RETROSPECTIVE DYNAMIC STUDY OF THE CURRENT MORBIDITY OF MEDICAL AND NON-MEDICAL SPECIALISTS IN PRE-HOSPITAL HEALTH CARE.

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ABSTRACT:

In recent years, the healthcare system has been considered by researchers to be a high-risk area, with registered diseases above the average level compared to other economic activities. This leads to high rates of permanently reduced efficiency and premature mortality. In the present study, we looked for the determinants of negative changes in the health status of employees in pre-hospital medical care, which in addition to socio-economic, are related to the work environment and the work process. The main guidelines for really overcoming these negative trends are: occupational health activities such as creating adequate regimes of work and rest, healthy and safe working conditions, health promotion and the unifying details of the Unified Health Integrated Dossier [UHID]. This occupational medicine dossier, developed as a module of "cloud structure" of E-health in Bulgaria, allowed the study of the health status in dynamics for a retrospective period of medical and non-medical specialists in two large diagnostic counseling centers [DCC] in Varna. It was found that in the structure of momentary disease for the two DCC in the first place are diseases of the eye and its appendages – 221,74%, followed by diseases of the circulatory system – 101,45% and diseases of the musculoskeletal system and connective tissue by 28,99%. UHID with occupational medicine orientation is useful both for the employers and for the control and expert structures for assessment of the health status under specific working conditions in pre-hospital medical care.

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Keywords: point prevalence, health condition, musculoskeletal disorders, health specialists, occupational medicine

OBJECTIVE

Study with analysis of the current morbidity for assessment of the health status of medical and non-medi-

cal specialists in dynamics for 2 - year retrospective period in two diagnostic consultation centers on the territory of Varna Municipality.

TASKS

Study of the current prevalence in connection with the factors of the working environment and the organization of work during preventive examinations of the employees for a two-year period in DCC 1 and DCC 2 - Varna. Comparative analysis for assessment of the leading nosological groups, with the approaches of UHID and implementation of a preventive program for improving the health status in the specific working conditions.

MATERIALS AND METHODS

The object of the study is working medical and non-medical specialists from DCC 1 and 2 under the specific working conditions and data from **periodic preventive medical examinations and tests (point prevalence – PP)** for two consecutive years - from 2016 and 2018. Attached are **documentary and statistical methods** for collecting and processing the necessary health information. The frequency indicators of the alternative analysis were used, both per 100 workers - intensity and per 100 patients - extent. The software program product is specially developed for an individual and generalized characteristic of the negative changes in the health condition of all employees in the medical establishments. For the purposes of the study, the summarized and factorial indicators of PP were analyzed.

Volume, units, signs of the study. The object of the study is a total of 249 employees in two medical institutions for specialized outpatient care in the city of Varna. All medical and non-medical specialists have many years of experience and additional qualifications in various specialties.

The logical unit of observation is everyone working in DCC 1 and 2 for 2016 and 2018.

The distribution by age is as follows: in 2016, employees over the age of 45 prevailed - 73% [72 women and 20 men], followed by the age group of 36 - 45 years - 15%] 13 women and 6 men/ and 10% from the age

group 26 - 35 years. Non-medical specialists are 12% of the total staff for the two objects of observation represented in 10 different professions. In 2018, the structural

age distribution followed with small changes that of 2016. The distribution by main occupational groups is shown in [Graphics 1].

Graphics 1. Distribution by number and occupational groups in DCC 1 and DCC 2 by position for 2016 and 2018.

DCC 1 is located in the central part of Varna, 126 medical and non-medical specialists work in the center, and it serves approximately 50,000 people or 14% of the inhabitants of Varna. DCC 2 is located in an area that serves approximately 100,000 people, employing 123 staff. This definitely shows the extreme workload of medical and other specialists and opens up opportunities for aggravating negative health.

by the age group 36 - 45 years with 5% and 3.45% and 5% and 2.30 % for the group of 26 - 35 years for DCC 1 and DCC 2 [Graphics 2, 3].

Graphics 2. Distribution of the examined by age in DCC 1 for 2016 and 2018

RESULTS AND DISCUSSION

Study of momentary illness in connection with the conditions of the working environment and the organization of the labor process for 2016 and 2018. in DCC 1 and DCC 2 - Varna.

The health surveillance of the employees at high occupational risk aims at the early detection and identification of adverse health effects of various factors of the work environment and the work process; early detection and diagnosis of deviations from health status in the manifestation of occupational and socially significant diseases [1, 2, 3, 4, 5, 6, 7].

Point prevalence: In 2016 and 2018, the employees of DCC 1 - Varna underwent mandatory periodic and preventive medical examinations, according to the risk assessment and the recommendations of the occupational medicine service. 59.3% for 2016 were reviewed 65.3% for 2018 women and 40.7% men and 34.7% men from the subjected employees in DCC 1 for the studied period. The age distribution of graphics 2 and 3 is as follows: 90% of those examined in DCC 1 and 94.29% of those examined in DCC 2 are over 45 years, followed

The distribution of the detected patients in the different age groups to all patients is as follows: over 45 years of age are 92.75% [59 women and 13 men] in DCC 1 and 95.38% in DCC 2, followed by the age group 36 - 45 years for DCC 1 - 4.35% and for workers aged 26-35 it is 3.08%. for DCC 2 [Graphics 4, 5].

Graphics 3. Distribution of the examined by age in DCC 2 for 2016 and 2018.

Graphics 4. Distribution of those diagnosed with new and old diseases by age groups in DCC 1 - average for 2016 and 2018.

Graphics 5. Distribution of those diagnosed with new and old diseases by age groups of DCC 2 on average for 2016 and 2018.

Leading are the diseases identified in the examined employees of DCC 1 and DCC 2, which are related to the identified diseases in the risk assessment for their employees, physical stress, organizational and psycho-social adverse factors, and as well as family burden and lifestyle. The nosological affiliation of PP is formed not accidentally by diseases of the eye and its appendages as a pre-pro-nounced part of the CNS, due on the one hand extremely visual stress in the diploma training of specialists and the increasing daily workload with personal computers and precise specialized equipment. The demographic structure of adult workers and the available presbyopia play a significant role in this finding. Naturally, the established second place of the diseases of the circulatory organs is natural against the background of the high cardiovascular morbidity of the Bulgarian population and the additionally high nervous and emotional overstrain in the work of the DCC. The third place in this structure also reflects the physical, combined with static stress and responsibilities for patients [Graphics 6, 7].

A number of non-professional factors are also important, which only, as noted in the UHID, can point to the determinants of occupational health. The weight and importance as unhealthy lifestyle and lifestyle, social and economic challenges, and differences in content and volume environmental and cultural conditions for different age groups are important for determining the prevention of established PP. [8, 9,10, 11].

Graphics 6. Point prevalence by groups of diseases for the employees in DCC 1 for 2016 - 2018 [average indicators].

Graphics 7. Point prevalence by groups of diseases of the organ systems in DCC 2 for the period 2016 and 2018 [average indicators].

This study looked at the specific impact of working conditions - the factors of the work environment and the work process in order to assess the risk in 2016. It finds the following:

In DCC 1, leading are biological agents, manual work with weights, work with hazardous chemicals as the risk is within acceptable limits and the proposed measures are: training of medical staff, the use of assistive devices in patient care and PPE when working with biological agents and chemicals [12 - 20]. For DCC 2, these are ergonomic factors, biological agents, psycho-social risk factors /stress, burnout/ and proposed measures for the use of appropriate technical means to minimize physical activity. Educating patients to prevent MSCs and back injuries is also beneficial for workers [21, 22].

Other factors are common, both for DCC 1 and DCC 2: gender - DCC are feminized groups, as in the health care system, drawn to the older age groups, style and lifestyle - bad habits and habits, established by the risk assessment and anamnestic data during the prophylactic examinations [23, 24].

The pedagogical and non-pedagogical staff from the

Bulgarian school have similar results of the health condition of these medical and non-medical specialists, also established during large-scale studies in Bulgaria with the application of UHID with occupational medicine-specific characteristics. These studies confirm and develop the idea of the significant impact of working conditions on health and working capacity for a long period, which in the current working conditions of nearly 50 years, since 15 years of age [especially when students in dual education and in internships and enter different working conditions] up to 65 years to which the retirement age tends in a number of European countries.

It becomes clear that it is necessary to adhere to the WHO idea for determining and stimulating the influence of the sanogenic factors of the environment, incl. labor, which find a place in the overall system of health care in the country and specifically in UHID with occupational health. Not insignificant are the normative documents and especially those for PP, such as the ordinance for prophylactic examinations, the ordinance for medical examination and prophylaxis and the ordinance for the occupational medicine services

CONCLUSIONS

1. Personal integrated analysis of point prevalence, with detection of early or asymptomatic diseases on the one hand and on the other to confirm old diseases, combined with the incidence of temporary disability and trauma, allows to study scientifically sound level and trends of the health of workers under specific conditions at work, with the medical specialists from the outpatient care. This provides opportunities for observations for a long period in which the real levels, structure, dynamics with trends and features of the negative changes in the health status of employees in the healthcare system are established.

2. For outpatient medical care with specific working conditions, it is essential to establish the point prevalence of these workers, as for two large DCCs with over 150,000 served population, we found:

- the results of two periods of prophylactic examinations for two medical institutions are high in levels of PP as the disease structure does not differ significantly, the leading are a class of diseases of the eye and its appendages, followed by diseases of the circulatory system and musculoskeletal system and connective tissue.

- the relative share of sick women and of the age groups over 45 years with an upward trend is higher, which apart from the sex - age structure of the employees in the two centers is of significant importance the leading factors of the work environment and work process.

3. The established indicators of PP with a significant number of organs and systems in the two diagnostic - consultation centers show the need for personalized medicine, with a specific determination of the causes of these diseases, both from the external environment and endogenous factors.

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