According to data from five full regional diabetes registers, prevalence of type 2 diabetes (T2D) in Ukraine among persons over 39 years of age is higher for women. The two regions (cluster 1) joined the USSR after 1939 and their population was not exposed to the famine that occurred in the middle of 1930s and which was significant in other three regions (cluster 2). Height and Body Mass Index (BMI) were assessed according to individual patient data (n=94,460). Wilcoxon test was used to compare height (cm) and BMI (kg/m²) values in patients, born from 1925 to 1955 in cluster 1 (n=16,550) and cluster 2 (n=46,855). In cluster 2, the height for women was lower than in cluster 1: 162.57 (162.31–162.42) and 165.15 (165.04–165.23) cm respectively, mean (95% CI), p<0.001, whereas BMI was higher: 29.13 (29.09 to 29.17) and 28.64 (28.57 to 28.71) kg/m², p<0.001. Height for men did not differ: 171.75 (171.66 to 171.84) and 171.93 (171.7 to 171.95) cm in cluster 2 and 1, BMI was higher: 27.93 (27.77 to 27.95) and 27.64 (27.56 to 27.72) kg/m² in cluster 2 and 1 respectively, p=0.007. However, out of 31 yearly birth groups (YBGs) this was true for 23 YBGs in females and only for 4 YBGs in males. Height and BMI variations in T2D populations affect mainly women. The reason for differences between clusters could be the result of the genotype selection due to better survival of overweight persons under the condition of starvation. “Thrifty genotype” contamination can be one of the reasons of higher T2D prevalence in Ukrainian women population.