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EXPERIENCE IN STUDYING THE INCIDENCE OF DISEASE  
AMONG THE POPULATION OF CERTAIN AREAS

By I. A. Khristoforova

- USSR -

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EXPERIENCE IN STUDYING THE INCIDENCE OF DISEASE  
AMONG THE POPULATION OF CERTAIN AREAS

[Following is the translation of an article by I. A. Khristoforova entitled "Opyt Issucheniya Zabolevayemosti Naseleniya Nekotorykh Rayonov", (English version above) in Zdravookhraneniye Tadzhikistana (Tadzhikistan Health), Vol. VII, No. 3, Stalinabad, May/June 1960, pages 11-15.]

The Stalinabad Institute of Epidemiology and Hygiene.

A study of the incidence of disease among the rural population through the data on first visits for medical assistance has been carried out in four rural areas: two in the valleys, devoted to cotton growing (the Pyandzhskiy and Shakhristanskiy Rayons) and in the piedmont, devoted to the cultivation of grain (the Dargana-Kilikskiy and Fayzabadskiy Rayons).

Medical visits of the rural populace were recorded by four regional (rayon) hospitals from 1 June 1955 through 31 May 1956. Records were kept of visits of inhabitants of rayon centers and population sites within the limits of a five-kilometer zone and serviced by the rayon hospitals. The total population in the rayons selected for study comprised approximately 81 thousand persons, including the rayon centers, with their total of 6.2 thousand.

The statistical document used was the "Statistical tally for recording final (precise) diagnoses" (record form 25-c). Records of first visits were kept by the physicians in the out-patient units, attention being given only to the physician's diagnosis. The number of patients seen at home or attended to by middle medical personnel was relatively small, and thus the exclusion of them does not compromise the completeness of our data. Preliminary detailed instructions were given to physicians on the

order in which records were to be kept, and supervision over the recording procedure was exercised throughout the period of observation. In the hospitals, the statistical tallies were kept only on patients admitted via the out-patient department and on those in the hospital on whom the diagnosis was rendered more precise or changed. In the latter instances, the out-patient diagnosis was replaced by that made in the hospital.

The statistical tallies, collected at the end of the year of observation, were arranged alphabetically, and duplicates (of which there were about five percent) were eliminated. The tallies were then arranged in accordance with a working nomenclature of diseases elaborated by us which included 192 diagnoses. The four rayon hospitals compiled 18,663 tallies, including 10,305 on inhabitants of the rayon centers and 8,358 on rural inhabitants within the five-kilometer radius.

The indices of morbidity due to the different classes of diseases, as obtained on the basis of these data, are shown in the table. Data on the population census were available only for the rayon centers, and hence indices computed per 1,000 inhabitants apply only to the population of the rayon population centers.

In the Ryandzhskiy Rayon, having at our disposal data on the population census of the rayon centers and settlements, we compared the indices of first visits to the rayon hospital of inhabitants of the rayon center and of these settlements. It turned out that, in the rayon center per 1,000 inhabitants, there were 1,129.4 first visits to the hospital per year, and in the villages within a five-kilometer zone, there were 673. Of particular interest were indices of morbidity among women and children.

The structure of morbidity with respect to the various classes of disease was approximately identical in the rayon centers and the villages of the five-kilometer zone, and hence the data for these two sources are presented together in the table.

On the average, in the rayon centers per 1,000 inhabitants, 1,271 first visits per year were recorded. Infectious diseases, diseases of the digestive organs, of the organs of respiration, ear, nose, and throat, and diseases of the skin represented about 65% of the total.

№№ классов	Наименование классов	В % к итогу (по райцентрам и 5 км зоне)	на 1000 жителей (по райцентрам)
I	Инфекционные болезни	18,2	225,7
II	Паразитарные болезни	1,9	26,4
III	Травмы	4,8	59,1
IV	Отравления	0,1	2,7
V	Болезни витаминной недостаточности	1,2	10,3
VI	Ревматизм	1,1	15
VII	Болезни обмена веществ и аллергические расстройства	1,7	18,1
VIII	Новообразования	0,1	7,5
IX	Болезни эндокринной системы	0,7	8,9
X	Болезни кроветворной системы	1,4	13,6
XI	Психические расстройства	0,1	0,9
XII	Болезни нервной системы	2,9	43,8
XIII	— органы зрения	4,8	48,6
XIV	— уха, горла и носа	9,3	135,4
XV	— органов дыхания	11,7	158,7
XVI	— кровообращения	5,4	79,4
XVII	— полости рта и зубов (стоматит, глоссит, гингивит) *	1	12,1
XVIII	Болезни органов пищеварения	16	195,9
XIX	— костей, суставов, мышц	2	24,8
XX	— кожи	8,6	84,7
XXI	— почек и мочевого пузыря	1,4	21,1
XXII	— мужских половых органов	0,2	
XXIII	— женских — — —	3,2	
XXIV	Врожденные пороки развития	0,1	0,4
XXV	Бол. беременности, патологии родов и послеродового периода	1	
XXVI	Болезни новорожденных	0,1	1,7
XXVII	Не вошедшие в номенклатуру и не точно обозначенные болезни	0,7	6,7
⑤ По всем классам		100,0	1271,1

КВУ to above Table: 1) Nos. of classes; 2) Designation of classes; 3) In percentages of total (for rayon centers and the five-kilometer zone); 4) Per 1,000 inhabitants (in the rayon centers); 5) All classes;

- I - Infectious diseases
- II - Parasitic diseases
- III - Trauma
- IV - Poisoning
- V - Diseases due to vitamin deficiency
- VI - Rheumatism
- VII - Metabolic and allergic diseases
- VIII - Neoplasms
- IX - Endocrine diseases

- X - Diseases of the hematopoietic system
- XI - Psychic disorders
- XII - Diseases of the nervous system
- XIII - " " " visual organs
- XIV - " " " ear, nose, and throat
- XV - " " " respiratory organs
- XVI - " " " circulatory organs
- XVII - " " " oral cavity and teeth (stomatitis, glossitis, gingivitis)\*
- XVIII - Diseases of the organs of digestion
- XIX - " " " bones, joints, and muscles
- XX - " " " skin
- XXI - " " " kidneys and urinary bladder
- XXII - " " " male genital organs
- XXIII - " " " female genital organs
- XXIV - Congenital defects of development
- XXV - Diseases related to pregnancy, delivery, and the postpartum period
- XXVI - Diseases of the newborn
- XXVII - Diseases not included in the above categories and those not susceptible to precise nomenclature

\*In view of the absence of stomatologists in a number of the rayons, only certain diseases of this category are included in the count.

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The structure of morbidity with respect to the various classes of disease was approximately identical in the rayon centers and the villages of the five-kilometer zone, and hence the data for these two sources are presented together in the table.

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① Наименование заболеваний*	② На 1000 человек		
	③ все возрасты	④ 0-14 лет	⑤ 15 лет и старше
Острый катар верхних дыхательных путей ⑥	84,4	153,5	39,9
Бронхит острый и хронический ⑦	84,1	132,1	53,3
Ангина ⑧	76,2	116,3	50,4
Болезни женских половых органов ⑨	—	—	107**
Травмы ⑩	58,4	36,5	72,5
Колит, энтероколит, гастроэнтероколит ⑪	57,6	70,6	49,2
Очаговая пневмония ⑫	57,1	91,4	35,7
Пиодермия ⑬	45,2	90,5	16,2
Диспепсия ⑭	—	108,8	—
Конъюнктивит ⑮	34,3	55,5	20,7
Гастрит острый и хронический ⑯	30,7	3,1	48,4
Невриты, неврозы ⑰	28,9	0,6	46,8
Отит острый и хронический ⑱	27,1	45,1	15,6
Дизентерия острая и хроническая ⑲	23,3	23,7	19,8
Флегмоны и абсцессы ⑳	23,1	17,9	26,3
Бруцеллез ㉑	22,2	0,9	35,8
Гипертоническая болезнь ㉒	22,0	0,3	38,1
Туберкулез ㉓	21,7	24,9	19,6
Фолликулиты ㉔	21,5	8,8	29,6
Дистрофия миокарда ㉕	15,9	0,3	25,9
Грипп осложненный и не осложненный ㉖	14,3	10,7	16,8
Пороки сердечных клапанов ㉗	13,9	1,9	21,4
Коклюш ㉘	7,4	18,3	—
Корь ㉙	3,3	9,8	—
Скарлатина ㉚	3,1	7,9	—
Брюшной тиф ㉛	2,9	4,7	1,8
Крупозное воспаление легких ㉜	2,6	3,4	2,0

- 1 - Designations of diseases\*
- 2 - Per 1000 persons
- 3 - All ages
- 4 - 0 to 14 years
- 5 - 15 years and older
- 6 - Acute catarrh of the upper respiratory tract
- 7 - Acute and chronic bronchitis
- 8 - Pharyngitis
- 9 - Diseases of the female genitalia
- 10 - Trauma
- 11 - Colitis, enterocolitis, gastroenterocolitis
- 12 - Focal pneumonitis
- 13 - Pyoderma
- 14 - Dyspepsia
- 15 - Conjunctivitis
- 16 - Acute and chronic gastritis
- 17 - Neuritis, neurosis
- 18 - Acute and chronic otitis
- 19 - Acute and chronic dysentery
- 20 - Phlegmons and abscesses

- 21 - Brucellosis
- 22 - Hypertension
- 23 - Tuberculosis
- 24 - Folliculitis
- 25 - Myocardial dystrophy
- 26 - Complicated and uncomplicated influenza
- 27 - Lesions of the heart valves
- 28 - Pertussis
- 29 - Measles
- 30 - Scarletina
- 31 - Typhoid fever
- 32 - Lobar pneumonia

\* Diseases are listed in descending order of frequency for persons of all ages

\*\* Per 1000 women 15 years old and older

1932, it was 133.

The indices of morbidity for other parasitic and chronic infectious diseases also testify to the considerable reduction in their incidence.

Data on the Prevalence of Helminth Infestation are shown below:

1) Наименование гельминтозов.	2) На 1000 человек		
	3) 0-14 лет	4) 15 лет и старше	5) все возр.
Энтеробиоз 6)	3,7	0,4	1,7
Гименолепидиоз 7)	6,3	0,2	2,5
Аскаридоз 8)	20,6	2,6	9,7
Трихоцефалез 9)	1,5	0,6	0,9
Тенхоз свиной и бычий 10)	0,3	2,2	1,4
Прочие гельминтозы и без указания 11)	7,5	1,6	3,9
По всем видам гельминтозов 12)	40,3	7,6	20,4

КЕУ: 1) Designation of helminthoses; 2) Per 1,000 persons; 3) 0 to 14 years of age; 4) 15 years and older; 5) all ages; 6) enterobiasis; 7) hymenolepidiasis; 8) ascariasis; 9) trichocephaliasis; 10) taeniasis (Taenia suis and Taenia bovis); 11) other helminthoses and those undesignated; 12) all types of helminthoses.

As can be seen from the table, the most prevalent among the rural population is infestation with Ascaris.

Our material permits us to point out also certain peculiarities in the seasonal dynamics of morbidity. Thus, a high morbidity due to dysentery, dyspepsia, and gastritis was observed in June, while colitis, enterocolitis and gastroenterocolitis were seen most frequently in August; typhoid fever showed a peak in April and a smaller peak in July. The minimum number of acute intestinal diseases was recorded from December to February. The maximum number of catarrhal diseases was seen in the autumn and winter months (pharyngitis in October, acute catarrh of the upper respiratory passages in December and January) and in the spring months (lobar pneumonia in March, acute and chronic bronchitis in April, bronchopneumonia in May). The minimum number of cases of pharyngitis and acute catarrh of the upper respiratory tract was recorded in the summer months (June to August), and of bronchitis and pulmonary inflammation in the autumn months (September to December).

Diseases of the skin and subcutaneous tissues and conjunctivitis were noted most frequently in August and least often in February and March, which is apparently related to the seasonal work of harvesting. The maximum number of cases of brucellosis was seen in June to August, with women being the most heavily afflicted. The highest number of admissions for tuberculosis was seen in May. Trauma was most frequent in May, with a second and slightly smaller peak coinciding with the harvest season in July. Of childhood infections - measles and pertussis were seen mostly in May (measles) and June (pertussis). The curve of incidence of diphtheria was characterized by two peaks, one in September and another in March to May, while the minimum incidence was in June; scarlet fever exhibited three rises in incidence - in February, April, and October.

Hence, our studies permit us to determine approximately the structure of morbidity of the populace of several rayons according to the figures on first visits. In the structure of morbidity the leading place is held by infectious diseases, diseases of the organs of digestion, respiration, and circulation, diseases of the ear, nose, and throat, diseases of the skin, and trauma.

An establishment of the approximate structure of morbidity among the rural populace provides information for health organs and practicing physicians, and permits the elaboration of specific plans for therapeutic and prophylactic measures for radical improvements in the sanitary

condition of the rural populace of the republic.

Information given in this article, although derived from records kept five years ago, is of definite interest, we believe, even today. With this information it would be desirable to compare the results of more recent studies of a similar nature, to observe a continued reduction in the incidence among the rural populace of many nosologic forms or the complete elimination of certain diseases.

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END