

# Diabetes: Nurses make the difference

DR SHAHJADA SELIM

Yesterday (November 14) was the world diabetes day. The theme World Diabetes Day 2020 is “Diabetes: Nurses make the difference”. The campaign aims to raise awareness around the crucial role that nurses play in supporting people living with diabetes. Nurses currently account for over half of the global health workforce. They do outstanding work to support people living with a wide range of health concerns. People who either live with diabetes or are at risk of developing the condition need their support too.

Why 14 November has been chosen as World Diabetes Day? The 14 November is the birthday of Sir Frederick Banting, who co-discovered insulin along with Charles Best in 1922. In 2006, the United Nations passed resolution 61/225 to observe November 14 as World Diabetes Day and to take action to address the threat. In response to diabetes epidemic the International Diabetes Federation (IDF) and the World Health Organisation (WHO) created World Diabetes Day



in 1991. Every year November 14 World Diabetes Day brings diabetes to the attention of world.

IDF found four-in-five parents would have trouble recognising the warning signs. One-in-three

would not spot them at all. These alarming findings pushed IDF to attract the family concern to combat diabetes.

The findings underline the need for education and awareness to help people spot the diabetes

warning signs early. A lack of knowledge about diabetes means that spotting the warning signs is not just a problem for parents, but is an issue impacting a cross-section of society. This is a major concern, due to the signs

being milder in type 2 diabetes, the most prevalent form of the condition, responsible for around 90% of all diabetes. One in two people currently living with diabetes are undiagnosed. The vast majority of these have type 2 diabetes.

If left untreated or unmanaged, diabetes can lead to life-changing complications. These include blindness, amputation, kidney failure, heart attack and stroke. Diabetes was responsible for four million deaths in 2017.

On eve of the day, IDF is trying create huge awareness to attract the authorities, diabetes care givers, patients with diabetes and their well-wishers to initiate diabetes prevention programmes, conduct own surveys/ research, mobilise resources, engage the educational means and implement the healthy life style facilities.

This is very much pertinent for Bangladesh, to take appropriate steps to prevent and manage diabetes.

The writer is an Associate Professor at the Department of Endocrinology & Metabolism of Bangabandhu Sheikh Mujib Medical University (BSMMU). Email: selimshahjada@gmail.com

## HEALTH bulletin



### Study finds lasting fatigue common after COVID-19 infection

More than half of people with acute COVID-19 infection continue to have persistent fatigue 10 weeks after their initial illness, according to a new study published November 9 in the open-access journal PLOS ONE by Liam Townsend of Trinity College Dublin, Ireland and colleagues. Fatigue is one of the most common initial presenting complaints of people infected with SARS-CoV-2, the virus that causes COVID-19. The long-term consequences of COVID-19 have not been well-studied and concern has been raised that the virus has the potential to trigger a post-viral fatigue syndrome.

In the new study, researchers tracked fatigue, as well as patient characteristics including COVID-19 severity, laboratory markers, levels of inflammatory markers and pre-existing conditions, in 128 study participants who had previously been infected with SARS-CoV-2. Based on their score on the Chalder Fatigue Scale (CFQ-11), 52.3% (67/128) of study participants met the criteria for fatigue at the assessment point at least 6 weeks following COVID-19 infection. Only 42.2% of the patients (54/128) reported feeling back to their full health.

The authors add: “This study highlights the burden of post-COVID fatigue. It also demonstrates that post-COVID fatigue is unrelated to severity of initial infection, so predicting its development is not easy.”

## Experts call for urgent action to address global diabetes epidemic

STAR HEALTH DESK

Ahead of World Diabetes Day on November 14, The Lancet published a new report calling for action to close the gap in diabetes prevention and care. Worldwide, 463 million people have diabetes, with 80% from low-income and middle-income countries (LMICs). In 2019, 4.2 million people died as a result of the condition and its complications.

On average, diabetes reduces life expectancy in middle-aged people by 4-10 years and independently increases the risk of death from cardiovascular disease, kidney disease, and cancer by 1.3-3 times. Diabetes is among the leading causes of non-traumatic leg and foot amputations and blindness, especially among people of working age.

The COVID-19 pandemic has highlighted the vulnerability of people with diabetes. People with diabetes are at least 2 times increased risk of severe disease or death from the virus, especially in individuals with poorly controlled diabetes, or who have diabetes-related complications, but the risk is also exacerbated by social conditions in disadvantaged communities that lead to lower access to care and higher rates of comorbidities.

While effective treatments and prevention strategies exist, barriers to provision and access mean that, in most care settings, their use is scarce. The Lancet Commission on Diabetes brings together 44 leading experts who collaborated for four years to develop a multicomponent, integrated

strategy involving the redesign of clinical workflows and training of non-physician personnel to form diabetes teams to support diabetes care with ongoing data collection to inform practices and policies.

Based on a comprehensive analysis of the available data on diabetes care, the Commission summarises the best evidence for effectively managing diabetes, which relies upon six components:

- 1) Sustained weight reduction in patients with obesity by 15kg or more can induce remission of type 2 diabetes for up to 2 years
- 2) Reducing blood sugar levels (HbA1c) by 0.9% (10 mmol/mol), systolic blood pressure by 10 mm Hg, LDL cholesterol concentration by 1 mmol/L (39 mg/dL), or a combination of all three, can independently reduce the risk of cardiovascular disease, all-cause death, or both, by 10–20% in patients with type 2 diabetes
- 3) Reducing multiple risk factors, including by use of statins and renin-angiotensin system (RAS) inhibitors, can prevent cardiovascular-renal events by 20–40% in individuals with or at risk of having diabetes
- 4) Use of SGLT2 inhibitors and GLP-1 receptor agonists can reduce cardiovascular-renal events and death rates by up to 40%, independent of their effect on lowering blood glucose concentration
- 5) Use of data-driven, team-based integrated care through the reorganisation of healthcare

provision can reduce cardiovascular and all-cause death in patients with type 2 diabetes by 20–60%

6) Implementing a structured lifestyle intervention and use of metformin can each prevent or delay type 2 diabetes in individuals with impaired glucose tolerance by 30–50%

New modelling by the Commission estimates the impact of these strategies. For instance, the ten LMICs with the greatest burden of diabetes (China, India, Brazil, Mexico, Indonesia, Egypt, Pakistan, Bangladesh, Turkey, Thailand) account for 217 million cases of type 2 diabetes – representing nearly 50% of all diabetes cases.

The Commission estimates that 3.2 million of these individuals would die in three years if not treated, with 1.3 million of these deaths due to cardiovascular disease. By reducing HbA1c, blood pressure and LDL cholesterol through achieving a diagnosis rate of 50%, ensuring access to essential medicines such as statins, which are available at extremely low cost even in LMICs, in at least 70% of patients, and with a support system to sustain reductions in these risk factors over three years, up to 800,000 premature deaths could be avoided.

The Commission estimates that 14,466 young individuals (aged under 25 years) with type 1 diabetes died in 2017 globally. The vast majority of these deaths are preventable and comprehensive care for type 1 diabetes could lead to over 12,092 fewer deaths each year in this age group.

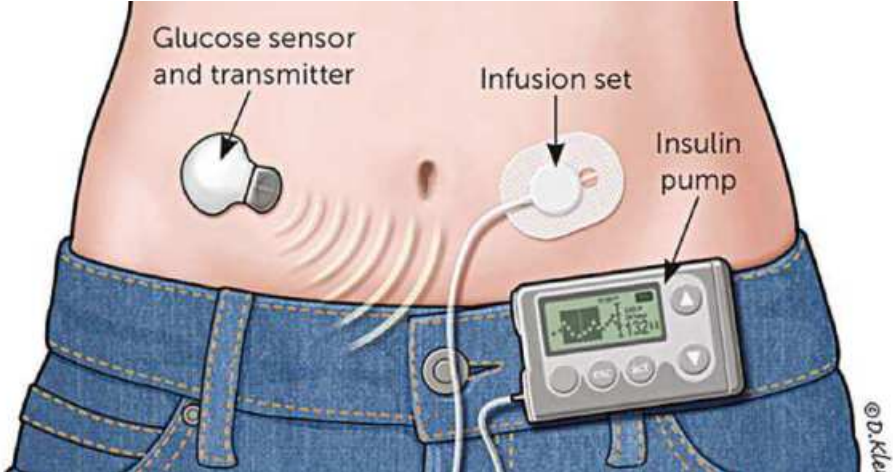
## Insulin Pump - a beacon of hope for children with Type 1 Diabetes

DR BEDOWRA ZABEEN

Type 1 diabetes is one of the most common endocrine and metabolic conditions in childhood and the number of children developing type 1 diabetes is increasing rapidly. According to International Diabetes Federation (IDF) Atlas, more than 1.1 million children and adolescents under 20 years are estimated to have type 1 diabetes worldwide.

In type 1 diabetes, the body cannot maintain blood sugar as the pancreas do not produce insulin, so patients have to take insulin for survival. Hence, insulin must be started when type 1 diabetes is diagnosed without any delay. Children and adolescents usually require multiple insulin injections (up to 6 – 10 times) with frequent blood tests to control their blood sugar levels throughout the day.

Moreover, appropriate eating behavior and healthy lifestyle with physical activity are advised. These all become cumbersome for most of the children and adolescents with type 1 diabetes. Several studies suggest that near normal glucose control prevents or delays complications of diabetes in children with type 1 diabetes. Despite the intensive management with insulin in multiple doses with monitoring of blood glucose several times at home, maintaining a normal blood glucose is always a challenge in type 1 diabetes.



As our daily lives have vastly changed with integration of new technologies including computers, smartphones etc., the management of diabetes is in the midst of a technological revolution. An insulin pump is an alternative device that delivers regulated and accurate amounts of insulin continually under the skin through a flexible plastic tube. Many children with type 1 diabetes are having needle phobia, insulin pump is a ray of hope for them. The plastic canula can be changed at a few days' intervals, so multiple daily pricks of injections will no longer be necessary.

Furthermore, It delivers insulin similar to the one our body produces and can be

programmed to deliver multiple boluses in corrected amount which gives flexibility of life style in children and also reduces the incidence of hypoglycaemia (low blood glucose). The recent updated pump has sensors where CGM (Continuous glucose monitoring) can be done, so pricking for monitoring blood glucose would not be required.

Children with insulin pump had better glycaemic control as well as improved quality of lives compared to those under the multiple-injection treatment plan. [3] Most importantly it might improve patient's adherence to treatment and flexibility of lifestyle in a child.

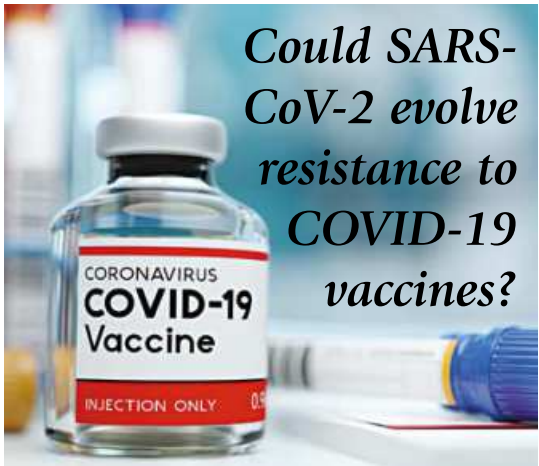
Furthermore, insulin pump has shown the lower risk of long-term complications found in few studies.

The use of insulin pump therapy has increased dramatically among the children and adolescents with type 1 diabetes (T1D) throughout the past decade. Insulin pumps have been used for many years in adults and children with type 1 diabetes worldwide, in Bangladesh, the practice is still relatively low. Lack of awareness could be one of the main reasons behind this.

According to the statistics of T1 Center in BIRDEM, the number of children with type 1 diabetes is increasing in Bangladesh every year. T1 Center in BIRDEM is the only multidisciplinary approach for Children with type 1 diabetes in Bangladesh. Insulin pump has been introduced in this center for last 2 years. Some with type 1 diabetes are having insulin pump and showed better glucose control with less complications. Type 1 diabetes is a lifelong disease and imparts significant effects to the patients, their family and society. A newer technology like insulin pump with CGM can help to achieve good glucose control with less complications and improve quality of lives in these children with diabetes.

The writer is a Consultant Paediatric Endocrinologist at the Department of Paediatrics and CDIC Paediatric Diabetes Center, BIRDEM 2, Diabetic Association of Bangladesh.

### PERSPECTIVE



Just as bacteria can evolve resistance to antibiotics, viruses can evolve resistance to vaccines — and the evolution of SARS-CoV-2 could undermine the effectiveness of vaccines that are currently under development, according to a paper published November 9 in the open-access journal PLOS Biology by David Kennedy and Andrew Read from Pennsylvania State University, USA. The authors also offer recommendations to vaccine developers for minimising the likelihood of this outcome.

“A COVID-19 vaccine is urgently needed to save lives and help society return to its pre-pandemic normal,” said David Kennedy, assistant professor of biology. “As we have seen with other diseases, such as pneumonia, the evolution of resistance can quickly render vaccines ineffective. By learning from these previous challenges and by implementing this knowledge during vaccine design, we may be able to maximise the long-term impact of COVID-19 vaccines.”

The researchers specifically suggest that the standard blood and nasal-swab samples taken during clinical trials to quantify individuals' responses to vaccination may also be used to assess the likelihood that the vaccines being tested will drive resistance evolution. For example, the team proposes that blood samples can be used to assess the redundancy of immune protection generated by candidate vaccines by measuring the types and amounts of antibodies and T-cells that are present.

“Much like how combination antibiotic therapy delays the evolution of antibiotic resistance, vaccines that are designed to induce a redundant immune response — or one in which the immune system is encouraged to target multiple sites, called epitopes — on the virus's surface, can delay the evolution of vaccine resistance,” said Andrew Read, Evan Pugh Professor of Biology and Entomology and director of the Huck Institutes of the Life Sciences. “That's because the virus would have to acquire several mutations, as opposed to just one, in order to survive the host immune system's attack.”

The researchers also recommend that nasal swabs typically collected during clinical trials may be used to determine the viral titer, or amount of virus present, which can be considered a proxy for transmission potential.

### BIMSSCON 2020 held on virtual platform

The fourth Bangladesh International Medical Students' Scientific Congress (BIMSSCON) was held recently with the theme “Healthcare in Pandemic: Integration of Clinical approach with Research and Public Health Education”. The virtual events were held on 5-8 November 2020.

BIMSSCON is the largest annual international medical student congress of Bangladesh organised by International Federation of Medical Students' Association (IFMSA) Bangladesh. IFMSA Bangladesh is a non-profit, non-political, voluntary medical students' organisation led by medical and dental students in Bangladesh.

The congress was inaugurated by Dr ABM Abdullah, Personal Physician of Prime Minister Sheikh Hasina who in his opening speech said, “I hope through BIMSSCON there will be a good exchange of knowledge among medical students of home and abroad”. Alvee Ahsan, Chair, BIMSSCON 2020 also expressed his gratitude to the guests and organisers in the opening ceremony.

During the keynote session, the speakers talked about five distinctive topics such as Healthcare in Pandemic, Women's Reproductive age and its COVID-19 milieu, Perspectives from Autism Research, Mental health & COVID-19 and Pandemic & Health system. After the inauguration ceremony, 500 participants across the globe got access to 32 scientific workshops on diverse branch- research, academic skill development, career opportunities in medical science and personal skill developing. These workshops were taken by prominent health professionals of both Bangladesh and abroad.

Dr Sameera Shafique Chowdhury, President IFMSA Bangladesh, Dr M Azmain Iktider, Secretary General, IFMSA Bangladesh and Sajibur Rahman Nayon, Co-Chair, BIMSSCON 2020 gave their speech in the closing ceremony.

BIMSSCON 2020 was supported by numerous congress partners. Our educational partner was Lectorio and quiz partner was Quizards. EMK Center acted as our professional skill Optimization partner & quiz co-partner. India Autism Center, in4med, iMed, Juvenes pro medicina, AIMS Meeting, telepsychiatry research & innovation network, BRAINCOMS, BDF students' wing, LIMC and Public health foundation Bangladesh were the congress partners of BIMSSCON 2020 virtual. Jamuna TV and The Daily Star acted as the media partner.

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