



## EPIDEMIOLOGY OF MALIGNANT NEOPLASMS AMONG RESIDENTS OF THE TASHKENT REGION

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### Abstract

Our retrospective study of the ratio of cancer patients depending on the district of the Tashkent region showed that the largest number of diseases are registered in the industrial centers of the region, where the maximum exposure to technical carcinogens, which corresponds to the data of other international studies. These data confirm the need for widespread introduction of cancer screening methods among employees of enterprises and other residents of districts, increasing cancer awareness among doctors of district polyclinics and medical san. parts of enterprises.

**Keywords:** neoplasms, oncological diseases, cytologically, cadmium, oncological morbidity.

### Introduction

Currently, there is an increase in carcinogenic and mutagenic effects of environmental pollution in human populations.

According to the World Health Organization, 2.4 million people die every year due to the health effects of polluted air, while the most vulnerable categories are children and the elderly [2,6]. Diseases associated with old age (age-dependent diseases, aging-





associated diseases) include neoplasms, cardiovascular, diseases of the musculoskeletal system, type 2 diabetes, neurodegenerative diseases and some others.

Respiratory tract cancers, unlike most other cancers, have known causes and are susceptible to primary prevention. According to a large population-based case-control study in Southern Europe, over 90% of the present incidence of laryngeal cancer could be prevented by avoiding smoking and alcohol consumption. Most of the risk is attributable to tobacco, but reducing alcohol alone could still prevent a quarter of the cases. Tobacco smoking, on the other hand, explains 80 to 90% of lung cancer incidence in Italy.(4) Other known causal factors include: occupational exposures, which, according to several studies, may account for one third of the cases in the highly industrialized areas of Northern Italy; environmental pollution; passive smoking; radon; and dietary factors.(6) Factors associated to a diet rich in fruit and vegetables have been found to be protective for both larynx and lung cancer in several studies carried out in Italy and elsewhere. The factors associated to this diet may be a major determinant in the North/South gradient in incidence and mortality consistently observed in geographical and migrant studies on respiratory cancers in Italy. Cigarette smoking, however, remains by far the most important cause of respiratory cancer, and geographical and temporal trends in incidence can easily be interpreted in terms of market trends, both in Italy and worldwide. According to several population surveys in Italy, the prevalence of smokers in successive male cohort generations reached a maximum (almost 80%) in the 1920-1930 birth cohorts and decreased to about 60% among males born in the forties and fifties. In the same period, the mean number of cigarettes per day for smokers increased, and the age of starting smoking decreased; however, the market changed from unfiltered black tobacco to filtered low-tar cigarettes. (9) This market trend is consistent with the observation of decreasing incidence and mortality of both larynx and lung cancer in young male cohorts and the persistent increase of both cancers in older males. As for women, the prevalence of smokers increased from less than 10% in the 1920's birth cohorts to over 30% among women born in the late forties. This is reflected by a steady increase of respiratory cancers mortality which, however, is still lower than the mortality for males.

Based on a large number of data, an idea was formulated according to which carcinogenesis is largely associated with environmental pollution [1]. The results of epidemiological studies conducted in different countries of the world have confirmed the high risk of oncological diseases, especially lung cancer, due to environmental pollution from exhaust gases of motor vehicles, smoke emissions from thermal power





complexes, industrial enterprises (coke, metallurgical, oil refining and petrochemical, aluminum and other plants). The increase in oncological morbidity was noted among residents of industrially developed territories and large cities [3-4]. At the same time, smoking and exposure to polycyclic aromatic hydrocarbons (especially fractions of 4-7—nuclear polyaromatic hydrocarbons), the action of arsenic, pesticides, nitrosamines, asbestos, radon play a particularly important role in the occurrence of cancer.

### **Goals and objectives**

widespread introduction of cancer screening methods among employees of enterprises and other residents of districts, increased alertness among doctors of district polyclinics and med-san. parts of enterprises.

### **Materials and methods**

On the basis of the Tashkent regional branch of the Republican Specialized Research Practical Medical Center of Oncology and Radiology, we conducted a retrospective study of the incidence of malignant neoplasms among patients from 2015 to 2021. As of 2021, the population of the Tashkent region (without Tashkent city) is 2993975 people. During the study period: in 2021 (9 months) There are 10905 registered cancer patients, including 783 (7.18%) patients with confirmed malignant neoplasms of the skin. Among the examined patients, men - 334 (42.65%), women - 449 (57.35%). The following diagnoses were made: melanoma (65-8.3%); basal cell skin cancer (246-31.5%); squamous cell skin cancer (452-57.7%); primary multiple skin malignancies (20-2.5%). The diagnoses were confirmed histologically, cytologically, with the help of cancer markers. Information about patients is obtained from primary medical documents: outpatient records, inpatient medical histories, notices of a patient diagnosed with cancer or malignant neoplasm for the first time in his life.

According to the number of patients per capita, the largest number of cases: Chirchik- 0.63%; Almalyk- 0.55%, where large enterprises are located - JSC "Maxam-Chirchiq" (plant for the production of nitrogenous fertilizers, etc.- more than 40 product names), AGMK (Almalyk Mining and Metallurgical Combine). Human production activity is impossible without contact with harmful chemicals. Chemicals, in particular, carcinogens dangerous to health, are widely used in industry, agriculture and everyday life today. As a result, there is an increase in the level of oncological morbidity, especially in people directly employed in the manufacturing sector. [3]. The list of products produced by Maxam-Chirchiq includes substances such as carbamide-formaldehyde resin, aluminum-chromium catalyst (formaldehyde and





chromium salts are included in the National List of carcinogens (list of substances, products, industrial and household factors carcinogenic to humans. - Moscow, USSR. - N6054-91 from 19.11.1991.). AGMK produces copper wire and copper pipes and cathodes, sulfuric acid (mists of inorganic acids containing sulfuric acid (professional contact) - according to IARC - International Agency for Research on Cancer) [1], cadmium, selenium, cast iron, steel (which are also included in the National List of carcinogens (list of substances, products, industrial and household factors carcinogenic to humans. - Moscow, USSR. - N6054-91 from 19.11.1991.) An indirect confirmation of the influence of industrial hazards on the development of neoplasms can also be the fact that in these cities there were no patients in the group from 18 to 40 years old, and the largest number of cases were noted in the age group over 60 years old. This may also indicate some improvement in the epidemiological situation due to economic growth and, as a consequence, improved control over the emission of harmful substances into the atmosphere, stricter requirements for the quality of filters, increased permissible standards of harmful substances in the environment. Among all districts of the Tashkent region, the largest percentage of malignant neoplasms of the skin was registered in the Akhangaran district (17.9% of all oncological diseases). There are several cement factories, enterprises producing rubber and rubber products in this area.

Indicators of the incidence of ZN as biological indicators of the carcinogenic effect of the environment on humans are considered by many scientists [4-12]. It has been established that out of 7,000 chemicals tested for carcinogenicity, about 1,500 are carcinogenically dangerous to one degree or another and almost half of them are dangerous to humans [9]. Therefore, one of the most difficult and urgent problems in hygiene and oncology remains the regulation of carcinogenic substances and carcinogenic factors in the environment.

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