ference (6.27 vs 6.30 correspondingly, p=0.374). **Conclusion.** The use of the application helped to increase the length of monitoring period, the amount of data that patients perceived in the diary and improved glycemic control. This can be due to an increased motivation to keep records and to a reduction of burden associated with traditional diaries. More detailed analysis on achieving BG goals and delivery outcomes will be held in further studies.

KEYWORDS: gestational diabetes, mobile app.

★ ★ ★

EFFECT OF FAMILY INTERVENTION TO CONTROL TYPE 2 DIABETES IN YOUNG: A CONTROLLED CLINICAL TRIAL

Dr. Purushottam Chatterjee, Ms. Sumona Chatterjee

Endodiabetes Clinic. Kolkata, India

Introduction. With the increasing number of young type 2 diabetes mellitus (T2DM) patients in India, it has become a great challenge for clinicians to achieve strict glycemic control and prevent complications in this population of patients. We studied the effectiveness of a family oriented intervention designed to improve glycemic control of these patients in a specialised diabetes clinic. There are very few studies have ever been done on this aspect on type 2DM. **Aim.** Our aim of this study was to see the effect of family intervention in these patients on glycemic control as reduction of HbA_{1c} to ⩽6.5 % over and above standard care. **Material and methods**. Young (18—25 years) newly diagnosed ,drug naïve T2DM patients from our clinic were selected for the study as per patient'. Patients were selected with type 2DM with HbA_{1c} between >7% to < 9% and living with at-least one family member(not alone). One group (A) of patients received the family oriented intervention; patients from the other group (B) received standard care. The intervention involved family members which included one amongst "father ,mother, wife or husband " and included family counselling during clinic visits, family meetings and home visits by a dedicated diabetes educator . The primary outcome was HbA_{1c}, measured at 6 and 12 months. **Result**. A total of 205 patients were enrolled and they were divided into group A (n=103) and group B (n=102). All patients completed the study. The HbA_{1c} from baseline to 12 months was a significantly different between groups (p<0.005). During the later period (6—12 months), when the patients in the group A showed further improvement in their HbA_{1c} reduction (p<0.001) compared to Group B patients. **Conlcusions.** In T2DM in young patients a significant reduction in HbA1c was seen when the family intervention was provided over standard intervention.

KEYWORDS: young type 2 diabetes mellitus, diabetes clinic, family intervention.

★ ★ ★

ASSOCIATIONS OF THE POLYMORPHISMS KCNJ11, ADIPOQ, ADIPOR2, IGF1B2 OF THE GENES WITH INSULIN RESISTANCE AND FUNCTIONAL ACTIVITY OF PANCREATIC B-CELLS IN WOMEN WITH METABOLIC SYNDROME

Svetlana A. Smetanina, Lyudmila A. Suplotova

Tyumen State Medical University, Tyumen, Russia

Purpose. To evaluate the association of alleles and genotypes of the polymorphisms KCNJ11 ADIPOQ, ADIPOR2, IGFBP2 genes with insulin resistance and functional activity of pancreatic β-cells in women with metabolic syndrome. **Material and methods.** A survey of women in the Russian population with obesity and metabolic syndrome. Insulin resistance (IR) and functional activity of pancreatic β-cells were determined using the HOMA-IR ⩾2.77 and HOMA-β ⩾180% indices (D. Matthews et al., 1985). The polymorphisms of the genes candidate for IR and insulinopenia were determined: rs16928751 of the *ADIPOR2* gene, rs2241766 of the *ADIPOQ* gene, rs5219 of the *KCNJ11* gene, rs4402960 of the *IGFBP2* gene. Genotyping of the polymorphisms of candidate genes of IR and insulinopenia was carried out on the basis of the Laboratory of Molecular Diagnostics and Genomic Dactyloscopy of the State Scientific Center of the Russian Federation «GosNIIGenetika», Moscow (Doctor of Biological Sciences, professor V.V. Nosikov). **Results.** Higher values of the HOMA-IR index [6.3 (3.6, 10.8)] in women with the Lys/Lys genotype of the polymorphism rs5219 of the *KCNJ11* gene were determined than in the carriers of the genotypes Glu/Glu and Glu/Lys 3,8 (2,2, 7,0) and 3,6 (2,3, 5,6) (p<0,01). It was established that HOMA-β index ⩾180% is more often detected in carriers of genotypes G/A + A/A (34.2%) than in persons with genotype G / G of the polymorphism rs16928751 of the *ADIPOR2* gene (18.8%) (p=0.04). The homozygous carrier of the T/T genotype of the polymorphism rs2241766 of the *ADIPOQ* gene was more often detected in obese and MS patients (94.3%) than in healthy individuals (72.1%)) (p=0.009). In women with obesity and IR, the carrier of the T allele and the T/T genotype of the polymorphism rs2241766 of the *ADIPOQ* gene increases (OR=3.21 95% CI 1.01—10.24; p<0.05 and OR=6.39 95% CI 1.32—30.86; p=0.009), and the carriage of the G allele and the G/T genotype of rs2241766 of the *ADIPOQ* gene reduces the risk of developing IR (OR=0.31 95% CI 0.10—0.99; p<0.05 and OR=0.04 95% CI 0.1—0.80; p=0.009). Carriers of the T/T genotype of the polymorphism rs4402960 of the *IGF1B2* gene had a higher HOMA-IR index, along with a low HOMA-β index of 7.0 (5.9; 8.9) and 59.1% (37.7; 153.8%) than individuals with genotypes G/G and G/T [3.9 (2.3, 7.4), 105.3 (53.1, 157.50 and 3.4 (2,2; 4.9), 121.3 (76.3, 170.9; p<0.05)]. **Conclusions.** These data suggest that the relationship between insulin resistance and the functional activity of β-cells of the pancreas of the polymorphisms rs5219 KCNJ11, rs2241766 *ADIPOQ*, rs4402960 *IGF1B2*,