventive, therapeutic and dental rehabilitation for workers in Mechanical Engineering Enterprises. The study of the prevalence and structure of basic dental diseases among workers in Mechanical Engineering Enterprises based on their seniority and the nature of professional risks. Determination of the features of the clinical course of diseases of caries, parodont and oral mucosa in patients examined; Study of the morphofunctional state of the mucous membrane of the periodont tissue and oral cavity under the influence of industrial factors. Assessment of the functional and psychophysiological state of the dental health of workers at mechanical engineering enterprises. Scientific justification and development of a comprehensive program for the Prevention of dental diseases for workers of mechanical engineering enterprises. Development and implementation of differential methods of treatment of basic dental diseases, taking into account the level of professional influence;

3. Materials and Methods

Dental patients who have different professional experience in mechanical engineering enterprises, have dental diseases as a result of various harmful production factors (metal aerosols, organic compounds, noise, vibration, thermal vibrations) were obtained.

4. Results and Discussion

A comprehensive, multi-year study of the dental health of workers at Mechanical Engineering Enterprises was carried out using modern clinical, instrumental and laboratory methods. As a result of professional injuries, the patterns of development of dental diseases are determined depending on the length of work and the intensity of the influence of professional factors. In this population, criteria for early diagnosis and prognosis of dental pathology have been developed. An integrated system of prevention and rehabilitation has been developed and tested, which includes step - by-step diagnosis and treatment of dental diseases, normalization of local biochemical indicators and functional restoration. A scientifically based and specific complex system of prevention, treatment and dental rehabilitation was created, including the development and implementation of rehabilitation programs using specialized preventive measures, differential methods of dental treatment and physiotherapeutic and balneological factors. The developed system significantly reduces the prevalence and severity of dental diseases, improves the dental health and quality of life of workers, reduces temporary disability and increases labor productivity. Key factors and health status: • Occupational hazards: dust, noise, vibration, temperature changes and gas contamination significantly increase the risk of oral diseases. * Dental status: self-assessment of Health is often "satisfactory", with a

large proportion of workers associating problems with working conditions. * Hygiene: assessing the level of hygiene culture often indicates the need to increase the responsibility of employees for the Prevention of diseases, including proper brushing of teeth. Psychophysiological aspect: * Stress resistance: high work stress may require preventive measures and assessment of psychological readiness for treatment. * Adaptation: taking into account the influence of working conditions on the psychophysiological state, which contributes to the development of a cariogenic situation. To minimize the impact of harmful factors, it is recommended to organize dental care near the workplace, emphasizing prevention.

5. Conclusion

Mechanical engineering enterprises evaluated the functional and psychophysiological state of the dental health of workers and provided the necessary advice and recommendations on improving the dental health of patients.

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