BRITISH
MEDICAL JOURNAL

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DIABETES IN THE TASHKENT REGION

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Summary

Objective: Studying the prevalence of diabetes mellitus is necessary to assess the epidemiological situation in the region

Aim: To study the prevalence of diabetes mellitus in the Tashkent region.

Methods: The source of information was the data of the statistics office of the endocrine dispensary of the Tashkent region for the period 2018-2020. For the statistical processing of the data, the Microsoft Excel 2010 program was used.

Results: The largest number of patients is observed in Zangiata district of Tashkent region, which is 2.29% of the adult population of the district, the lowest prevalence of diabetes is observed in Bekabad and Bustanlik districts (1.11%); the number of diagnosed patients with diabetes in 2020 in the Tashkent region was 3416 people (0.17%); the highest percentage of type 1 diabetes mellitus type 2 diabetes is observed in the Angren region 26.3% to 73.7%.

Conclusion: Analysis of the situation with diabetes mellitus in the Tashkent region showed that, like throughout the Republic of Uzbekistan, there is late diagnosis of type 2 diabetes mellitus, and not all patients are registered.

Keywords: diabetes mellitus, prevalence, Tashkent region

Introduction.

According to IDF the number of patients suffering diabetes mellitus (DM) in 2019 in Uzbekistan was 1 121 700 people [IDF Atlas 9th edition – 2019], but only 277 926 of them are registered. Among them there were 18 178 patients with type 1 diabetes (T1D), 2464 out of whom were children, and 820 adolescents; and 256 748 patients with type 2 diabetes (T2D). The study of DM prevalence throughout the country is of great interest. The objective of the article was the study of diabetes mellitus prevalence in Tashkent region.

Materials and methods: the source of information was the data of statistic bureau of Endocrine dispenser of Tashkent region for the period of 2018-2020. Microsoft Excel 2010 was used for statistical processing of the data.

Results and discussion:

There are 19 boroughs in Tashkent region. There were 30 000 D labeled registered patients in Tashkent region on 01.01.2021, which made up 1.03% of adults population (Table 1). The greatest

number of patients was observed in Zangiata in Tashkent region, composing 2.29% of adult population, while the least DM prevalence was in Bekabad and Bustanlik (1.11%).

Table №1

Prevalence and the number of registered patients with diabetes mellitus labled D in boroughs of Tashkent region and supposed prevalence of DM

Borough	Number of DM patients	Population above 18	% of DM patients	Number of patients, who should be registered (7.9% of adult population)
Angren	2201	123054	1.79	9721.3
Bekabad borough	1141	103253	1.11	8157.0
Bekabad city	1190	65517	1.82	5175.8
Buka	1021	85619	1.19	6763.9
Bustanlik	1276	115064	1.11	9090.1
Zangiata	3064	133734	2.29	10565.0
Kibrai	1727	137022	1.26	10824.7
Kuyi Chirchik	966	72389	1.33	5718.7
Akkurgan	998	69689	1.43	5505.4
Almalik	1494	83308	1.79	6581.3
Akhangaran	1311	89275	1.47	7052.7
Parkent	1345	101893	1.32	8049.5
Piskent	957	68367	1.40	5401.0
Tashkent	1796	124284	1.45	9818.4
Urta Chirchik	1932	134173	1.44	10599.7
Chinaz	1479	89747	1.65	7090.0
Chirchik	1837	116569	1.58	9209.0
Ukori Chirchik	1190	91031	1.31	7191.4
Yangiyul	3075	178194	1.73	14077.3

Tashkent region	30000	1982182	1.03	156592.4

In order to control epidemiological situation it is necessary to reveal adequate number of patients with DM every year; according to experts [1] it should be from 0.57 to 2.57%. For the assessment of the situation in Tashkent region like in Karakalpakistan we took 2% [2].

According to Table №2 the number of patients with DM revealed in 2020 in Tashkent region was equal to 3416 (0.17%), though it supposed to be about 39 643, i.e. in 2020 there were 11.6 folds less DM patients registered at the place of living.

Table №2

The number of DM patients revealed in 2020

Borough	The number of revealed DM patients	Population above 18	2% of adult population (above 18)
Angren	160	123054	2461.08
Bekabad	152	103253	2065.06
Bekabad city	139	65517	1310.34
Buka	130	85619	1712.38
Bustanlik	211	115064	2301.28
Zangiata	228	133734	2674.68
Kibrai	109	137022	2740.44
Kuiy Chirchik	129	72389	1447.78
Akkurgan	192	69689	1393.78
Almalik	100	83308	1666.16
Akhangaran	235	89275	1785.5
Parkent	229	101893	2037.86
Piskent	133	68367	1367.34
Tashkent	201	124284	2485.68
Urta Chirchik	325	134173	2683.46
Chinaz	235	89747	1794.94
Chirchik	95	116569	2331.38
Ukori Chirchik	111	91031	1820.62
Yangiyul	302	178194	3563.88
Tashkent region	3416	1982182	39643.64

Table №3 presents the data of diabetes mellitus type 1 prevalence in Tashkent region boroughs and its ratio to diabetes mellitus type 2 in 2020. According to the data there were 2861 T1D patients registered in Tashkent region and labeled D, among whom there were 427 patients under 18 and 2434 adult patients. Percentage of T1D patients to T2D ones in Tashkent region was 9.5% to 90.5%. The greatest ratio was observed in Angren with 26.3% to 73.7%, while the least one was in Tashkent region with 4.8% to 95.2%.

Table **№3**

T1D prevalence in Tashkent region boroughs and its ratio to T2D in 2020

Borough	T1D			% of the total number of DM patients
	total	Under 18	Above 18	
Angren	578	27	551	26.3
Bekabad	78	11	67	6.8
Bekabad city	250	18	232	21.0
Buka	63	24	39	6.2
Bustanlik	98	26	72	7.7
Zangiota	164	22	142	5.4
Kibrai	187	33	154	10.8
Kuyi Chirchik	115	9	106	11.9
Akkurgan	212	12	200	21.2
Almalik	89	22	67	6.0
Akhangaran	130	20	110	9.9
Parkent	77	22	55	5.7
Piskent	68	12	56	7.1
Tashkent	86	27	59	4.8
Urta Chirchik	109	29	80	5.6
Chinaz	81	8	73	5.5
Chirchik	167	24	143	9.1
Ukori Chirchik	127	25	102	10.7
Yangiyul	182	56	126	5.9

Tashkent region	2861	427	2434	9.5

By 2020 the number of T1D patients under 18 was equal to 427 people; there were 327 children, and 100 adolescents (Table 4). Compared to previous years, it was more than in 2018, but less than in 2019.

Table №4

T1D prevalence in Tashkent region in 2018-2020.

Borough	2018			2019			2020		
	Children	Adolescents	Above 18	Children	Adolescents	Above 18	Children	Adolescents	Above 18
Angren	14	1	482	19	1	613	22	5	551
Bekabad	10	4	63	9	3	66	8	3	67
Bekabad city	8	0	184	11	4	212	12	6	232
Buka	18	1	39	22	4	38	18	6	39
Bustanlik	15	4	74	17	5	73	21	5	72
Zangiata	25	14	121	21	10	129	15	7	142
Kibrai	20	10	131	32	10	144	29	4	154
Kuyi Chirchik	8	8	136	12	7	137	5	4	106
Akkurgan	8	2	134	9	2	178	11	1	200
Almalik	12	4	164	12	3	80	14	8	67
Akhangaran	15	14	97	18	2	108	18	2	110
Parkent	9	6	30	11	6	49	16	6	55
Piskent	6	5	255	5	4	55	6	6	56
Tashkent	0	0	0	23	7	59	21	6	59
Urta Chirchik	16	7	62	20	5	70	23	6	80
Chinaz	8	4	78	8	2	78	7	1	73
Chirchik	18	13	143	27	13	153	22	2	143
Ukori Chirchik	19	6	76	25	8	94	17	8	102
Yangiyul	36	9	123	42	11	129	42	14	126
Tashkent region	265	112	2392	343	107	2465	327	100	2434

According to the obtained data there were 63 cases of T1D revealed among children, 9 cases among adolescents, and 96 cases among adults in 2020. It should be noted, that the number of newly revealed patients with T1D among people above 18 in 2020 was 7.4 and 16 folds greater than in 2018 and 2019, respectively (Table 5). In Angren, Bekabad, Kuyi Chirchik and Tashkent regions there were no newly revealed T1D patients above 18. The greatest number of newly revealed patients was observed in Bekabad city and Akkurgan, with 18 and 22 patients respectively.

Table №5

Newly revealed T1D patients in Tashkent region in 2018-2020.

Borough	2018			2019			2020		
	Children	Adolescents	Above 18	Children	Adolescents	Above 18	Children	Adolescents	Above 18
Angren	1	0	26	5	0	54	3	0	0
Bekabad	2	0	2	1	2	3	1	0	0
Bekabad city	5	0	2	2	0	20	4	0	18
Buka	5	0	0	4	0	2	0	0	2
Bustanlik	3	0	3	3	1	3	5	0	2
Zangiata	1	2	6	5	0	5	3	0	6
Kibrai	2	0	10	2	0	13	4	0	2
Kuyi Chirchik	4	1	44	2	0	0	5	4	0
Akkurgan	5	0	8	1	0	26	4	0	22
Almalik	1	0	1	3	0	2	7	0	2
Akhangaran	4	5	5	3	0	0	1	0	4
Parkent	1	0	4	0	0	4	7	0	8
Piskent	0	0	0	3	0	1	3	2	3
Tashkent	0	0	0	8	0	1	2	0	0
Urta Chirchik	4	0	1	4	1	5	6	2	9
Chinaz	2	1	3	1	0	1	1	0	6
Chirchik	3	2	1	6	1	13	4	1	5
Ukori Chirchik	3	1	3	5	1	13	0	0	6
Yangiyul	12	1	6	8	0	0	3	0	1
Tashkent region	58	13	125	66	6	166	63	9	96

As it is seen from Table №6 every year T2D prevalence grows; in 2020 the number of T2D patients registered and D labeled was 27139. The greatest number of T2D patients was in Zangiata

and Yangiyul boroughs, with 2900 and 2893 respectively. The least number was in Kuyi Chirchik
and Akkurgan, with 851 and 786 respectively.

Table №6

T2D prevalence in Tashkent region within 2018-2020.

Borough	2018	2019	2020	Number of DM patients in 2020	% of the total number of DM patients
Angren	1250	1509	1623	2201	73.7
Bekabad	810	959	1063	1141	93.2
Bekabad city	804	868	940	1190	79
Buka	667	867	958	1021	93.8
Bustanlik	785	1058	1178	1276	92.3
Zangiata	3611	2874	2900	3064	94.6
Kibrai	979	1362	1540	1727	89.2
Kuyi Chirchik	535	728	851	966	88.1
Akkurgan	513	705	786	998	78.75
Almalik	1512	1461	1405	1494	94.0
Akhangaran	725	985	1181	1311	90.1
Parkent	876	1141	1268	1345	94.3
Piskent	763	935	889	957	92.9
Tashkent	0	1604	1710	1796	95.2
Urta Chirchik	1124	1559	1823	1932	94.35
Chinaz	1057	1230	1398	1479	94.5
Chirchik	1286	1584	1670	1837	90.9
Ukori Chirchik	718	982	1063	1190	89.3
Yangiyul	2156	2632	2893	3075	94.1
Tashkent region	20171	25043	27139	30000	90.5

The greatest number of T2D patients newly revealed in Tashkent region was in Urta
Chirchik borough (310), while the least one was in Chirchik (85) (Table 7).

Table 7

Newly revealed T2D patients in Tashkent region within 2018-2020.

Borough	2018	2019	2020	Revealing rate in 2020
Angren	149	184	157	10
Bekabad	67	101	151	11
Bekabad city	82	60	117	15
Buka	50	130	128	12
Bustanlik	55	202	204	7
Zangiata	261	386	219	5
Kibrai	28	113	103	17
Kuyi Chirchik	174	130	120	14
Akkurgan	73	159	166	9
Almalik	129	90	91	18
Akhangaran	69	115	230	3
Parkent	149	150	214	6
Piskent	80	107	125	13
Tashkent	0	258	199	8
Urta Chirchik	175	213	310	1
Chinaz	134	105	228	4
Chirchik	41	47	85	19
Ukori Chirchik	62	153	105	16
Yangiyul	314	221	298	2
Tashkent region	2092	2924	3250	

Conclusion

Thus, analysis of the DM situation in Tashkent region showed, that as well as in the whole Republic of Uzbekistan, there was late diagnostics of DM type 2, in other words, not all patients were registered. The greatest number of patients could be observed in Zangiata borough of Tashkent region, composing 2.29% of local adult population, while the least DM prevalence was registered in Bekabad and Bustanlik boroughs (1.11%). The number of DM patients revealed in Tashkent region in 2020 was equal to 3416 (0.17%), and the greatest T1D and T2D ratio was observed in Angren with 26.3% to 73.7%.

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