

## Letter to Editor



# Challenges of COVID 19-related quarantine for people with type 2 diabetes

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### Dear Editor,

Diabetes mellitus (DM) is a chronic metabolic disorder. There are more than 400 million people with diabetes around the world that is expected to reach 640 million people by 2035. There are currently about 250 million people living in the world with fasting blood glucose-related disorders.<sup>1</sup>

The problems of people with diabetes have increased with the coronavirus disease 2019 (COVID-19) pandemic.<sup>2</sup> This new emerged disease was started in Wuhan, China, and has become a substantial health problem worldwide.<sup>3</sup> COVID-19 is a spreading infection with symptoms ranging from mild self-restricting flu-like unwellness to respiratory illness, and death.<sup>4</sup>

Older people with underlying chronic illnesses, such as diabetes, are more likely to show severe COVID-19 manifestations and complications. Most people have right now been quarantined indoors to restrict outbreak.<sup>5</sup>

Among hospitalized people with diabetes who are affected by COVID-19, Two-thirds were men with mean age of seventy years. There is an association between hyperglycemia that is common in ill patients and severe outcomes in patients admitted to intensive care units. Glucose management leads to prevent and control infections and their complications, reduce secondary infections, kidney malfunction, intensive care unit (ICU) stay, and ventilator dependence. It has been shown that glycemic control is related to patient morbidity and survival.<sup>6</sup>

The results of Cockburn study showed 89% of patients admitted to fifty three clinics in March 2020, had type 2 diabetes, and 3% had type 1 diabetes. Diabetes was diagnosed first time in 3% of participants during hospitalization for COVID-19.<sup>7</sup> People with diabetes face various challenges due to COVID-19 pandemic and social constraints, including quarantine. These patients, as more susceptible to COVID-19, are in quarantine. The quarantine will affect at least six important issues:

diet, physical activity and medication, follow-up visits in hospitals and clinics, social support of family members and friends, and finally psychological health.

The first problem of people with diabetes is preparing healthy food that fits the patient's diet. Quarantine restrictions make it difficult for patients to access and prepare food. Another issue for them is to stick to an everyday, well-balanced diet. A healthy diet should contain protein, fiber, vitamins, and restricted saturated fats. However, access to fresh fruits and vegetables during COVID-related quarantine could also be a challenge. This stressful period may lead to stress eating habits, consuming packed high fat, sugar, and salt content foods. Diet for diabetes patients with COVID-19 is dependent on the patient's condition and blood glucose control and there's no particular eating routine for them.<sup>6</sup>

The second challenge is physical activity and exercise, which is no longer possible in free space and is unlikely to be done at home.

The third and fourth challenges are taking medications and its modification based on blood glucose monitoring. For this purpose, patients should refer to the hospitals, clinics, or physician offices to receive new drug orders and take precautions into consideration due to the possibility of developing COVID-19. On the other hand, physicians and other health care providers need laboratory data for optimal decision-making. Therefore going out to drug stores, healthcare centers, and laboratories is unavoidable but restricted. One way to control this situation is to use telemedicine. Telemedicine will improve glucose management and reduce anxiety in patients with diabetes during COVID-19 pandemic. Telemedicine, is utilised for patients and its supported areas are anxiety, glucose management, comorbidities, medicine and foods, and compliance with individual protection against the COVID-19.<sup>8</sup>

The fifth challenge is social contact limitation. Family members avoid older adults with diabetes as more

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susceptible groups to communicate with peers, friends and relatives. However, these social supports are important for older adults especially in Iranian culture, and elderly without social contact may experience depression and mental health problems.

Finally, the sixth challenge is announcements and news, revealing findings within the media and on the web regarding the susceptibility condition of diabetes patients to SARS-CoV-2 compared to healthy people and also the statistics of SARS-CoV-2 related deaths in diabetic patients. It has been shown that these news have psychological effects on patients and make it more difficult to control the disease.

Therefore, COVID-related quarantine negatively affects the health status of people with diabetes and their routine self-management activities. They are more apt to develop complications. The present circumstances will be more undesirable in patients with diabetes related complications. Even in normal conditions, people with diabetes cannot coordinate diet, physical activity, and medication. Various factors such as chronic illness, boredom, and fatigue in patients due to prolonged illness, old age, financial problems, painful therapy such as insulin injection, and involvement with the effects of the disease are effective in this regard. On the other hand, quarantine will make the situation more complicated. There is no particular agent against coronavirus, and re-purposing of drugs is one of the first solutions. Several studies have suggested metformin to combat the virus. Although it was discussed recently that oral hypoglycaemic agents, such as sodium-glucose-transporter-2 inhibitors (SGLT-2i), glucagon-like-peptide-1 receptor agonists (GLP-1RAs), pioglitazone, and even insulin may be harmful for people with diabetes infected by COVID-19; evidence on metformin is limited and regarding recent studies, metformin have shown potential role in fighting against hepatitis C, B, and HIV.<sup>9</sup>

Therefore people with diabetes need special attention and care, since it seems that their disease is associated with increased severity of symptoms and complications with COVID-19. A medical team of infectologists, endocrinologists, pulmonologists, clinicians, nutritionists, exercise specialists, and nurses can assist patients with diabetes to deal with their illness through providing a stable condition for patient.<sup>10</sup>

The corona virus brings a big challenge for people with diabetes and medical services. However social distancing, isolation, and quarantine can be considered as a chance for establishing a physician-patient communication for better glysemic control.

#### Conflict of interest

None.

#### Ethical Approval

Not applicable.

#### Authors' Contribution

MF, AA and MD: Designing, Drafting and Editing of the study. All contributors assessed and approved the final article.

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