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The influence of metformin on the rate of Covid-19 vaccination among diabetes type 2 patients in Poland

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Abstract

Background:
The diabetic patients are more susceptible to death related to SARS-CoV-2 infection.
One of possible way of reducing the spread of pathogen and securing patients from complications is the vaccination against COVID-19. Unfortunately not all of them decided to get vaccination.
Objective:
The aim of the study was to compare the vaccination rates among patients with DM2 prescibed with different treatment schemes in the outpatients clinic.
Methods:
The retrospective analysis was conducted on patients with DM2 treated in diabetology outpatient clinic at University Hospital in Warsaw observed between January 2020 and July 2021. The proof of vaccination was obtained from official national registry. The data was analysed with one-way ANOVA and post-hoc HSD Tukey test.
Results:
The analysis covered 598 patients with diabetes type 2 (mean aged 68,8 ±11.87 y, mean weight 87.07±19.54 kg).
The patients taking metformin has been vaccinated more frequently than those treated with insulin (87% vs 74,63%, $p<0,02$). Additionally, the patients treated with metformin (with/or without insulin) had significantly lower level of creatinine compared to patients treated without metformin (0.99/0.95 vs 1.59, $p<0,05$).
Conclusion:
The metformin therapy has positive impact on vaccination rates against SARS-CoV-2 among patients with type 2 diabetes treated in ambulatory settings. The explanation of this phenomenon needs conducting the study assessing the impact of metformin therapy on the patients behaviour and motivation.
Many studies suggest additionally that metformin may increase the production of antibodies and delay their decline. It can affect positively the prognosis of patients, especially in the elderly.

Keywords: COVID-19, diabetes, metformin, insulin, vaccination

Abbreviations: DM2 – type 2 diabetes mellitus

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none