

SARS-COV-2 pandemic's effects  
on the healthcare workforce and  
uninterrupted and universal  
access to healthcare services

## Diabetes and COVID -19 in ROMANIA

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# DISCLOSURE

Relationships with commercial interests:

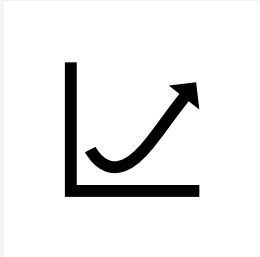
**Advisory boards: Astra Zeneca, Merck, Medtronic, Novo Nordisk, Roche Diabetes, Sanofi.**

**Clinical trials: CREDANCE**

**Speaker / consultant fees: Astra Zeneca, Coca-Cola, Novo Nordisk, Medtronic, Merck, Eli Lilly, Sanofi.**

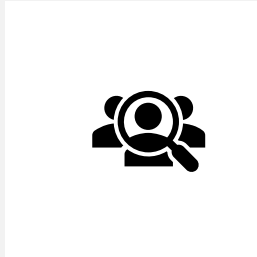
# NCDs

NCDs disproportionately affect people in low- and middle-income countries where more than three quarters of global NCD deaths – 32million – occur.



## THE ISSUE

Noncommunicable diseases (NCDs) kill 41 million people each year, equivalent to 71% of all deaths globally.



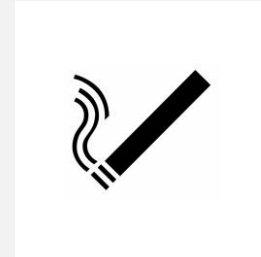
## THE IMPACT

Each year, 15 million people die from a NCD between the ages of 30 and 69 years; over 85% of these "premature" deaths occur in low- and middle-income countries.



## THE SITUATION

Cardiovascular diseases account for most NCD deaths, or 17.9 million people annually, followed by cancers (9.0 million), respiratory diseases (3.9million), and diabetes (1.6 million).



## RISK FACTORS

Tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets all increase the risk of dying from a NCD.



## THE KEY

Detection, screening and treatment of NCDs, as well as palliative care, are key components of the response to NCDs.



## Noncommunicable diseases - NCDs - cause



**7 in every 10** deaths worldwide\*  
from often avoidable causes



Cardiovascular diseases



Chronic respiratory diseases



Cancer



Diabetes



Mental health conditions

\* 41 million people every year, of which 15 million people between 30 and 70 years



Noncommunicable diseases - NCDs - heart and lung diseases, stroke, cancer and diabetes - are **THE BIGGEST KILLERS WORLDWIDE**

## 5 main NCD risks



Unhealthy diet



Tobacco use



Air pollution



Harmful use of alcohol



Physical inactivity



Noncommunicable diseases - NCDs - heart and lung diseases, stroke, cancer and diabetes - are **THE BIGGEST KILLERS WORLDWIDE**

Every **2 seconds** someone aged **30 to 70 years** dies prematurely from **heart and lung diseases, stroke, cancer and diabetes**



# Risk factors

## Modifiable behavioural risk factors

- Tobacco accounts for over 7.2 million deaths every year (including from the effects of exposure to second-hand smoke), and is projected to increase markedly over the coming years. (1)
- 4.1 million annual deaths have been attributed to excess salt/sodium intake. (1)
- More than half of the 3.3 million annual deaths attributable to alcohol use are from NCDs, including cancer. (2)
- 1.6 million deaths annually can be attributed to insufficient physical activity. (1)



## Metabolic risk factors

- raised blood pressure
  - overweight/obesity
  - hyperglycemia (high blood glucose levels) and
  - hyperlipidemia (high levels of fat in the blood).
- In terms of attributable deaths, the leading metabolic risk factor globally is elevated blood pressure (to which 19% of global deaths are attributed), (1) followed by overweight and obesity and raised blood glucose.



## Prevention and control of NCDs

Management of NCDs includes detecting, screening and treating these diseases, and providing access to palliative care for people in need. High impact essential NCD interventions can be delivered through a primary health care approach to strengthen early detection and timely treatment. (3,4)

(1) Horton, R. Offline: time to radically rethink non-communicable diseases. *Lancet* **393**, 1922 (2019).  
(2) Nugent, R. & Fottrell, E. Non-communicable diseases and climate change: linked global emergencies. *Lancet* **394**, 622–623 (2019).  
(3) Ghebreyesus, T. A. Acting on NCDs: counting the cost. *Lancet* **391**, 1973–1974 (2018).  
(4) Miranda, J.J., Barrientos-Gutiérrez, T., Corvalan, C. *et al.* Understanding the rise of cardiometabolic diseases in low- and middle-income countries. *Nat Med* **25**, 1667–1679 (2019). <https://doi.org/10.1038/s41591-019-0644-7>

# DIABETES

**DIABETES IS ON THE RISE**

3.7 MILLION deaths due to diabetes and high blood glucose

1.5 MILLION deaths caused by diabetes

**422 MILLION** adults have diabetes

THAT'S 1 PERSON IN 11

### Main types of diabetes

- TYPE 1 DIABETES**  
Body does not produce enough insulin
- TYPE 2 DIABETES**  
Body produces insulin but can't use it well
- GESTATIONAL DIABETES**  
A temporary condition in pregnancy

### Consequences

Diabetes can lead to complications in many parts of the body and increase the risk of dying prematurely.

- Stroke
- Blindness
- Heart attack
- Kidney failure
- Amputation

www.who.int/diabetes/global-report #diabetes World Health Organization

# DIABETES

### Risk factors for type 2 diabetes

Genetics, age and family history of diabetes can increase the likelihood of becoming diabetic and cannot be changed. But some behaviours that increase risk can:

- Unhealthy diet
- Physical inactivity
- 1 in 3 is overweight
- 1 in 10 is obese

## KEY ACTIONS

#### FOR EVERYONE

- Eat healthily
- Be physically active
- Avoid excessive weight gain
- Check blood glucose if in doubt
- Follow medical advice

#### FOR GOVERNMENTS

Healthy Environments

**ENSURE**

Better Diagnosis & Treatment

Better Data

www.who.int/diabetes/global-report #diabetes World Health Organization

## NCD BEST BUYS

EVIDENCE-BASED COST-EFFECTIVE PUBLIC HEALTH INTERVENTIONS TO PREVENT AND CONTROL NCDs

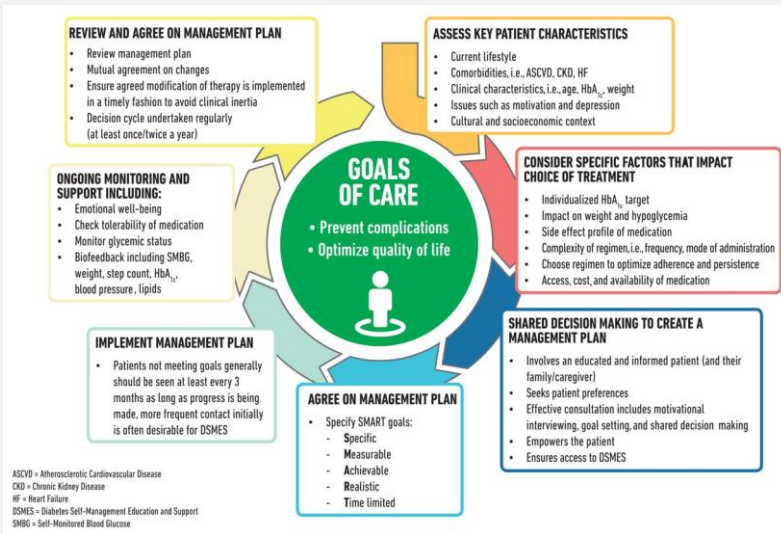
### DIABETES

- Offer **glycemic control** for people with diabetes.
- Provide **preventive foot care** for people with diabetes.
- Screen diabetes patients for retinopathy** and provide **laser photocoagulation** to prevent blindness.

TOGETHER LET'S BEAT NCDs

Pan American Health Organization World Health Organization Americas

# Routine screening and systemic health checks for diabetes



Convenience

Expensive

## MONITORING YOUR CONDITION:

### Testing Blood Glucose and HbA<sub>1c</sub>

How blood glucose and HbA<sub>1c</sub> are tested, and how they help you track and manage your condition.



#### HOW IS BLOOD GLUCOSE TESTED?

At home, you can self-monitor blood glucose with a glucometer. This helps you recognise:

- How different foods, activities, and medication/insulin affect you.
- When blood glucose is too low, you can take action to correct it (e.g. eating sweets).
- When blood glucose is high, you can better manage the causes (e.g. eating too many carbs) and prevent complications in the long run.



#### HOW IS HbA<sub>1c</sub> TESTED?

At the clinic during your regular check-up, your doctor will test your HbA<sub>1c</sub> and work with you on a target to aim for over the next 3 months. Lower HbA<sub>1c</sub> means better diabetes control.

Affordable

## ARE YOU AT RISK FOR TYPE 2 DIABETES?

Diabetes Risk Test

**1 How old are you?**  
 Less than 40 years (0 points)  
 40–49 years (1 point)  
 50–59 years (2 points)  
 60 years or older (3 points)

**2 Are you a man or a woman?**  
 Man (1 point) Woman (0 points)

**3 If you are a woman, have you ever been diagnosed with gestational diabetes?**  
 Yes (1 point) No (0 points)

**4 Do you have a mother, father, sister, or brother with diabetes?**  
 Yes (1 point) No (0 points)

**5 Have you ever been diagnosed with high blood pressure?**  
 Yes (1 point) No (0 points)

**6 Are you physically active?**  
 Yes (0 points) No (1 point)

**7 What is your weight status? (see chart at right)**

Write your score in the box:

Add up your score:

Height	Weight (lbs.)	191+
4' 10"	119-142	143-199
4' 11"	124-147	148-197
5' 0"	128-152	153-200
5' 1"	132-157	158-210
5' 2"	136-163	164-217
5' 3"	141-168	169-224
5' 4"	145-173	174-231
5' 5"	150-179	180-239
5' 6"	155-185	186-246
5' 7"	159-190	191-254
5' 8"	164-196	197-261
5' 9"	169-202	203-269
5' 10"	174-208	209-277
5' 11"	179-214	215-285
6' 0"	184-220	221-293
6' 1"	189-226	227-301
6' 2"	194-232	233-310
6' 3"	200-239	240-318
6' 4"	205-245	246-327

(1 Point) (2 Points) (3 Points)

You weigh less than the amount in the left column (0 points)

**Lower Your Risk**

The good news is that you can manage your risk for type 2 diabetes. Small steps make a big difference and can help you live a longer, healthier life. If you are at high risk, your first step is to see your doctor to see if additional testing is needed. Visit diabetes.org or call 1-800-DIABETES (1-800-342-2383) for information, tips on getting started, and lower your risk.

For more information, visit us at [diabetes.org](http://diabetes.org) or call 1-800-DIABETES (1-800-342-2383)

Visit us on Facebook: [Facebook.com/AmericanDiabetesAssociation](https://www.facebook.com/AmericanDiabetesAssociation)

Inconvenient

## ANNUAL SCREENING

### FOOT AND EYE CARE

Diabetes increases the risk of foot and eye problems. Prevent complications or detect them early by going for your yearly foot and eye screenings. Here's what to expect from the screenings.

### Foot Screening

Your care provider might check for:



**Blood Circulation to the Feet**  
 Pulses and skin health will be checked to assess blood circulation.



**Nerve Sensitivity**  
 Lack of sensitivity to stimulation (e.g. pressure, vibration) might be a sign of nerve damage.



**Signs of Neuropathy (Diseases of the Nerve)**  
 Feet will be examined for skin damage, e.g. ulcers and deformity.



**Calluses**  
 Calluses and other conditions like blisters might lead to problems like ulcers or infection.

### Eye Screening

Your care provider will check for:



**Signs of retinopathy (damage to blood vessels in the eye)**  
 Involves an eye examination; photographs of your retina will also be taken.

Your healthcare team can also advise you on proper foot and eye care. Do voice out your questions or concerns!

# THE SOLUTION



**WHAT GOVERNMENTS CAN DO**  
to protect their citizens from heart and lung diseases, stroke, cancer and diabetes, promote mental health and wellbeing?



**Implement policies, engage the public**



Ensure healthy diets



Make health risks clear



Leverage taxes



Inform the public



Tighten laws and regulations



Generate data for health



Create healthy cities and environments



Reduce stigma



**Noncommunicable diseases - NCDs - heart and lung diseases, stroke, cancer and diabetes**

**WHAT CAN YOU DO TO AVOID NCDs?**



Follow medical advice



Stay physically active



Get vaccinated



Breastfeed



Tobacco use



Harmful use of alcohol



Air pollution



Consumption of food and drinks high in salt, sugar or unhealthy fats



## Diabetes and the COVID-19 Pandemic: How Insights from Recent Experience Might Guide Future Management

Anca Pantea Stoian, MD, PhD<sup>1</sup>, Jaynavalka Banerjee, MD, PhD<sup>2</sup>,  
Ali A. Rizvi, MD, PhD<sup>3</sup> and Manfredi Rizzo, MD, PhD<sup>4,5</sup>

DIABETES RESEARCH AND CLINICAL PRACTICE 163 (2020) 108157

Contents available at ScienceDirect

Diabetes Research and Clinical Practice

Journal homepage: [www.elsevier.com/locate/diabres](http://www.elsevier.com/locate/diabres)

ELSEVIER

International Diabetes Federation

Check for updates

Commentary

### COVID-19 and diabetes management: What should be considered?

Antonio Ceriello<sup>a,\*</sup>, Anca Pantea Stoian<sup>b</sup>, Manfredi Rizzo<sup>c,d</sup>

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<sup>d</sup>Department of Health Promotion, Mother and Child Care, Internal Medicine and Medical Specialties, University of Palermo, Italy

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Review

## Incretin-Based Therapies Role in COVID-19 Era: Evolving Insights

Anca Pantea Stoian, MD<sup>1</sup>, Nikolaos Papanas, MD<sup>2</sup>, Martin Prazny, MD<sup>3</sup>, Ali A. Rizvi, MD<sup>4,5</sup>, and Manfredi Rizzo, MD<sup>5,6</sup>

Journal of Cardiovascular Pharmacology and Therapeutics  
1-3  
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DOI: 10.1177/1074248420937868  
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or referenced by the media as validated information.

## Death by SARS-CoV 2 - a Romanian COVID-19 multi-centre comorbidity study

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University of Medicine and Pharmacy "Carol Davila", Bucharest <https://orcid.org/0000-0003-0555-526X>

Received: 30 April 2020 | Revised: 16 June 2020 | Accepted: 22 June 2020  
DOI: 10.1002/dmrr.3379

Check for updates

COMMENTARY

WILEY

## Hydroxychloroquine, COVID-19 and diabetes. Why it is a different story

Anca Pantea Stoian<sup>1</sup> | Doina Catrinou<sup>2</sup> | Manfredi Rizzo<sup>3,4</sup> | Antonio Ceriello<sup>5</sup>

FARMACIA. 2020, Vol. 68, 3  
<https://doi.org/10.31925/farmacia.2020.3.1>

REVIEW

## DIABETES AND RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM: IMPLICATIONS FOR COVID-19 PATIENTS WITH DIABETES TREATMENT MANAGEMENT

DOINA CATRINOIU<sup>1#</sup>, ANTONIO CERIELLO<sup>2#</sup>, MANFREDI RIZZO<sup>3,4</sup>, CRISTIAN SERAFINCEANU<sup>5</sup>, NICOLA MONTANO<sup>6</sup>, ANCA PANTEA STOIAN<sup>5\*</sup>, DENISA IOANA UDEANU<sup>7</sup>, VIOREL JINGA<sup>8</sup>, GABRIELA IORGULESCU<sup>9#</sup>, ION-BOGDAN DUMITRESCU<sup>7</sup>

Received: 15 May 2020 | Accepted: 6 August 2020  
DOI: 10.1111/jcpp.13666

PERSPECTIVE  
THERAPY AREA: OTHER

THE INTERNATIONAL JOURNAL OF CLINICAL PRACTICE WILEY

## Gender differences in the battle against COVID-19: Impact of genetics, comorbidities, inflammation and lifestyle on differences in outcomes

MINISTERUL SĂNĂTĂȚII  
COMISIA DE DIABET ZAHARAT, NUTRIȚIE ȘI BOLI METABOLICE  
Nr.190/07.04.2020

Către

**MINISTERUL SĂNĂTĂȚII**

Direcția Generală de Asistență Medicală și Sănătate Publică

D-nei Director General Dr. Amalia Șerban

#### Recomandările privind

#### MANAGEMENTUL HIPERGLICEMIEI ÎN CONDIȚII DE SPITALIZARE PENTRU INFECȚIA CU NOUL CORONAVIRUS (SARS-COV-2)

#### Comitet de elaborare

Prof. Dr. Romulus Timar – președintele Societății Române de Diabet, Nutriție și Boli Metabolice  
Prof. Dr. Gabriela Roman – președintele Federației Române de Diabet, Nutriție și Boli Metabolice

Conf. Dr. Cornelia Bala, Conf. Dr. Anca Pantea Stoian – Comisia de Diabet, Nutriție și Boli Metabolice a Ministerului Sănătății

#### Avizat

Prof. Dr. Petru Aurel Babeș – președintele Comisiei de Diabet, Nutriție și Boli Metabolice a Ministerului Sănătății

#### 1. INTRODUCERE

COVID-19 este o nouă entitate patologică ce a fost declarată boală pandemică de către Organizația Mondială a Sănătății în 11 martie 2020. Conform informațiilor disponibile până la această dată și a experienței clinice, categoriile de persoane la risc crescut pentru forme severe de boală sunt:

- persoanele cu vârsta  $\geq 65$  de ani
- persoanele care locuiesc în condiții de instituționalizare pe termen lung
- persoane care prezintă:
  - boli pulmonare cronice sau forme moderate/severe de astm bronșic
  - boli cardiovasculare complicate
  - persoane imunocompromise, inclusiv cele care urmează tratamente antineoplazice
  - persoane care, indiferent de vârstă, prezintă **obezitate severă** (indice de masă corporală  $IMC \geq 40$  kg/m) sau care au anumite patologii, în special dacă acestea nu sunt controlate, cum este **diabetul zaharat**, insuficiența renală sau bolile hepatice
- gravidele necesită monitorizare atentă, cu toate că datele actuale nu confirmă un risc crescut

#### 2. Riscul COVID-19 la pacienții cu diabet zaharat

Un raport publicat la data de 3 aprilie 2020 de Centers for Disease Control and Prevention (CDC) a examinat comorbiditățile prezente la un grup de 7.162 persoane diagnosticate cu COVID-19 în Statele Unite în perioada 12 februarie-28 martie 2020. Pe primul loc ca și frecvență în cohorta generală s-a situat **diabetul zaharat (10,9%)**, urmat de bolile pulmonare cronice (9,2%) și bolile cardiovasculare (9%). Diabetul zaharat este cea mai frecventă comorbiditate la pacienții care au necesitat spitalizare în secții non-TI (24%) și în secții de TI (32%).

Datele raportate din China arată că diabetul zaharat este prezent la 16,2% din pacienții cu forme severe de COVID-19 și la 26,9% dintre cei care au necesitat internare pe secții de TI, ventilare mecanică sau care au decedat. În Italia, s-a raportat o frecvență de 33,9% a diabetului zaharat în rândul pacienților decedați prin COVID-19.

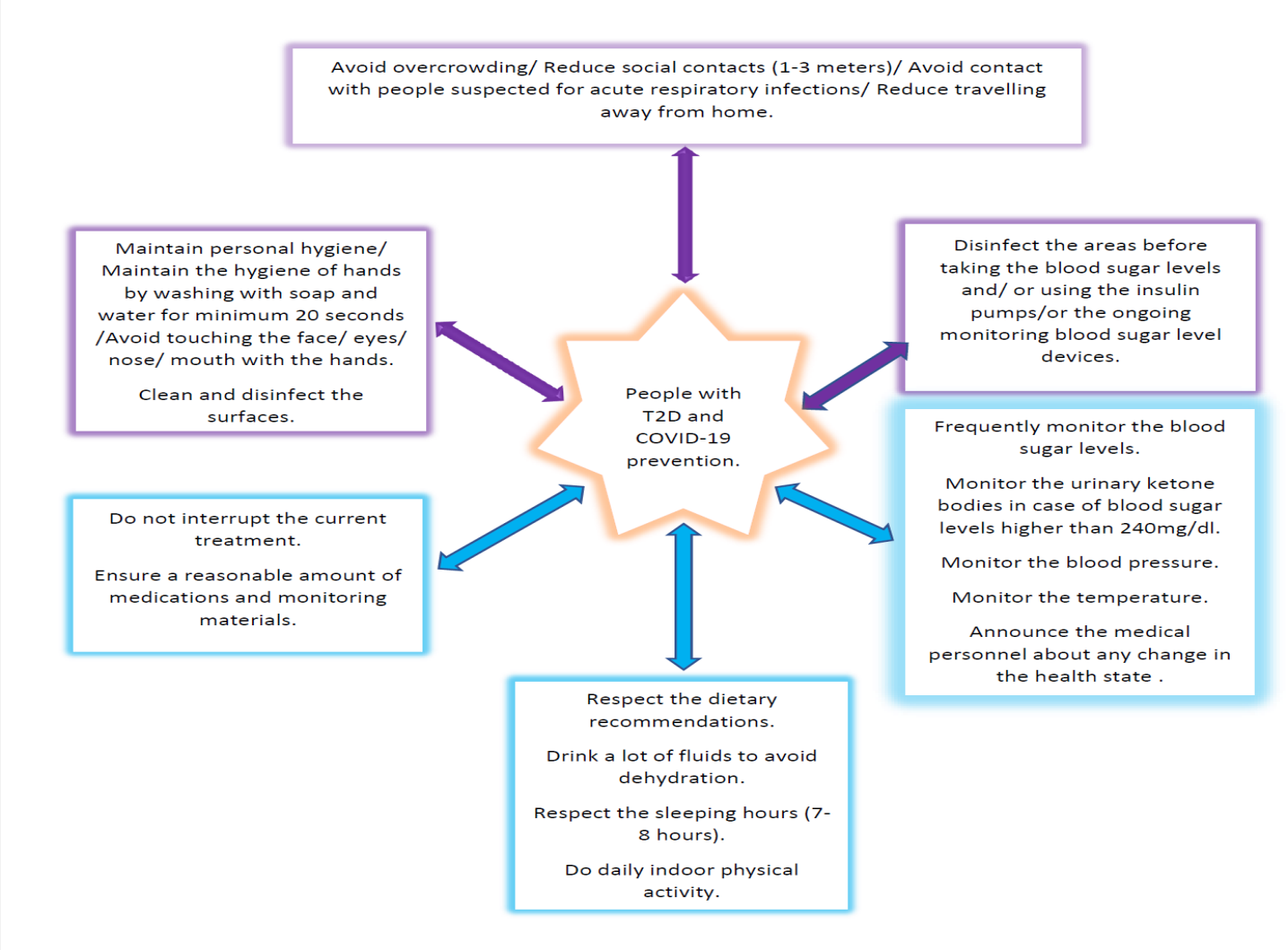
În România, până la data de 2 aprilie 2020, au fost înregistrate 114 decese din care 22,8% au fost pacienți care au avut diabet zaharat.

Aceste date trebuie interpretate în contextul prevalenței diabetului zaharat la nivel național (11,6% conform studiului PREDATORR), dar concură în susținerea faptului că pacienții cu diabet zaharat prezintă un risc crescut pentru formele severe de COVID-19.

Mecanismele prin care diabetul zaharat conferă un risc crescut pentru formele severe de boală sunt dependente, ca și în cazul altor boli infecțioase, de prezența hiperglicemiei persistente, a statusului pro-inflamator și pro-oxidativ marcat. De asemenea, prezența unor complicații cronice asociate diabetului cum sunt bolile cardiovasculare sau boala cronică de rinichi, pot contribui la creșterea riscului.

Nu există în prezent recomandări specifice pentru managementul pacienților cu diabet zaharat în prezența infecției cu COVID-19, dar având în vedere posibilitatea unei evoluții mai severe și

# Diabetes Management during COVID -19 Pandemia



# Coronavirus support



**Keep calm**




**Stay connected**



**Be safe**



Thank You

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