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## Coping with diabetes during the COVID – 19 lockdown in India: Results of an online pilot survey



Sukanya Nachimuthu, R. Vijayalakshmi, M. Sudha, Vijay Viswanathan\*

MV Hospital for Diabetes, Diabetes Research Centre, Chennai, India

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## ABSTRACT

**Aim:** The management of diabetes has become a challenge due to the COVID 19 lockdown. An online-based pilot survey was conducted to study how people with diabetes were coping with their Diabetes during the COVID - 19 lockdown.

**Method:** The questions were designed in an online survey, Survey Monkey, to conduct this cross-sectional study. The link was generated and sent to 100 registered patients of the MV Hospital for Diabetes Royapuram who had not contacted the hospital after the lockdown announcement. The survey was done between April 1 and April 15, 2020. Oral consent was obtained through telephone before the link was sent by Whatsapp to them. The questionnaire consisted of questions on home blood glucose monitoring, regularity in doing their physical activity and dietary compliance and anxiety about the viral infection.

**Results:** 92% of the participants had Type 2 diabetes. Only 28% of the participants were checking their blood glucose levels regularly. 80% of the participants mentioned that they were following regular exercise and diet control during the lockdown period. 40% of the participants were anxious about the Covid infection.

**Conclusion:** SMBG needs to be practiced on regular basis, especially among the patients with diabetes on insulin therapy. Most of the people surveyed were coping well with their Diabetes. Patients have reported that they were able to maintain proper dietary compliance and be more physically active at home during this lockdown. These findings need to be ascertained in larger sample of patients.

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### 1. Introduction

The Outbreak of COVID – 19 (**CO**rona **V**irus **D**isease – **2019**) was noticed in Wuhan, China. The disease was identified and described as a pneumonia-like disease where the clinical symptoms include fever, fatigue, dry cough and dyspnea [1]. COVID -19, an ongoing pandemic, has been declared as a public health emergency of International concern [2,3]. Several countries have announced a lockdown to decrease the spread of virus & advised practicing social distancing and encouraging regular hand washing. In a densely populated country like India, social distancing is a huge task.

It is noted that people with diabetes have a higher risk of developing complications due to the Covid infection than people who do not have diabetes. The complications due to Covid infection

are also more in people having other co morbidities like hypertension and cardio vascular diseases. Due to the pandemic, there has been a tremendous change in the healthcare system. Basic needs including health care supplements of masks, hand wash, hand sanitizers is needed for all and getting medications like OAD (Oral Antidiabetic drugs) and insulin is a challenge for people with Diabetes. Patients are not encouraged to visit the hospital until unless there is an emergency situation. Therefore coping with diabetes is a big task especially for elderly people with Diabetes and children with Type 1 Diabetes. The COVID -19 burdens also increases the anxiety among people with diabetes. The lockdown situation which may lead to unavailability of basic needs coupled with lack of support from their diabetes teams whom they usually meet, makes people with diabetes more vulnerable for stress and anxiety.

\* Corresponding author. MV Hospital for Diabetes, Diabetes Research Centre, 4, West Mada Church Road, Royapuram, Chennai, 600013, India.

E-mail address: [drvijay@mvd diabetes.com](mailto:drvijay@mvd diabetes.com) (V. Viswanathan).

**Table 1**  
Result of the online study.

S. No.	Questions	Percentage
1	Total participants	100
2	Type of diabetes	Type1 8 Type2 92
3	Duration of diabetes	Below5 years 19 5–10 years 65 Above10 years 16
4	Type of treatment	Tablet only 49 Tablets and Insulin 43 Insulin only 8
5	Frequency of testing blood sugar during the lockdown	Never 14 Rarely 15 Sometimes 43 Regularly 28
6	Presence of kidney disease	Yes 8 No 91 Don't know 1
7	Presence of heart disease	Yes 6 No 94
8	Anxious about COVID –19	Yes 40 No 60
9	Following diet and exercise during lockdown	Difficult to follow due to lack of resources 19 Much easier 1 Following regularly 80
10	Optimistic about improvement of COVID –19 situation	Definitely would 73 Definitely would not 5 Probably would 19 Probably would not 3
11	Locality	Chennai 68 Other than Chennai 32
12	Gender	Male 54 Female 46
13	Age distribution	Under18 5 18–24 3 25–34 4 35–44 10 45–54 17 55–64 23 65+ 38

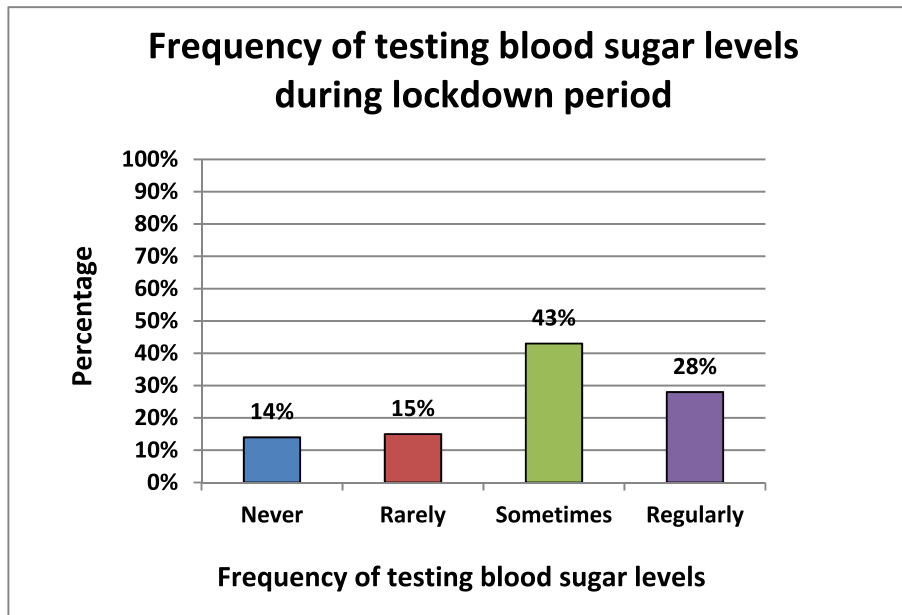


Fig. 1. Frequency of testing blood sugar levels during lockdown period.

## 2. Subjects

An online cross-sectional survey was conducted among 100 people with diabetes who were registered with the MV Hospital for Diabetes, to know how they are coping with the diabetes during the lockdown period. These people who were selected were those who had not contacted the hospital after the lockdown announcement.

## 3. Methods

A link was created using the “Survey Monkey” portal for this cross-sectional survey and sent to the selected patients, as a pilot study. The people were selected on a random basis from the computer. The generated link was sent to the patients by “Whatsapp” after an oral consent was obtained through the phone. A self-constructed questionnaire which had two main components, one about their medication history of diabetes, presence of any other comorbidities like cardiac and renal illness, another about their perception about COVID 19. The survey was done between April 1 and April 15, 2020. The survey link was sent to the parents of children with Type I diabetes.

After getting their reply, Dose adjustments, diet & exercise plans with respect to the lockdown were advised to the patients to cope with this lockdown. Patients were further encouraged to contact in case of any queries about their diabetes management.

## 4. Results

A total of 100 patients participated in the survey. 92% of the participants were having Type 2 diabetes and 54% were males. Majority of the participants were from the age group of 65+ (As mentioned in Table 1).

Most of the participants had diabetes for more than 5 years. 65% of the study participants had duration of diabetes from 5 to 10 years, 19% study participants below 5 years and 16% above 10 years duration.

49% of the study participants were only taking OAD for diabetes, whereas 43% of the participants were using both OAD and insulin for glycaemic control. The remaining 8% were taking only insulin as treatment.

87% of the participants who are on Insulin therapy were checking their blood glucose levels regularly.

The patients who mentioned that they were regular with their SMBG were doing at least one blood test daily at home. On the whole, only 28% of the participants were checking their blood sugar levels regularly (Fig. 1). Only 30% of the participants on OAD & insulin were checking their blood sugar levels regularly using Self-monitoring blood glucose (SMBG) during the lockdown. 65% of the participants who were on OAD & insulin were not testing their blood sugar levels regularly.

It was noticed that 80% of the study population mentioned they were regular with their exercise & diet control. Many of them mentioned that though they could not go outside for a walk they were keeping themselves physically active in their house and apartment. The people were asked whether they felt anxious using the items mentioned in the Hospital Anxiety and Depression scale [HAD scale] like Do you feel a sort of fear as though butterflies in the stomach, Do you feel restless, Do you get a sudden feeling of panic. 40% of the population had mentioned they were anxious about the COVID 19 situation. 73% of the study participants believed the current situation about COVID 19 would definitely improve in the days to come.

6% and 8% of the study participants were known cases of cardiac and kidney complications.

## 5. Discussion

People with diabetes are believed to have higher risk of developing complications/severity and death rates due to the infection from the Corona virus though there is no evidence that people with diabetes have high susceptibility to the infection [4,5]. Generally, people with diabetes are known to have distress called Diabetes Distress [6] because of the demands of diabetes and lack of family support in managing it. COVID – 19 pandemic has affected the psychological health of normal people as well as the people with diabetes. The steps advised as preventive measures like social distancing & lockdown in breaking the chain of spread of the virus have increased the stress and anxiety among the people [7].

Only 28% of study participants including those who were on OAD [Oral Antidiabetic drugs], OAD & insulin and Insulin therapy were testing their blood sugar levels regularly. This is probably due to the unavailability of SMBG machines/strips or due to the fact that SMBG is not practiced widely in India. Education among the patients about the use of SMBG and its importance are usually done on every visit of the patient to the clinic. From this study, we highlight the need for regular SMBG especially among patients with diabetes on insulin therapy during periods of pandemic when there is lockdown. Patients must be educated more on this aspect to keep their diabetes under control and avoid any hypoglycaemia [8–10].

It was note worthy that many people reported that they were able to keep them physically active and were able to maintain good dietary compliance probably due to the fact that they had more time to do these two important aspects of Diabetes management. As it is a pilot study, it is important that these findings need to be ascertained in larger sample of patients.

Surprisingly, people who participated in the survey were not too much anxious about the COVID 19 situation and were very optimistic.

To conclude, COVID -19 is a novel viral infection, an ongoing pandemic. It is imperative to follow preventive measures such as social distancing, frequent hand washing for atleast 20 s using soap based hand wash/alcohol based hand sanitizer, wearing mask in the public, watch for symptoms, practicing respiratory hygiene [11]. Since people with Diabetes seem to develop more severe complications with Covid infection they should take adequate care of their diabetes. This study highlighted the facts that people with Diabetes especially those on multiple OAD and insulin should monitor their blood sugar level more often.

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### Declaration of competing interest

None.

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