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PREVALENCE OF URINARY TRACT INFECTIONS AMONG THE POPULATION LIVING IN NAMANGAN REGION

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Annotation. This article describes the extent of the spread of urinary tract infections, in particular urological diseases such as acute and chronic pyelonephritis, cystitis in the population living in Namangan region. The criteria and statistics of morbidity for gender equality of the population are considered, which may lead to a conclusion about the extent of the spread of urological, infectious and inflammatory diseases and further compliance with preventive measures.

Keywords: urinary tract infections, pyelonephritis, cystitis, statistics, gender equality.

The relevance of the topic. To date, urinary tract infections (UTIs) remain one of the most common infectious diseases worldwide. The provoking factor for the development of urinary tract infections depends on the patient's gender, age, presence of concomitant diseases and urinary tract pathology. Urinary tract infections are much more common in women than in men. Up to 60% of women experience at least one episode of UTI during their lifetime. Every fourth patient has a recurrent UTI within one year [3, 5].

In the vast majority of cases, the causative agents of urinary tract infections are uropathogenic enterobacteria, bacteria of the Enterobacteriaceae family, mainly Escherichia coli and Klebsiella spp. Urinary tract infections can rarely be caused by Gram-positive bacteria such as Staphylococcus spp. (mainly Staphylococcus saprophyticus) and Enterococcus spp. [4].

The clinical and laboratory diagnosis of urinary tract infections is mainly based on clinical examination data and laboratory results. Currently, bacteriological examination of urine is the main method of diagnosing urinary tract infections, performed in a bacteriological laboratory to identify and identify the pathogen of the urological tract, as well as to determine sensitivity to UTIs [2].

At the end of the last century, reports of an increase in the resistance of community-acquired gram-negative pathogens to antimicrobials began to appear in the literature, which stimulated the launch of a global monitoring program [1, 2]

Thus, the study of the spread of urinary tract infections in the world remains highly relevant both from a clinical and socio-hygienic point of view, requires updated epidemiological data and the formation of effective prevention and treatment strategies.

The purpose of the study: The article analyzes statistical indicators of the prevalence, incidence and dynamics of urinary tract infection among the population of Namangan region in 2024-2025.

Materials and methods of research. The research materials were the official statistical data of the medical records on urinary tract infections among the population of Namangan Valley. The analysis was carried out on the basis of monthly reports of regional health authorities and medical institutions of the Namangan Valley for the period 2024-2025.

The study included data on reported cases of urinary tract infections among the adult population, obtained from: forms of state medical statistical reporting; consolidated regional epidemiological reports; archived data from primary and specialized medical organizations. The analyzed indicators included: the general and primary incidence of UTI, the prevalence of UTI

among the population, the distribution of cases by gender and age groups, the territorial features of the spread of UTI within the Namangan Valley. The population was used as a denominator for calculating relative indicators and was derived from the official demographic statistics of the region.

Statistical data processing was carried out using Microsoft Excel programs (and/or other statistical packages). The average values, growth rates, and percentages were calculated.

Research results and discussion. The analysis of the incidence of diseases of the genitourinary system in the adult population of Namangan region revealed the following features: of the 223 patients with UTI examined, 140/62.7% were men, with 17/7.6% from the city and 123/55.1% from the countryside. The number of women with UTIs was 82/36.7%, from the city 31/13.4%, and from the village 52/22.3%. The analysis of the age structure of patients with UTI showed that patients from 18 to 30 years old prevailed 120/57.70%, patients aged 31-50 years – 54/53.8%, 51-60 years – 49/21.9%. Of all the examined patients, 77/34.5% were diagnosed with acute pyelonephritis, 23/10.3% with chronic pyelonephritis, 92/41.3% with acute cystitis and 31/14% with chronic cystitis. In order to determine the specific composition of pathogens in urine crops, 108 patients were isolated from the selected group, which corresponds to a prevalence of 48.53% isolated in different age groups. The highest percentage of 53.8% of isolates was found in people aged 18-30 years, in 24.2% in people aged 31-50 years and in 21.8% in the age group of 51-60 years. *Escherichia coli was the most common pathogen in general, accounting for 24.85% of the total number of isolates, with the majority found in the 18-30 age group (12.73%).* Staphylococcus species were detected in 24.24% of cases, with the highest proportion also in the age group of 18-30 years, 13.94%. The isolation of Enterobacter was 16.36% of isolates, mainly affecting the age group of 18-30 years, 10.91%. Similarly, Citrobacter freundii accounted for 10.91% of the total number, while Proteus species accounted for 5.45%, while cases were relatively evenly distributed between age groups. Less common pathogens, such as Klebsiella pneumoniae, Streptococcus, and Pseudomonas aeruginosa species, were detected sporadically, collectively accounting for less than 2% of the total. General data indicate a higher burden of bacterial strains in the 18-30 age group, with Escherichia coli and Staphylococcus species being the most frequently detected pathogens in all age groups. The sensitivity of pathogens to antimicrobial drugs such as gentamicin, cefoxitin, ampicillin, ciprofloxacin, ceftriaxone, meropenem and amikacin was determined. High levels of resistance were observed to ampicillin 87%, ceftriaxone 77%, gentamicin 77%, ciprofloxacin 70% and cefoxitin 64%. In comparison, meropenem and amikacin were effective against most pathogens, showing average sensitivity rates of 51% and 56%, respectively.

The age group of 51-60 years showed the highest frequency of resistance to all antimicrobial drugs tested, except amikacin. She was followed by a group of patients aged 31-50 years, and women aged 18-30 years showed the lowest levels of resistance. The average percentage of antibiotic resistance was 51.14% for the 51-60-year-old group and 42.37% for the 31-40-year-old group. On the contrary, the lowest average level of resistance was registered in the 18-30-year-old group - 6.49%.

Thus, there is a high prevalence of urinary tract infections (53.8%), mainly among the rural population aged 18-30 years, as well as a high level of bacterial resistance to widely used antibiotics.

The high prevalence of UTIs in this age group suggests that people in this demographic group are more susceptible to UTIs. Urinary tract infections are a serious complication that requires an integrated approach to prevention, diagnosis, and treatment. Further research is needed to develop effective methods to reduce the risk of UTIs and overcome the problem of

antibiotic resistance. The results of the antimicrobial sensitivity study indicate an alarming trend, with data showing widespread resistance, especially to ampicillin (87%) and ceftriaxone (77%), two commonly used antibiotics for the treatment of UTIs. The observed high resistance, especially to ampicillin, to which more than 80% of isolates were resistant, highlights the growing problem of treating infections with first-line antibiotics. These results are consistent with broader global trends showing an increase in resistance to beta-lactam antibiotics such as ampicillin, likely due to overuse or misuse in both hospitals and community facilities.

Conclusions. The results of our study show the high prevalence of UTIs, especially among rural men and women, and highlight the need for targeted public health measures aimed at eliminating key risk factors such as sexual activity, hormonal changes, and the use of contraceptives. The analysis of the choice of antibiotic resistance revealed high levels of resistance to ampicillin (87%), ceftriaxone (77%), gentamicin (77%), ciprofloxacin (70%) and cefoxitin (64%). In comparison, meropenem and amikacin were effective against most pathogens, showing average sensitivity rates of 51% and 56%, respectively.

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