ACCELERATING DIABETES PREVENTION IN THE COVID-19 ERA

WELCOME FROM THE MODERATOR AND HOST

DR MARK BARONE
IDF Vice-President & webinar moderator
Brazil

PROF ANDREW BOULTON
IDF President & webinar host
UK
ACCELERATING DIABETES PREVENTION IN THE COVID-19 ERA

THE CHALLENGES TO DIABETES WITH THE GLOBAL COVID-19 PANDEMIC

PROF ANDREW BOULTON
IDF PRESIDENT
GLOBAL BURDEN OF DIABETES

Accelerating diabetes prevention in the COVID-19 era
GLOBAL BURDEN OF DIABETES

• 500 million cases worldwide
• 6% or nearly 5 million in UK
• >1 in 4 adults in Pakistan have diabetes
• >20% in some Middle East countries
• 700 million by 2045
GLOBAL BURDEN: IMPAIRED GLUCOSE TOLERANCE

374 million adults with IGT 548 million by 2045
COVID-19 IN THE UK: LESSONS FOR DIABETES

• One third of COVID-19 deaths in the UK had diabetes
• Age, overall poorer glycaemic control and other comorbidities predictors of poor outcomes
• Parity of focus on all types of DM needed
• Diabetes needs the attention it deserves
EFFECT OF COVID-19 PANDEMIC ON NCDs IN the UK

• The pandemic has led to neglect of many conditions
• Cancer care and heart disease prioritised
• BMA emphasised need to tackle backlog of non-COVID-19 treatments
• Positive improvements must be maintained: reduced bureaucracy, video consultations etc.
**THREATS**
- Poor diet
- Lack of exercise
- Poor glycaemic control
- Psychological impact
- Fear of hospitals
- Tsunami of complications

**OPPORTUNITIES**
- Expansion of telemedicine
- Digital education programmes, e.g. DESMOND
- Improvement of in-patient diabetes services
- Enforced diabetes services redesign
Accelerating diabetes prevention in the COVID-19 era
DIABETES AND COVID-19 THREATS: A DOUBLE WHAMMY?

• Clinical research swinging back to infectious diseases and
• Loss of income for major diabetes associations
• Clinical diabetes care suffering throughout pandemic and
• Fear of hospital clinics leading to poor attendance
DIABETES AND COVID-19: THREATS AND POTENTIAL SOLUTIONS?

• Collaboration between stakeholders with major interests in non-communicable diseases, e.g., IDF, WHO, NCDA, GCCH, pharma partners

• Increase global awareness of diabetes as a serious, life-threatening condition

• Messages to politicians regarding the diabetes pandemic and costs
WHO GLOBAL DIABETES COMPACT

• Launched April 14

• Focus on treatment and prevention

• Prevention priority:
  address obesity among young people
INTRODUCTION TO THE PANELLISTS

DR FRANCESCO BRANCA
Director, WHO department Nutrition for Health and Development
Switzerland

DR JUSTIN ECHOUFFO-TCHUEGUI
Special Interest Group on IGT, John Hopkins
US

MS JAQUELINE BOWMAN
EU Policy Lead, EASO
Head of Expert Secretariat, OPEN/EU
Belgium

MR TRAVIS FRANS
IDF Young Leader in Diabetes living with T2D
South Africa

DR ERUM GHAFOOR
IDF Blue Circle Voices member, living with T2D
Pakistan
ACCELERATING DIABETES PREVENTION IN THE COVID-19 ERA

DR FRANCESCO BRANCA
DIRECTOR, DEPARTMENT OF NUTRITION AND FOOD SAFETY, WHO HQ
Since the COVID-19 outbreak, people living with NCDs are more vulnerable to becoming severely ill or dying from COVID-19

- **Italy**: Among those dying of COVID-19 in hospitals, 68% had **hypertension** and 31% had type 2 **diabetes**.
- **India**: 30% fewer **acute cardiac emergencies** reached health facilities in rural areas in March 2020 compared to the previous year.
- **Netherlands**: The number of people newly diagnosed with **cancer** dropped by 25% as a result of the lockdown.
- **Spain**: Among patients with severe COVID-19 disease, 43% had existing **cardiovascular diseases**.
# RISK OF SEVERE COVID-19 DISEASE IN PATIENTS WITH OBESITY (CRUDE VS ADJUSTED)

<table>
<thead>
<tr>
<th>Study</th>
<th>TE</th>
<th>seTE</th>
<th>Odds Ratio</th>
<th>OR</th>
<th>95%-CI (fixed)</th>
<th>95%-CI (random)</th>
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<tbody>
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<tr>
<td><strong>ADJ = 0</strong></td>
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<tr>
<td>Gao Y_FSH</td>
<td>1.91</td>
<td>1.2057</td>
<td>6.75</td>
<td>3.7%</td>
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<tr>
<td>Qi D_multicentrico</td>
<td>1.59</td>
<td>0.4083</td>
<td>4.89</td>
<td>32.4%</td>
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<tr>
<td>Hu L_TH</td>
<td>1.36</td>
<td>0.5756</td>
<td>3.89</td>
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<tr>
<td>Huang H_GEPH</td>
<td>2.13</td>
<td>0.8649</td>
<td>8.43</td>
<td>7.2%</td>
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<tr>
<td>Liao Xuefian_MC</td>
<td>-0.79</td>
<td>1.0955</td>
<td>0.45</td>
<td>4.5%</td>
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<tr>
<td>Hongying S_FAHWMU/SAHWMU</td>
<td>0.79</td>
<td>0.6390</td>
<td>2.20</td>
<td>13.2%</td>
<td>13.2%</td>
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<tr>
<td>Dreher M_UHA</td>
<td>1.04</td>
<td>0.6201</td>
<td>2.82</td>
<td>14.1%</td>
<td>14.1%</td>
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</tr>
<tr>
<td>Fixed effect model</td>
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<td></td>
<td></td>
<td>3.61</td>
<td>91.5%</td>
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</tr>
<tr>
<td>Random effects model</td>
<td></td>
<td></td>
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<td>3.60</td>
<td>91.5%</td>
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<td>Heterogeneity: $I^2 = 2%$, $t^2 = 0.0114$, $p = 0.41$</td>
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<tr>
<td>Kalligeros M_MC</td>
<td>1.68</td>
<td>0.7964</td>
<td>5.39</td>
<td>8.5%</td>
<td>8.5%</td>
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<tr>
<td>Fixed effect model</td>
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<td>5.39</td>
<td>8.5%</td>
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<tr>
<td>Random effects model</td>
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<td>5.39</td>
<td>8.5%</td>
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</tr>
<tr>
<td>Heterogeneity: not applicable</td>
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<tr>
<td>Fixed effect model</td>
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<td></td>
<td>3.74</td>
<td>100.0%</td>
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</tr>
<tr>
<td>Random effects model</td>
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<td></td>
<td></td>
<td>3.74</td>
<td>100.0%</td>
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<tr>
<td>Residual heterogeneity: $I^2 = 2%$, $p = 0.41$</td>
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</tbody>
</table>

CHILDREN AND ADOLESCENTS OBESITY INCREASED DURING COVID-19 PANDEMIC

• 9 studies with 17,028,111 children, adolescents and young adults from 5–25 years old, 5 studies with an age mixture (n = 20,521) 1 study included parents with children 5–18 years old (n = 584)

• During the COVID-19 era, children, adolescents and young adults gained weight

• Changes in dietary behaviors, increased food intake and unhealthy food choices including potatoes, meat and sugary drinks were noted during the ongoing COVID-19 pandemic. Food insecurity associated with financial reasons represents another concern

• Moreover, as the restrictions imposed reduced movements out of the house, physical activity was limited, representing another risk factor for weight gain
PULSE SURVEY ON CONTINUITY OF ESSENTIAL SERVICES DURING THE COVID-19 PANDEMIC

<table>
<thead>
<tr>
<th>Essential health service</th>
<th>5-25% disrupted</th>
<th>26-50% disrupted</th>
<th>More than 50% disrupted</th>
<th>Percentage of countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental, neurological and substance use disorders (n=121)</td>
<td>21%</td>
<td>9%</td>
<td>9%</td>
<td>39%</td>
</tr>
<tr>
<td>Neglected tropical diseases (n=109)</td>
<td>23%</td>
<td>13%</td>
<td>10%</td>
<td>45%</td>
</tr>
<tr>
<td>Noncommunicable diseases (n=121)</td>
<td>15%</td>
<td>11%</td>
<td>19%</td>
<td>44%</td>
</tr>
<tr>
<td>Immunization (n=112)</td>
<td>19%</td>
<td>8%</td>
<td>9%</td>
<td>37%</td>
</tr>
<tr>
<td>Communicable diseases (n=128)</td>
<td>22%</td>
<td>7%</td>
<td>8%</td>
<td>36%</td>
</tr>
<tr>
<td>Reproductive, maternal, newborn, child and adolescent health and nutrition (n=121)</td>
<td>24%</td>
<td>9%</td>
<td>3%</td>
<td>35%</td>
</tr>
</tbody>
</table>

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AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

* of 160 countries that responded to all 5 surveys.

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MAKE HEALTHY NUTRITION AVAILABLE FOR ALL

- Population campaigns
- Trained nut professionals
- School food standards
- Food in social security
- Taxes for healthy diets
- SSB taxation
- TFA bans
- FOPL
- Nutreition and health claims
- Nutrient declaration

Source: WHO GINA, 2021

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PROMOTE EVERYDAY PHYSICAL ACTIVITY

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ESTIMATES DEVELOPED BY NCD RISK FACTOR COLLABORATION

Worldwide trends in diabetes since 1980: a pooled analysis of 751 population-based studies with 4·4 million participants

NCD Risk Factor Collaboration (NCD-RisC)*

• 200 countries and territories organised into 21 regions
• Population-based health-examination surveys measuring fasting plasma glucose
MEASURING FASTING BLOOD GLUCOSE: GHO AND STEP

Raised fasting blood glucose (≥7.0 mmol/L or on medication)/age-standardized estimate

Accelerating diabetes prevention in the COVID-19 era
ACCELERATING DIABETES PREVENTION IN THE COVID-19 ERA

IMPROVING IGT AND T2DM PREVENTION THROUGH DIGITAL HEALTH

JUSTIN ECHOUFFO-TCHUEGUI, MD, PhD
SPECIAL INTEREST GROUP ON IGT, JOHN HOPKINS
DIGITAL HEALTH: POTENTIAL FOR T2DM PREVENTION

• Potential of digital health - address key challenges in T2DM prevention
  o Patients/providers burden - low patient/provider ratio
  o Poor access to care (geographical, travel & time barriers)
  o Economic costs

• Enable scalable, convenient, & flexible delivery of the evidence-based program
  - evolving field/uptake – limited number of patients/providers
  o Engage with digital health tools
  o For those who do the burden is still often high
DIGITAL DIABETES PREVENTION: TOOLS FOR DELIVERY AND INTERVENTIONS

• Approaches to delivery/tools
  o Computer-driven curriculum delivery: Email, Web, & Mobile Phone
  o Personal tracking – goal setting/tracking - smartphone app, activity tracker, digital scale
  o Live coaching – support - WebEx and Doximity Dialer platforms
  o Social network/platforms – family/friends/peers – assess progress/support/competition

• Interventions - Center for Disease Control (CDC) recognized digital versions of the National Diabetes Prevention Program (NDPP) - via internet-enabled desktop/mobile devices
  o DPS health
  o Noom Health
  o Omada Health
PROOF OF CONCEPT – PREDICTS TRIAL – OMADA HEALTH

• 12-month trial comparing the Omada Health Digital Intervention vs. Control

• Average reduction in A1C 0.23% vs. 0.15% in control group (P<0.01)

• 58% in intervention group had a normal A1C vs. 48% in control group (P<0.04)

• Average weight loss: 5.4% vs. 2% in control group (P<0.01)

• 44% achieved weight loss of 5% or greater vs. 21% in control group (P<0.01)
COST OF DIGITAL DIABETES PREVENTION: A REAL-WORLD EXAMPLE

- Observational analysis of claims data – difference in utilization & costs from the year prior to digital DPP delivery through 1 year after

- At 1 year, the digital DPP population had a reduction in all-cause health care spend of US$1169 per participant relative to the comparison group ($P = 0.01$)

- US$699 of savings came from reduced inpatient spending ($P = 0.001$)

- Cost savings driven by fewer hospital admissions & shorter length of stay ($P < 0.001$)

- Trends toward savings extending into the second year of the intervention

_Sweet CC, et al. J Health Econ Outcomes Res. 2020;7(2):139-147._
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BEST PRACTICES FROM THE OBESITY AND T2D COMMUNITY

MS JAQUELINE BOWMAN
EU POLICY LEAD, EUROPEAN ASSOCIATION FOR THE STUDY OF OBESITY (EASO)
HEAD OF EXPERT SECRETARIAT TO OBESITY POLICY ENGAGEMENT NETWORK (OPEN-EU)
WHERE WE STARTED...

Science and WHO disease classification Index:
Obesity is defined as abnormal and/or excessive accumulation of body fat that presents a risk to health (WHO 2019).

Expression to public and policy-makers (over-simplification and no cohesion of layman’s narrative: “eat less – move more” energy in and energy out” weight gain/management etc.

= LIFESTYLE CHOICE
= NOT A “REAL” DISEASE

HOW IT’S GOING...

Definition of pre-obesity and obesity
Pre-obesity (overweight) and obesity are medical conditions marked by an abnormal and/or excessive accumulation of body fat that presents a risk to health (WHO 2019). Obesity is a chronic relapsing disease, which in turn acts as a gateway to a range of other non-communicable diseases, such as diabetes, cardiovascular diseases and cancer.

1. COVID-19
2. Realisation of no more “Business as usual”
3. “Science informing policy” policies

Obesity prevention | Knowledge for policy (europa.eu), Published 4 March 2021

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IMPACT OF “ONE SOURCE OF TRUTH”

- One clear and precise narrative
- Language of chronic disease across all channels
- The discussion then becomes about implementation rather than “if”
• Start with the desired health outcome – details can follow!

• Base it on the science - BUT NOT in silos – what triggered the biology of 80% of diabetes? What are the biological markers for pre-diabetes?

• Allies are key: “Sell in” the concept of mutual benefits for change across related communities (both internally as well as externally)
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METAMORPHOSIS

MR TRAVIS FRANS
IDF YOUNG LEADER IN DIABETES LIVING WITH T2D
FIGHTING AGAINST STIGMA

• Common stigmatisations:
  o Lazy
  o Fat
  o It’s your fault
  o It’s all the sugar and sweets you eat

• Stigma is lack of information being passed as a fact

“If you live by people’s opinions, you will die from their criticism”
MY LIFE JOURNEY WITH T2D

This is a roller coaster of a journey, but it’s worth it.

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MY EXPERIENCE WITH T2D

- At first punished myself
- Proved people wrong
- Most difficult part: mental, physical and emotional (spiritual) change
- Started for myself, not for others
- Holistic approach
- It is a MARATHON, not a 5km race

I have learned it starts with your mind, and then it has a triple effect: from the mind, to your body and to your emotions.
IMPACTING A GENERATION

• E4 is the key to success in all aspects:
  
  o **EQUIP** yourself with proper information

  o Natural **EVOLUTION** mentally, physically and emotionally

  o **EMPOWERED** by your own change

  o Time not to only be **ELEVATED** because of what you have achieved, but to **ELEVATE** people around you by inspiring them
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FIGHTING STIGMA AND EMPOWERING PEOPLE LIVING WITH DIABETES TO RAISE AWARENESS ABOUT IGT AND T2D

DR ERUM GHAFOOR
IDF BLUE CIRCLE VOICES MEMBER LIVING WITH T2D
### Number of adults (20–79 years) with impaired glucose tolerance, by World Bank income classification in 2019, 2030 and 2045

<table>
<thead>
<tr>
<th>World Bank income classification</th>
<th>Prevalence of IGT (%)</th>
<th>Number of people with IGT (millions)</th>
<th>Prevalence of IGT (%)</th>
<th>Number of people with IGT (millions)</th>
<th>Prevalence of IGT (%)</th>
<th>Number of people with IGT (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-income countries</td>
<td>11.4 (8.5–15.8)</td>
<td>104.1 (77.7–144.0)</td>
<td>12.1 (9.1–16.5)</td>
<td>114.0 (85.3–155.4)</td>
<td>12.5 (9.3–17.0)</td>
<td>117.8 (87.7–159.7)</td>
</tr>
<tr>
<td>Middle-income countries</td>
<td>6.5 (4.1–11.0)</td>
<td>239.6 (151.2–407.9)</td>
<td>7.0 (4.5–11.9)</td>
<td>294.5 (189.0–498.4)</td>
<td>7.6 (4.9–12.8)</td>
<td>354.8 (228.7–598.4)</td>
</tr>
<tr>
<td>Low-income countries</td>
<td>8.3 (5.3–17.6)</td>
<td>30.2 (19.4–64.1)</td>
<td>8.8 (5.7–18.6)</td>
<td>45.3 (29.4–95.8)</td>
<td>9.8 (6.4–20.7)</td>
<td>75.8 (49.2–159.8)</td>
</tr>
</tbody>
</table>

IGT: impaired glucose tolerance.

i 95% confidence intervals are reported in brackets.

Ref: IDF Atlas, 2019
Diagnosed with PCOS at age of 11

Gaining weight due to hormonal disturbance

Diagnosed with T2DM at age of 14
She will spread disease in family
Barren woman
Burden on Society
Stigmatized
Why only me?
What's my fault?
Ill-omenned
Don't spend money on her studies. She can't study.
Discriminated and rejected for higher studies just because of diabetes
To be someone who knows how to improve and can actually feel day to day struggles of PWD.
PREVENTION TARGETS

- Healthy weight loss
- Physical activity
- Reducing stress
GAME CHANGERS

Blue Circle Voices

young leaders in diabetes
A programme of the International Diabetes Federation

Over 230 members in 170 countries

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PREVENTIVE STRATEGIES

• Initiating online campaigns
• Use their networks
• Use social media
• Live sessions
• Use electronic media
• Connection with other organisations (local/international)
“A team wins not because of senior or star players, but due to the game changers, because they do not wait for the chance to score, they create a chance to score.”
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QUESTIONS AND ANSWERS

April 29, 2021 - 16:00 CEST

With the support of Merck KGaA
ACCELERATING DIABETES PREVENTION IN THE COVID-19 ERA

IDF COMMITMENT TO DIABETES PREVENTION AND THE WHO GLOBAL DIABETES COMPACT

PROF ANDREW BOULTON

IDF PRESIDENT
IDF COMMITMENT TO DIABETES PREVENTION

• Through advocacy, education and awareness
• Support to the WHO Global Diabetes Compact (access to care and prevention)
• Launch diabetes prevention week

We need to take action on diabetes now . . .
And, if not now, when?
A global call for action to increase awareness of diabetes as a potentially preventable condition.
“Before you speak, learn; and before you fall ill – take care of your health”

Ecclesiasticus 18:19
MORE ON DIABETES AND COVID-19 FROM IDF
CLOSING REMARKS AND THANKS

DR MARK BARONE
IDF VICE-PRESIDENT
CLOSING REMARKS AND THANKS

• Thanks to Merck KGaA for their support to this event

• The link to the webinar recording will be sent via email

• We kindly request attendees to respond to the feedback questionnaire – responses will help us improve future events

• Do not hesitate to send your questions to advocacy@idf.org