

Analysis of the Genitourinary System Disorders in Adult and Child Population in Osh Region from 2010 to 2019 years

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Abstract

This article is investigating study of genitourinary system morbidity indicators in the adult population of Osh region for the period 2010-2019. Materials and methods: selection and summary information on the main indicators characterizing the morbidity among adult population in the Osh region with genitourinary system diseases for the period from 2010 to 2019 was based on statistical data. When comparing two data rows based on their mean values, the Student's t-test was used to compare values. Differences were considered as reliable at significance level $p < 0.05$. Research results: When analysing the obtained data, it can be noted that the highest value of genitourinary system total morbidity was recorded in 2017 (46546 people per 100000 population), the lowest in 2019 (31722 people per 100000 population) ($p < 0.05$). A similar trend was observed among women: the maximum value of the general morbidity indicator was revealed in 2017 (33496 per 100 thousand population), the minimum in 2019 (23140 per 100 thousand population). The lowest indicator of this parameter in men is in 2019 (8582 per 100 thousand population). The highest value of the indicator of primary morbidity is in 2011 was 22501 per 100 thousand. The population in 2015 was 22899 per 100000 population, the smallest as 11591 per 100 thousand population in 2019. Kidney and urinary system diseases (N00-N39)-21.05% lead among nosological primary morbidity in the general structure, among them chronic pyelonephritis (N11) has the largest specific weight during the entire observation period.

Keywords: Cicatrice strictures of extrahepatic ducts; genitourinary system, general morbidity, primary morbidity, chronic pyelonephritis, kidney disease.

INTRODUCTION

Genitourinary system diseases represent the main reason for increase in indicators of general morbidity, mortality, reduced work capacity, disorders of reproductive function and life quality. According to many authors, this category of diseases characterized by an unprecedented increase in prevalence while reducing the life quality [Baitilenov, 2017; Renard *et al*, 2014].

The high socio-economic importance of this pathology is due to a number of reasons, among which the high level of prevalence and the defeat of people of working age are of primary importance. Global burden estimates of urinary tract diseases indicate account for approximately 830,000 deaths and 18,467,000 disability-adjusted life years annually, 12th among causes of death (1.4 percent of all deaths) and 17th among causes of disability (1.0 percent of all disability-adjusted life years) [Dirks *et al*, 2006].

For example, up to 9% of the population in European countries suffer from urolithiasis, in Asian countries from 1 to 5%, in North American up to 13%, and in the Middle East up to 20%. Every year there are about 150 million accidents in the world. Cases of urinary tract infections, including acute cystitis [Ciccarese *et al*, 2021]. According to some estimates, more than 200 million. Men have benign hyperplasia of the prostate [Cormio *et al*, 2021].

Not so far statistical analysis calculations were made on physiological childbirth and obstetric service in Osh region from 2016 to 2021 years [Abdirasulova *et al*, 2022; Ismailova *et al*, 2022].

Identifying the reasons for uneven distribution of indicators of general and primary diseases of the genitourinary system in individual regions allows conducting an expert assessment and identifying the main factors contributing to the growth of indicators and improving the effectiveness of measures in the region aimed at preventing the growth of

pathologies. In this regard it is interesting to study the data on genitourinary system nosology in one of the large settlements in the Kyrgyz Republic, located in the south Osh region.

Purpose of this work. Study of indicators of morbidity of the genitourinary system in the adult population of Osh region for the period from 2010 to 2019 years.

EXPERIMENTAL

In the work, information was collected and summarized on the main indicators characterizing the morbidity of the adult population of the Osh region with diseases of the genitourinary system for the period from 2010 to 2019 based on the data of official statistics.

Dynamic analysis of data on general and primary morbidity of the adult population of the Osh region for diseases of the genitourinary system (code according to ICD 10-N00-N99), including: glomerular, tubulointerstitial kidney diseases, other kidney and ureter diseases (N00-N15, N25-N28), urolithiasis (N20-N21, N23), diseases of the prostate gland (N40-N42), male infertility (N46), other diseases of the urinary system (N30-N39).

When comparing two rows of data based on their mean values, the Student's t-test was used to compare values. Differences were considered reliable at the level of significance $p < 0.05$.

The results of research. The dynamics of the general incidence of diseases of the genitourinary system in the period from 2010 to 2019 in Osh region (per 100000 adult population) are shown in Figure 1.

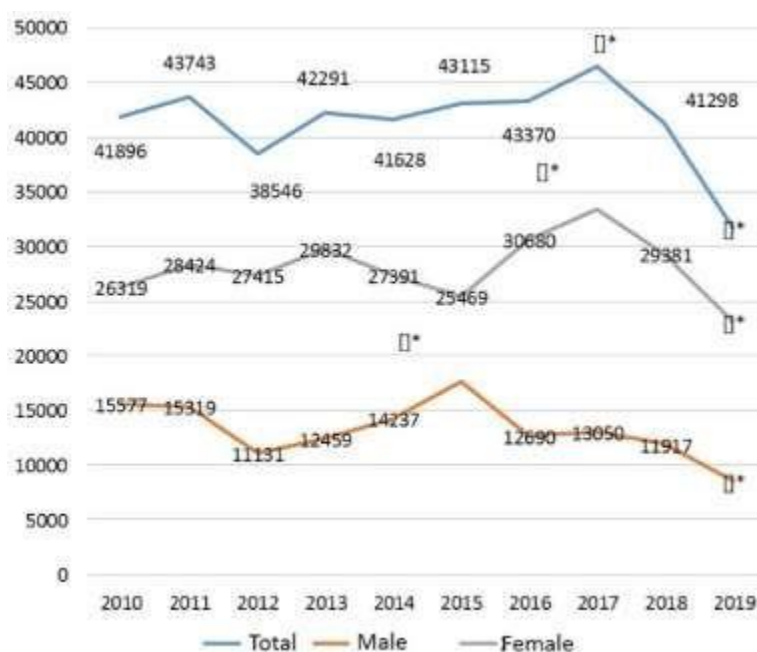


Figure 1: Characteristics of the dynamics of the general incidence of diseases of the genitourinary system in the period from 2010 to 2019 in the Osh region (per 100 thousand adult population). Note: * $p < 0.05$ -statistically significant differences between values within groups.

When analysing the obtained data, it can be noted that the highest value of genitourinary system total morbidity was recorded in 2017 (46546 people per 100000 population), the lowest in 2019 (31722 people per 100000 population) ($p < 0.05$). Among women, a similar trend was observed: the maximum value of the general morbidity indicator was revealed in 2017 (33496 per 100000 population), the minimum in 2019 (23140 per 100000 population). 8582 per 100 thousand population).

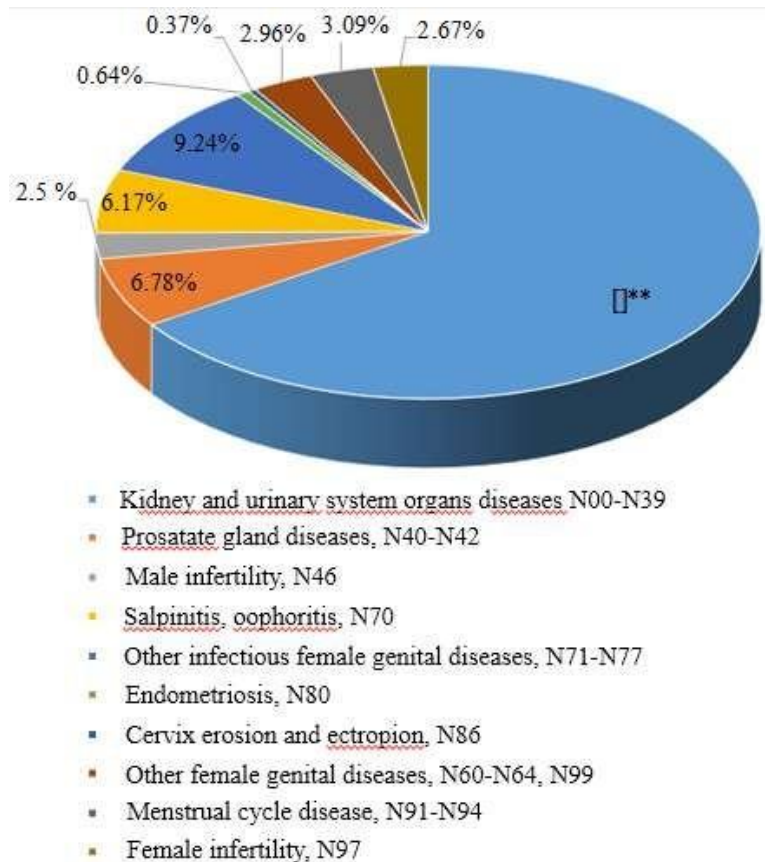


Figure 2: The structure of nosologies according to ICD (as a percentage). Note: **p<0.01 is statistically significant differences between values within groups.

Obtained results demonstrate the fact that in the overwhelming majority of cases (p<0.01) diseases of the kidneys and organs of the urinary system prevail (N00-N39) 65.58%. Overall primary incidence analysis of the genitourinary system and in accordance with gender characteristics in the period from 2010 to 2019 years in the Osh region (per 100 thousand adult population) is presented in Figure 3.

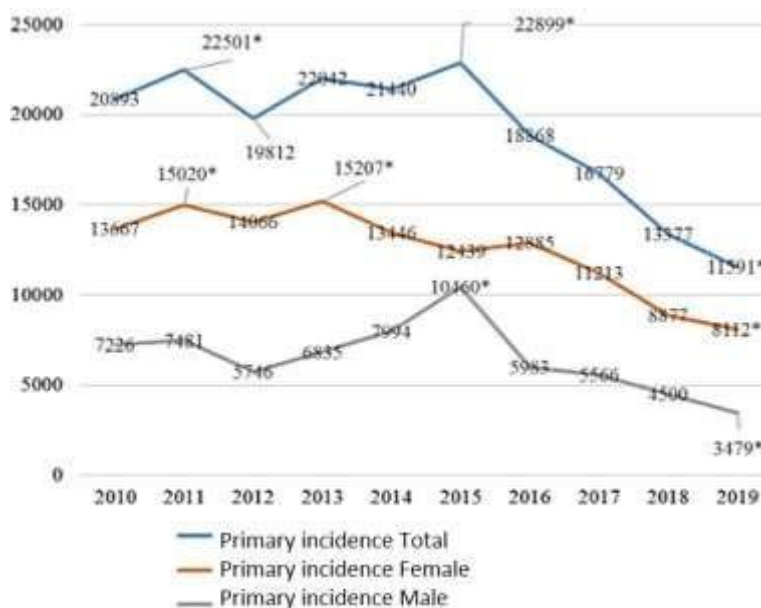


Figure 3: Comparative characteristics of the general primary incidence of the genitourinary system, primary incidence in men and women in the period from 2010 to 2019 in the Osh region (per 100 thousand adult population. Note: *p<0.05 is statistically significant differences between values within groups.

Obtained results demonstrate the fact that in the overwhelming majority of cases (p<0.01) kidney and urinary system organs diseases prevail (N00-N39) 65.58%. The highest value of the primary incidence rate falls on 2011 were 22501

per 100 thousand population and for 2015 were 22899 per 100 thousand population, the smallest were 11591 per 100 thousand population in 2019 year.

Among women, the maximum values of the primary incidence rate were recorded in 2013 (15207 per 100 thousand population), the minimum in 2019 were 8112 per 100 thousand of the population; among men in 2015 (10460 per 100 thousand population) and in 2019 (3479 per 100 thousand population) respectively. The structure of nosologies of primary morbidity according to ICD-10 is shown in Figure 4.

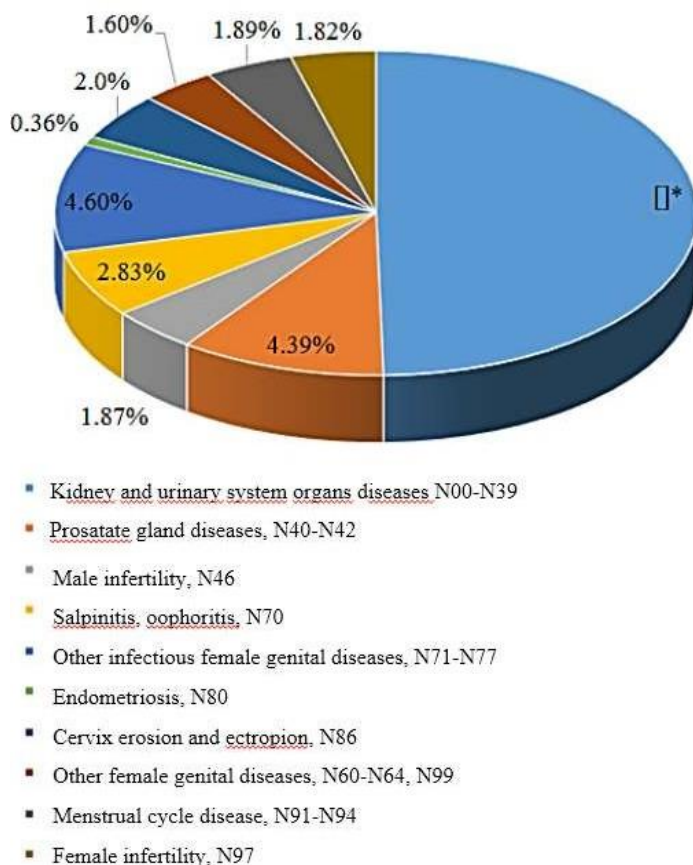


Figure 4: The structure of nosologies of primary morbidity according to ICD-10 (in % ratio). Note: **p<0.01 is statistically significant differences between values within groups.

Among the nosologies of primary morbidity in the general structure, diseases of the kidneys and urinary system (N00-N39) were 21.05% are in the lead, among them, throughout the entire observation period, chronic pyelonephritis (N11) has the largest share (Figure 5), the dynamics of the overall morbidity of which is presented in Figure 6.



Figure 5: Comparative characteristics of the frequency of registration of chronic pyelonephritis (N11) in the structure of the primary incidence of diseases of the kidneys and urinary system (N00-N39).

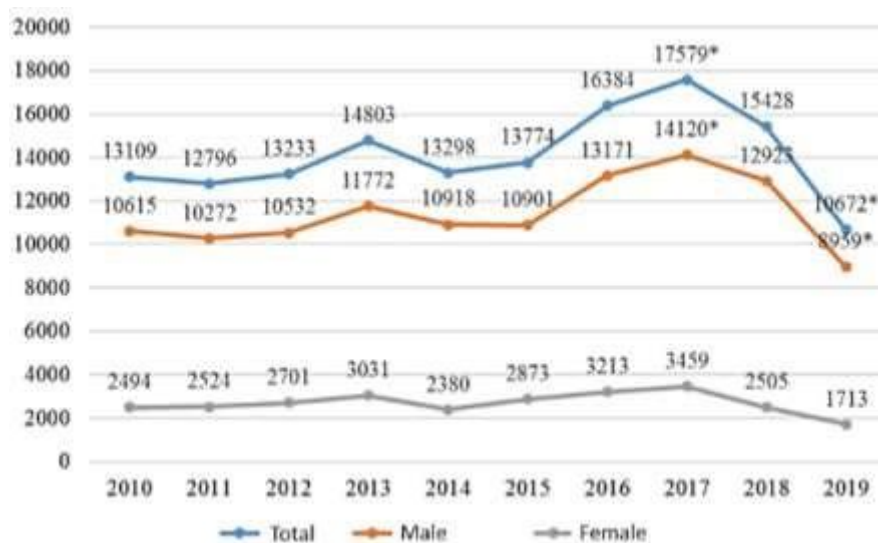


Figure 6: Characteristics of the dynamics in overall incidence of chronic pyelonephritis in period from 2010 to 2019 years in Osh region (per 100 thousand adult population). Note: * $p < 0.05$ is statistically significant differences between values within groups.

When analysing the obtained data results, it can be noted that the highest incidence rates of chronic pyelonephritis were recorded in 2017 (for the general incidence 17579 per 100 thousand of the population, for men 14120 per 100 thousand of the population, for women 3459 per 100 thousand of the population), the lowest in 2019 (for general incidence 10672 per 100 thousand population; for men 8959 per 100 thousand population, for women 1715 per 100 thousand population).

RESULTS AND DISCUSSION

The study of genitourinary system diseases prevalence in the Osh region is important for analysing their structure and incidence in terms of identifying risk factors, the quality of medical services, the availability of medical care, the nature of the material and technical equipment of medical institutions and staffing levels. There are works comparing the genitourinary system incidence rates between the regions in the Kyrgyz Republic and they indicate the need for their dynamic monitoring [Aibashov *et al*, 2018]. Our work also reflects the dynamics of general and primary morbidity of the genitourinary system in the Osh region for the period from 2010 to 2019, examined structure of nosologies that make up both general and primary morbidity, and noted that chronic pyelonephritis accounts for the highest percentage.

CONCLUSION

As the result of our work, the following conclusions were made: 1) positive dynamics of the general and primary morbidity of diseases in the Osh region, characterized by indicators decrease (period from 2010 to 2019) with the lowest value in 2019, was noted (31722 per 100 thousand population and 11591 per 100 thousand population, respectively); 2) in the structure of general and primary morbidity, pathology of the genitourinary tract is statistically significantly dominated by diseases of the kidney and urinary system (N00-N39), 65.58% and 21.05%, respectively; 3) chronic pyelonephritis was the most frequently unregistered pathology during the entire observation period, the dynamics of the total morbidity of which had a tendency to decrease with a minimum indicator in 2019 were 10672 per 100 thousand population.

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