Introduction

Diabetes mellitus (DM) is an important medical and social problem. As shown by long-term and prospective studies of type 2 diabetes can be prevented in 60% of cases in the early stages of its development [6], and in 41% it is possible to prevent the development of severe complications after diabetes starts [2], which can prevent unnecessary costs and the loss of the members of society. Therefore early detection and prevention, of both diabetes and its complications is a responsible and essential part of endocrinological care. Establishment of a national registry is an essential step towards optimization of care provided to diabetic patients. The Research Institute of Endocrinology has launched in 2003 the National Register of diabetes, which is part of the State measures to fight the disease. The purpose of this article is to analyze the adequacy of the diagnosis and treatment of diabetic patients based on the results of the National Register in four regions of the Republic.

Materials and methods

Analysis of clinical course of DM of 14214 patients with diabetes was studied with aid of register-cards in the regions Bukhara (BV), Navoi (NV), Khorezm (KV) and the Republic of Karakalpakstan (RK). The lay-out of register-cards were developed at the Laboratory of Diabetology. Register card had been completed for each patient individually by the attending physicians, entered into computer database of the regional centers of diabetes, processed with a special program. Results were presented as % to the total number of patients in the form of mean values and confidence intervals M±m, with calculation of reliability at p <0.05 by Student's test.

Results

According to the register the number of registered diabetes patients in BV, NV, KV and RK comprised 0.38%, 0.36%, 0.2%, 0.16% from the total population of the regions, respectively, and came to be very low compared with other countries, as well as with the data from epidemiological studies carried out across Uzbekistan [1, 8]. Analysis of incidence of diabetic retinopathy (DR) by the register of BV was 20.33%, for NV –
62.89%, for KV – 24%, and 16% for RK, which showed a dramatic difference in the diagnosing and registering DR in the mentioned regions. [8]. Analysis of prevalence of diabetic nephropathy (DN), according to the registered data also showed various alertness of physicians for the diagnosing of this complication in patients and was 12.26% for BV, 63.61% for NV, 11.2% for KV and 13% for RK, where the results obtained in NV were more comparable to epidemiological data [1]. Registration of hypertension across BV comprised 23.95%, 26.76% for NV, 25.81% in KV, and 5.54% for RK. ACE inhibitors in the treatment of hypertension were used as follows: BV – 51.16%, NV – 21.77%, KV – 2.53%, RK – 1.63%. Registration of macrovascular complications, in particular of myocardial infarction (MI) and stroke demonstrated very low numbers in BV – 0.63% and 0.9%, in NV – 1.55% and 1.21%, in KV – 1.81% and 2.62%, in the RK – 0.21% and 0%, which may be indicative of the extremely inadequate diagnosis of these conditions or their registration. Analysis of the results of glycemia showed that compensated level of glycemia was reached in 0.08% of patients with type 1 diabetes, and 6.35% type 2 in BV, 1.02 and 15.12% for NV, 0.53% and 2.92% for KV, 1.13% and 45.64% for the RK. [7]. Analysis of the results showed that among oral hypoglycemic drugs most often were used in 58% sulfonylureas and biguanides in 32.6%, and their combination in 22%. Intensive insulin therapy, according to the register, was used in BV in 1.45% of cases, in 6.24% - NV, 16.84% - KV, and 1.09% in the RK.

Discussion

Analysis of the number and ratio of diabetic patients with type 1 and 2 demonstrated low and similar percentage of patients with type 1 diabetes in the indicated regions, which was on average 4.5%, and the prevalence of the number of patients with type 2 diabetes was 94%, which is consistent with the literature. However, the results on the diabetes in KV showed that 990 (32.84%) patients had type 1 diabetes and 2419 (67.1%) type 2 diabetes, whereas literature data shows that common ratio of the types of DM distributed as 25-10% type 1 DM to 95-90% type 2 DM [7]. The sharp difference in the ratio of type 1 patients and type 2 diabetes, in our opinion, is associated with errors and requires further
investigation. Hypertension along with blood glucose and blood lipid levels included in the criteria for compensation and diabetes and is of great importance in the prevention of diabetes complications. Taking into account, the wide range of positive effects of ACE inhibitors, including an increase in insulin sensitivity, effects on lipid metabolism and nephroprotective effect [5], ACE inhibitors would be useful to include in the first-line drugs in the management of hypertension and prevention of DN. According to registry data, results show low prevalence of usage of ACE inhibitors in patients with diabetes and hypertension. Despite the fact that the main reason of death is caused by macrovascular complications, which also constitute a high prevalence in patients with type 2 diabetes, data of registration of MI and stroke show very low figures. According to some studies, patients with type 2 diabetes had peripheral macroangiopathy ranged from 11.6 to 24.5%, cerebrovascular macroangiopathy – 3.5-9.5%, macroangiopathy of coronary vessels – 14.4-18.1%. [3, 4] According to the same research, about 30% of all people with diabetes have some form of macroangiopathy. In this case, the results of register indicate a low registration and awareness of doctors of such complications. By the results of the register there is practically no achievement of target glycemia among diabetic patients, and if we take into account the fact that reducing HbA1c levels by 1% reduces the risk of complications by 37%, the current situation is quite unfavorable in the aspect of risks of complications of diabetes. Results of sugar-lowering therapy suggests the preferential treatment with SU agents and low combination with biguanides, while the IDF recommends to use biguanides as first choice drugs in the management of glycemia in type 2 DM [7]. According to the register, one can see clearly the inadequacy of insulin therapy, which is carried out in intensively in a very small portion of patients. This fact, apparently, is reflected in the numbers of poor glycemic control. Errors in insulin therapy associated with both inadequate supply of patients with insulin, and inadequate administration of insulin and requires conduction of training workshops among physicians on administration of intensive insulin therapy.
Conclusions
The analysis of register data across 4 regions of Uzbekistan showed various deficiencies concerning diagnosis, management and prevention of diabetic complications. These drawbacks concerned hypoglycemic therapy with unjustifiable low use of first choice drugs and low adherence to intensive insulin therapy, and insufficient diagnosing and management of macrovascular risks.