

**EPIDEMIOLOGY OF URINARY TRACT INFECTION IN THE ARAL SEA REGION**У. А. Худайбергенов<sup>1</sup>Ш. А. Аббосов<sup>1</sup><sup>1</sup> Кафедра Урологии Ташкентской медицинской академии [г. Ташкент, Узбекистан.]**ABSTRACT****Introduction**

It is known that the best way to prevent the development of any disease is to eliminate its cause. When drawing up plans for the implementation of therapeutic and preventive measures, as well as the development of medical care, the health care organizer is almost always guided by statistical data on the prevalence of individual groups of diseases. At the same time, as a rule, the dynamics of morbidity, its frequency and prevalence by region and age categories of the population are taken into account.

The prevalence of diseases, estimated by the number of patients seeking medical care, may in fact be much higher, so the objectivity of these data is relative. The incidence of treatment itself depends on a number of factors (the availability of medical care, its quality, the sanitary culture of the population, its mentality, etc.), and it is not always possible to present a complete picture of the true prevalence of diseases in this case. In this aspect, the role of epidemiological studies of the prevalence of diseases and the identification of risk factors for their occurrence is invaluable and important. However, the current amount of knowledge on this issue is still insufficient, which does not allow us to present a picture of the true prevalence of diseases, including urological ones, the share of which in the total volume is quite large.

Another relevant aspect of the problem under consideration is the determination of the possibilities and the share of participation of the primary health care (general practitioner) in the diagnosis, treatment and implementation of preventive measures for certain types of diseases.

It should be noted that urinary tract infection is one of the most common pathologies not only in the practice of a urologist, but also in the daily activities of a general practitioner [1,2], which requires high costs for treatment and rehabilitation. On a national scale, material costs are very significant [3,4,5].

In order to assess the situation related to the prevalence of urinary tract infection, up-to-date information about it is needed, both according to official statistical reports and the results of specially conducted epidemiological studies among the population.

Studies carried out in recent years, incl. in Uzbekistan, have made some contribution to the solution of the issue under study. However, it should be noted that the subject of study was only individual nosological units or their groups [4].

**Purpose of the study**

Determination of the true prevalence of urinary tract infection in the Aral Sea region by conducting an epidemiological study using the nest-typological method.

## INVESTIGATIONS

In order to assess the prevalence of the most significant urological diseases in a particular area, in the period 2009 - 2011, the staff of the RSCU and the Department of Urology of TMA conducted epidemiological studies in the ecologically unfavorable region of the Aral Sea region. This region is an area of environmental disaster, and the state of health of the population, as well as the diagnosis of the early stages of diseases, should be given special attention in the development of both curative and preventive measures, the implementation of which, to a large extent, is the prerogative of primary health care.

The epidemiological study, using the nest-typological method, was carried out among the population served by the rural medical centers (SVP) "Avaz Utar" of the Yangiariq district and "Uygur" of the Yangibazar district of the Khorezm region. In the Republic of Karakalpakstan, the Kirkkiz SVP of the Ellikkala district and the Cheryomushki of the Nukus district were chosen. The population of these areas was surveyed using the continuous method.

To conduct the study, a representative sample was formed, which included persons of both sexes aged 1 year and older. The population selected for the epidemiological study was a contingent of rural residents who had actually lived their entire lives in the area.

For the examination of the population, a universal questionnaire specially developed and tested in the RSCU was used, designed to determine the symptoms observed in urological diseases. The questionnaire includes 33 questions that allow you to assess the symptoms of the lower urinary tract (LUT), BMI, urinary incontinence, and pathology of the male genital area. General practitioners of primary health care actively participated, together with doctors of the RSCU, in the examination of the population and filling out the questionnaire, conducted a physical examination of the respondents.

In order to screen urological diseases, the respondents underwent ultrasound scanning (USS) of the urinary system, paying attention to morphological changes in the pelvis system and renal parenchyma (hydronephrosis, hydrocalycosis, cystic formations, tumors, etc.), the presence of signs of stones and salt conglomerates in the renal cavities.

Urine tests were performed by the express method using Urine-10 test strips ("Cypress Diagnostics"). If necessary, microscopy of urine sediment was performed.

All patients, according to the updated list, were invited for examination and examination by specially authorized employees of the SVP. The control of this procedure was carried out in cooperation with the local administration and the management of medical and preventive institutions of the district.

## RESULTS OF THE STUDY

Together with general practitioners, a comprehensive medical examination of 7,597 people was carried out in the selected areas, which amounted to 85.4% of the number of people to be examined. The respondents' written consent to the screening examination and drug treatment was obtained.

Respondents are divided by gender and age groups (Table 1).

Table 1. Distribution of surveyed residents by sex and age.

Floor	husband		Wives		Altogether	
	N	%	n	%	n	%
1-14	867	29,3	821	17,7	1688	22,2
15-19	293	9,9	482	10,4	775	10,2
20-29	469	15,8	1118	24,1	1587	20,9
30-39	484	16,4	882	19,0	1366	18,0
40-49	345	11,7	713	15,4	1058	13,9
50-59	264	8,9	439	9,5	703	9,3
60-69	132	4,5	109	2,4	241	3,2
70-79	91	3,1	66	1,4	157	2,1
>80	15	0,5	7	0,2	22	0,3
<b>Altogether</b>	<b>2960</b>	<b>39,0</b>	<b>4637</b>	<b>61,0</b>	<b>7597</b>	<b>100,0</b>

As can be seen from the table, the total number of children was 1,688 (22.2 per cent), and the number of young people was 775 (10.2 per cent). The overwhelming majority were patients aged 20 to 69 years – 4955 (65.2%), older – 179 (2.7%).

The prevalence of signs of urinary tract infection in the Aral Sea region was  $10.8 \pm 0.36$  per 100 examined, in the Khorezm region -  $10.9 \pm 0.49$ , in the Republic of Karakalpakstan -  $10.7 \pm 0.51$  cases per 100 examined (Table 2).

Table 2. Prevalence of signs of urinary tract infection in the Aral Sea region (per 100 examined)

Name	Khorezm region	Republic of Karakalpakstan	In the region as a whole
BMI	$10.9 \pm 0.49$	$10.7 \pm 0.51$	$10.8 \pm 0.36$

An analysis of the level of true morbidity of the population of the Khorezm region and the Republic of Karakalpakstan by the sex of patients showed that the prevalence of BMI was higher in women than in men, which, in general, corresponds to the data of the world literature. In the Khorezm region, BMI in women was 2.9 times more common, in the Republic of Karakalpakstan - 3.7 times. (Table 3).

Table 3. Prevalence of urinary tract infections in the Aral Sea region by sex (per 100 examined)

Indicator	Khorezm region			Republic of Karakalpakstan			In the region as a whole		
	husband	Wives	R	Husband	Wives	R	Husband	Wives	R
BMI	$5.0 \pm 0.56$	$14.5 \pm 0.71$	<0,001	$4.0 \pm 0.52$	$14.9 \pm 0.76$	<0,001	$4.6 \pm 0.38$	$14.7 \pm 0.52$	<0,001

The increase in the incidence of urinary tract infections increased with age, reaching a peak by the age of 70-79 years ( $26.1 \pm 3.51$ ) (Table 4).

Table 4. Prevalence of signs of urinary tract infection in the Aral Sea region in different age groups (per 100 examined)

Age	BMI
1-14L	5.8±0.57
15-19L	7.4±0.94
20-29	11.8±0.81
30-39	11.2±0.85
40-49	13.9±1.07
50-59	12.7±1.25
60-69	16.2±2.37
70-79	26.1±3.51
>80	22.7±8.93
Altogether	10.8±0.36

It should be noted that the increase in the incidence of BMI in this population is associated with taking into account asymptomatic forms of the disease in this study.

In addition to these common urological diseases, the epidemiological study revealed other urological pathologies: abnormalities in the development of the genitourinary system, varicocele, kidney cysts, stress urinary incontinence, infertility, enuresis, etc. In general, concomitant, the most significant diseases were identified in 914 residents (12.0±0.4). All of them received appropriate recommendations for a more in-depth examination and treatment by a specialist in their place of residence or in specialized clinics.

## DISCUSSION

Estimating morbidity by incidence does not always demonstrate the true prevalence of diseases in the population [6,7]. It is known that a certain part of the population suffering from a urinary tract infection, for one reason or another, does not seek medical help, although they are in dire need of it. In this regard, it is often not possible to establish the real prevalence of urinary tract infection in the population based on the data of referral and current follow-up [8].

Determination of objective values of urinary tract infection prevalence indicators becomes possible when a latent urinary tract infection (asymptomatic bacteriuria) is detected. To solve this problem, the most informative is a targeted epidemiological survey of a large sample of the population of a certain region.

Of great importance in conducting epidemiological studies is the involvement of primary health care (general practitioners) in their implementation, as the most approximate and capable of early diagnosis of latent forms of urinary tract infection. At the same time, priority should be given to mandatory annual preventive medical examination, ultrasound examination of the urinary tract and urine tests, followed by medical examination of patients at risk with a detected urinary tract infection. The tactics used also make it possible to identify the spectrum of other urological pathologies: abnormalities in the development of the genitourinary system,

varicocele, kidney cysts, stress urinary incontinence, infertility, enuresis and to orient patients and primary health care physicians to their prevention and treatment.

### FINDINGS

1. The prevalence of urinary tract infection in Khorezm region is 10.9%.
2. The prevalence of urinary tract infection in the Republic of Karakalpakstan is 10.7%.
3. The prevalence of urinary tract infection in the Aral Sea region is 10.8%.

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