Prevalence of Diabetes Among COVID-19 Patients at Razi Ghaemshahr Hospital in 2021: A Cross-Sectional Study

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ABSTRACT

Introduction: A primary global concern is the long-term effects of the coronavirus (COVID-19). Diabetes is one of the most reported comorbidities in patients with severe COVID-19. There is a higher chance of poor prognosis and death for COVID-19 patients with diabetes. This study aimed to determine the frequency of newly diagnosed diabetes mellitus in COVID-19 patients and to investigate blood sugar control in diabetic patients for three months.

Methods and Materials: This cross-sectional descriptive study was conducted in 2021-2022 on patients with COVID-19 who were admitted to Razi Hospital in Ghaemshahr. After excluding cases of diabetes, 933 individuals were included in the study. By measuring hemoglobin A1c levels and fasting insulin, prediabetic patients were identified. All patients were examined for three months by repeated FBS tests.

Results: Overall, 933 patients with COVID-19 with an average age of 47.9 ± 10.9 were included in the study. OF these cases, 518 patients (55.5%) were male, and the rest were female. Of 174 people who had pre-diabetes, 79 people suffered from diabetes. Also, of 759 patients who did not have pre-diabetes, 254 cases developed diabetes. The symptoms and infection rate were more severe in 333 people diagnosed with diabetes (p = 0.001 and p = 0.046). Also, 66 out of 79 prediabetic patients developed diabetes, and 229 of 254 patients who did not have pre-diabetes and developed diabetes received corticosteroids during the treatment of COVID-19. A significant relationship was observed between corticosteroids and diabetes (p = 0.043). Hyperglycemia and the need for antidiabetic treatment and blood sugar control continued in 305 out of 333 patients with diabetes until three months later.

Conclusion and Discussion: According to the results of this study, COVID-19 was associated with the new onset of diabetes in 27.22% of all participants. Additionally, it led to the new onset of diabetes in 46.8% of individuals with prediabetes. The severity of infection and the number of symptoms in diabetic patients were more pronounced in non-diabetic patients. Furthermore, diabetes was linked to the use of corticosteroids. The diabetes treatment lasted for three months for one-third of the patients with COVID-19.

Keywords: Blood glucose, COVID-19, Diabetes mellitus

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