## **Case Report**

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# **Experience of type 2 diabetes mellitus patients during COVID-19**

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#### **ABSTRACT**

Peoples with Non communicable diseases (NCD) such as diabetes mellitus (DM), hypertension (HT), cardiovascular diseases (CVD) and obesity are at higher risk of infection and mortality from COVID-19. Even though the reasons behind the increased risk of infection among type 2 DM patients have not been determined. The possible reasons could be high glucose levels, inflammation, impaired coagulation, obesity, CVD and hypertension. The pandemic has led to severe restrictions of movements of human beings and lockdown across the country. Lockdown during COVID-19 also have impact in type 2 diabetes mellitus patients requiring medication and routine physical activity. The stress, development of complications of chronic diseases, locked in experience, fear of dying and loneliness in hospital. All these issues suggest that mental health of the diabetes patient is being affected enormously. In this report, we discussed the experience of three patients with diabetes mellitus and among them two acquired COVID-19 and admitted to the COVID ward.

Keywords: COVID-19, Diabetes, Experiences

### INTRODUCTION

Diabetes mellitus is an important non-communicable disease causing morbidity and mortality.1 One of the major morbidity in diabetes mellitus immunosuppression and the resulting infections.<sup>2</sup> Diabetic patients have an increased risk of respiratory infections including influenza and pneumococci.3-5 The prevalence of diabetes mellitus in India is 5 percentage.<sup>6</sup> Diabetes is a risk factor contributing to increased mortality and morbidity. Danger of severity of COVID 19 and mortality are more for diabetes patients which accounts for 14.5 percentage.7 Since there are limited knowledge on COVID-19 in diabetes patients in our country, awareness needs to be created to combat the health situation and health system need to be strengthened to protect the mental health of the patients. This study helps us to explore the experience of diabetes mellitus patients during COVID-19.

#### **CASE REPORT**

Experience: "A struggle of middle-aged women to maintain her blood sugar level"

54 years old female, a homemaker, was a known case of type 2 diabetes mellitus for past 16 years. As reported by her, she also has other co morbidities like hypertension, bronchial asthma for past 10 years. She was on regular medication for all the illness. She claims that two years ago, she had fluctuation in her blood sugar level and her HbA1c was above eight. She was prescribed pioglitazones as anti-diabetic medication. She also experienced side effects of the drugs such as vaginal itching and dryness of skin. Since her blood sugar levels was not under control and she refuses to take insulin, her only option was oral anti diabetic drugs. Then she started brisk walking and diet control and her blood sugar level were coming back to near normal. Before the start of this

pandemic, she goes for beachside walking regularly for at least 5 days in a week. After the start of this COVID 19 pandemic, her frequency of testing blood sugar level during lockdown was reduced. She never consulted physician for alteration in dosage of medication for past eight months.

After the lockdown was announced, she claimed that, "I feared to step out of the house, and which completely shattered my daily exercise schedule and diet plan due to limited groceries supply".

She also claimed that loss of income and job to the family members, isolation from surrounding, lack of social support and psychological factors such as anxiety and depression were the added stress to her.

Sometimes she feels there was burning and tingling sensation in the feet, but she says she was afraid of stepping outside the house for consultation with doctor, since she heard that COVID post sequela is worse with comorbidities.

She reported, "some of her neighbours told her regarding telemedicine consultation which could help her in management of diabetes complication like burning sensation in feet".

# Experience: "A housewife with chronic Type 2 DM becomes COVID positive"

A family comprising of the couple, with one having chronic type 2 DM on regular oral hypoglycaemic drugs. She goes for regular blood sugar check-up once in three months to the Govt medical college hospital in Puducherry. But during lockdown, she claims that "I consume the same dose of drugs for past eight months without checking the blood sugar levels and now I developed burning sensation in both the feet and hands".

She said that since the regular hospital which she visits now become COVID hospital she had only option to visit the private clinic, but it was remained closed.

During lockdown, she said that she developed myalgia, dry cough, and fever and with lots of hesitation and fever she gave sample for testing and it turns out to be COVID positive. She was under immense stress that she will be isolated from the family members and during that time it was difficult to get admission since the state was overflowing with cases each day. And finally, family members managed to get her admitted in Govt hospital. She said that she developed breathlessness after two days of admission and her saturation was dropping, then she was shifted to ICU and CT scan was taken.

She claims that "I never slept when I was in hospital due to fear who will take care of my son and husband if I die and I only pray god that I should return home with good health"

"I never share much of my problem with my son and husband since they already worry a lot about my health"

She said that her son took her to psychiatrist since she developed severe depression and sleeplessness as a post COVID sequalae and now she sleeps well due to sleeping pills and counselling therapy. But sometimes still she fears she might get COVID again.

# Experience: "A older couple with one having chronic diseases becomes COVID positive"

65 years old retried bank teller on regular insulin and anti-hypertensive drugs for past 27 years get hypoglycaemic episodes on and off. He visits the famous diabetes centre in Chennai for his blood sugar monitoring. After the existence of COVID-19, initially there were lots of cases reported in Chennai, so he stopped consultation in hospital at Chennai.

The patient claimed that "I am more vulnerable for COVID since I already have comorbidities, which I came to know from newspapers and Television news".

The patient said that they were more cautious to prevent the spread of COVID they wash all the vegetables and fruits which they buy from outside with salt and turmeric and dry it for two hours and then they use for cooking. When cases started increasing drastically, they were more stressed how they were going to survive and finally moved to Puducherry to her daughter's house. Fortunately, the patient was able to consult the doctor through video conferencing for diabetes and patient felt stress free to tell all his complaints and also for insulin dose adjustment. He also claims that telemedicine facility reduced the unnecessary exposure and able to consult the doctor without stepping outside the house. But unfortunately, even after lot of precautious measures he acquired COVID. Since the patient is already immunocompromised, his family members tried hard for admission, but their efforts went in vain. After so much of struggle his family members managed to get a bed for admission.

The patient claimed that "My saturation keeps oscillating between 80% to 95% so I was shifted to ICU on and off and I was in hospital for 21 days due to fluctuating oxygen saturation" "I was extremely in low mood and cried alone many times due to fear of dying but the treating physician and psychiatrist through counselling gave me positive hope and slowly I was able to catch up good sleep. The patient said that through his family members, doctors, and almighty's constant support he was able to come back to his normal lifestyle.

#### **DISCUSSION**

The above-mentioned narrative lived experience of the COVID-19 patients with comorbidities shows negative impact on glycaemic control in Type 2 DM. The stress,

development of complications of chronic diseases, locked in experience, fear of dying and loneliness in hospital. All these issues suggest that mental health of the patient is being affected enormously which affects their compliance to medication and led them to develop complications. The system should be prepared to accommodate two extremes of cases, one is on more severe cases (those requiring ICU and assisted ventilation support), other side is protecting mental health of major proportion of people affected with mild to moderate symptoms of COVID 19 and uninterrupted supply of medicines also to patient with chronic diseases. Since there is increased rate of diabetes mellitus patients suffering from COVID-19, system must be strengthened to reduce complications and death.<sup>8</sup>

#### **CONCLUSION**

From the above experiences we suggest that mental health of the peoples should be kept in mind in all the COVID-19 services. Special provisions should be made for NCD patients during the pandemic to avail the services without any interruption.

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