

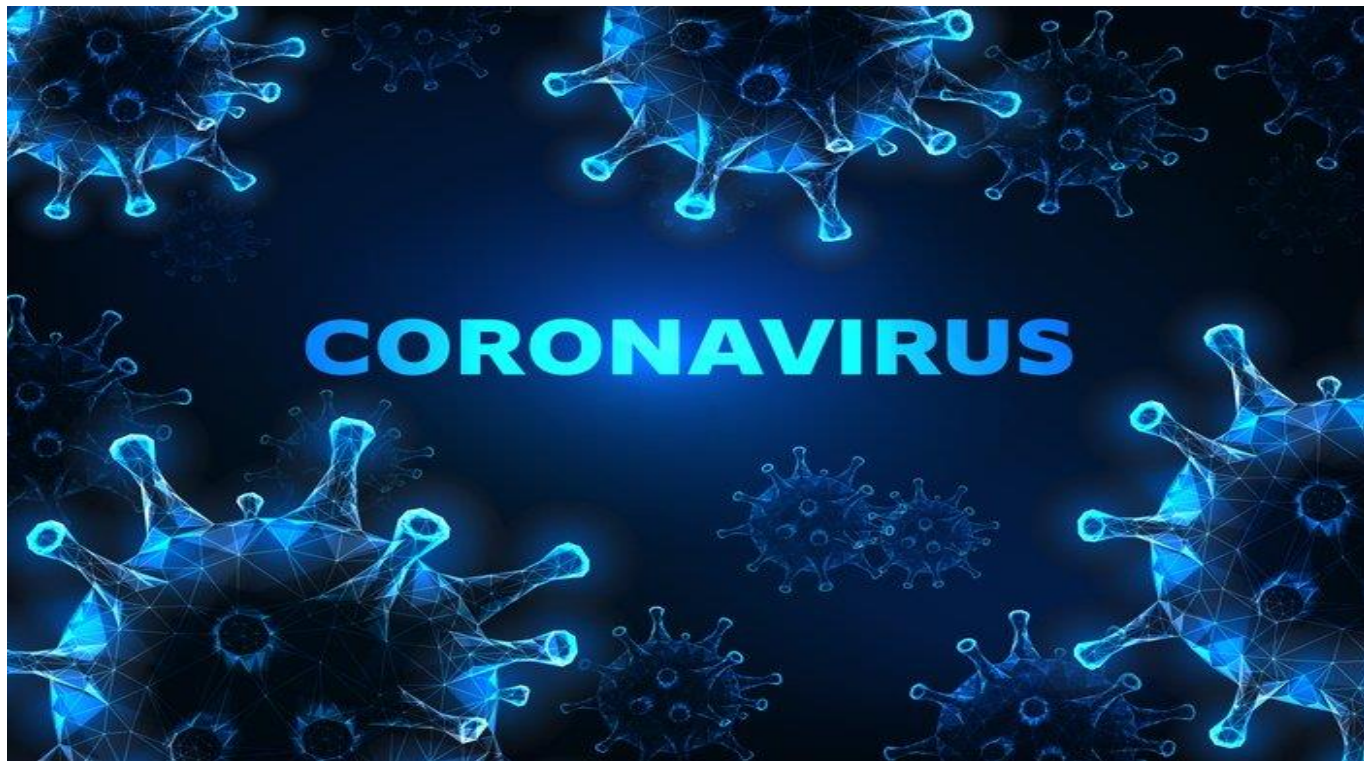
# Challenges of COVID – 19 & Diabetes

**Vikramsingh Totaram**

**Diabetes Specialist Nurse in Mental Health**

RGN/Dip in Nursing, MSC in diabetes care,  
Independent Nurse Prescriber

# Challenges of COVID-19 and Diabetes



# What is Coronavirus ?

- The 2019 novel coronavirus, a flu-like illness that can cause serious difficulty breathing , life-threatening pneumonia and sepsis
- Identified in China at the end of 2019 and is a new strain of coronavirus that has not been previously identified in humans.
- COVID-19 has the potential to spread widely as lack of immunity means everyone in the population is susceptible

# How is COVID-19 transmitted?

- Exposure to **large respiratory droplets & vomit**
  - Coughing/sneezing onto mucous membranes (mouth/eyes)
  - Need close contact for this to occur (within 1 metre)
- Contact with respiratory secretions
  - Transferred by touching mucous membranes
  - Tissues/surfaces contaminated with respiratory secretions

It is **NOT** transmitted in air except if patient undergoing a procedure that generates aerosols e.g. airway suction, resuscitation

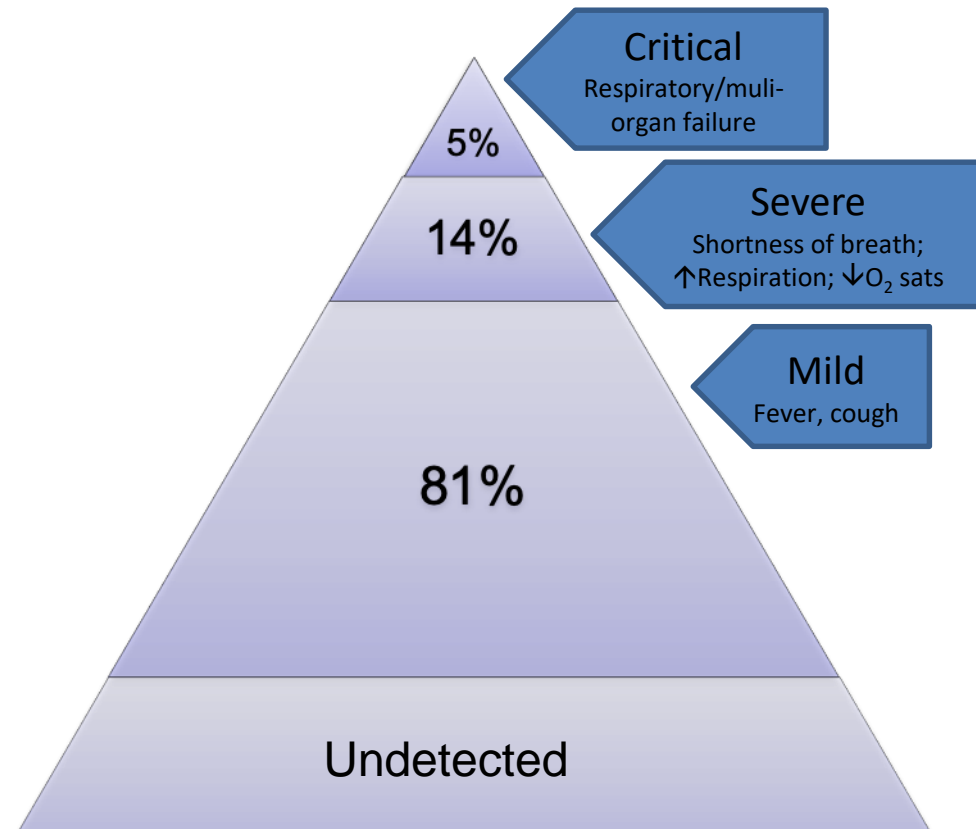
# What are the symptoms of COVID-19?

- Symptoms start 5 -11 days after exposure
- Similar to seasonal flu
- Majority have fever and dry cough (rapid onset)
- Symptoms last 5 - 6 days
- Severe illness starts day 7
  - ↑ Shortness of breath
  - Lung inflammation
  - Pneumonia

Symptom	Proportion of cases
Fever >37°5	88%
Dry cough	68%
Fatigue	38%
Sputum	33%
Shortness of breath	19%
Muscle/joint pain	15%
Sore throat	14%
Headache	14%

# Severity of COVID-19 illness

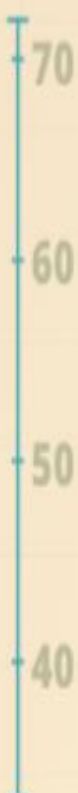
- Most people have no obvious symptoms (30-40%)
- Most children get mild disease
- More severe disease in:
  - Older people
  - Diabetics
  - Heart disease
  - Chronic respiratory disease
  - Immune compromised
- Less than 2% of cases fatal
  - Highest in high risk groups



# Mental Health and Physical Health

## The PROBLEM

People with mental illness die earlier than the general population and have more co-occurring health conditions.



**68%**

of adults with a mental illness have one or more chronic physical conditions

more than

**1 in 5**

adults with mental illness have a co-occurring substance use disorder

# Challenges of Covid - 19 and Diabetes

- People with Type 1, Type 2 diabetes and gestational diabetes are at risk of developing severe illness if they get Coronavirus.
- Their blood glucose (BG) levels will fluctuates with the illness getting highs and lows thus making it more challenging to manage.
- Patients who gets ill will can have a reduce food intake.
- More frequent BG monitoring/urine test for glucose or ketones will require.
- Regular review of antidiabetic treatment will require.



# Blood glucose Monitoring Times



- Please see BG monitoring chart below
- Please ensure your Ward Caresens N meter is registered with
- Spirit Health Care , Tel: 01162865000 for your Qpoint
- External Quality Assurance (monthly solution)





# General advice for managing diabetes during inter-current illness

## **S (sugar)**

- BG levels can rise during illness even if the person is not eating
- Advise to increase BG monitoring if the person has access to it
- Diabetes meds may need to be adjusted temporarily during illness.

## **I (insulin)**

- NEVER stop insulin or oral DM medication
- Insulin doses will need to be increased during illness, especially if ketones are present
- People on insulin therapy will need specific advice

## General advice for managing diabetes during intercurrent illness conti.....

- **C (Carbohydrates)**

- Ensure the person maintains hydration and carbohydrate intake
- If person is not able to eat or is vomiting, advise to replace meals with sugary drinks
- If BG levels are high, maintain fluid intake with sugar-free fluids
- If BG levels are low, encourage regular intake of sugary fluids

- **K (ketones)**

- In Type 1 DM, advise to check for ketones every 4 – 6 hours. If present check every 2 hours
- Give extra rapid- acting insulin doses (in addition to regular doses) if ketone are present.
- Advise to drink plenty of water to maintain hydration and flush through ketones

## Treatment of diabetes during COVID – 19 infection

- Poor glycaemic control is a risk factor for serious infections and adverse outcomes.
- Also though good glycaemic control can reduce infection including bacterial pneumonia (Critchley et al,2018)
- Infections will cause hyperglycaemia during illness e.g. fever, poor food intake.
- More frequent BG monitoring and change in diabetes treatment is needed

# Treatment of diabetes during COVID – 19 infection cont....

## **In patients with Type 2 DM:**

- Metformin should be stop until eating and drinking well.
- SGLT-2 inhibitors (sodium - glucose transport protein 2) should be stopped until eating & drinking well.
- DPP- 4 inhibitors (Gliptins) e.g also Linagliptin can be used in patient with impaired Renal function without risk of hypoglycaemia.
- Sulphonylureas will probably need to be adjusted/stop in pts with low calorie intake.

## Treatment contin....

- GLP-1(glucose – like peptide 1) receptor agonist need to be stopped until eating and drinking well.
- People already on long acting insulin will need fast – acting bolus to correct hyperglycaemia.
- In more unwell patients (including ketotic patients) it is safer to temporarily discontinue oral agents and use insulin.

## Treatment of diabetes during COVID – 19 infection cont....

### **In patients with Type 1 DM:**

- Treated with Basal bolus ( 3 rapid acting insulin and 1 or 2 long acting injections a day) or insulin pump therapy, having ketones will need acute General Hospital admission.
- In summary , patients with diabetes are a high-risk and complicated group of patients to treat for COVID – 19.



# Check list for Covid 19 – patients with Diabetes

- MEWS Chart
- Temperature
- Blood pressure
- Pulse
- Saturation levels
- Blood glucose monitoring
- Urine test for glucose, ketones and infection
- Food chart
- Fluid chart
- Sent for sputum sample for MC&S if coughing
- Weight
- Waterlow Score
- Foot check etc

# Any Questions?

Thank you for your attention

[v.totaram@nhs.net](mailto:v.totaram@nhs.net)



# Useful resources

## **ELFT Covid-19 emails and intranet**

### **Public Health England Campaign Resources**

<https://campaignresources.phe.gov.uk/resources/campaigns/101-coronavirus->

### **Public Health England Coronavirus (COVID-19) guidance**

<https://www.gov.uk/government/collections/coronavirus-covid-19-list-of-guidance>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/872745/Infection prevention and control guidance for pandemic coronavirus.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/872745/Infection_prevention_and_control_guidance_for_pandemic_coronaviruses.pdf)

### **NHS England**

<https://www.england.nhs.uk/ourwork/epr/coronavirus/>

### **NHS website**

<https://www.nhs.uk/conditions/coronavirus-covid-19/>

### **Healthcare Infection Society**

<https://his.org.uk/resources-guidelines/novel-coronavirus-resources/>

### **World Health Organization**

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

# References

1. Critchey JA, Carey IM, Harris T et al. Glycemic control and risk of infections among people with Type 1 or Type 2 diabetes in a large primary care cohort study. *Diabetes Care*, 2018, 41: 2127- 35.