Telemedicine Consultations and Diabetes Technology During COVID-19

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I have learned, the hard way, the tremendous value of telemedicine consultations in diabetes care, particularly when backed up by an upload platform compatible for all devices.

Steno Diabetes Center Copenhagen (SDCC) is a public hospital in the Capital Region of Denmark managing the care of more than 9000 individuals with diabetes. Before the Covid-19 outbreak, we had more than 350 face-to-face consultations per day. We offer three to four routine annual check-ups, with a limited number of scheduled telephone consultations, mostly when medicine adjustment is needed between visits, and a 24/7 hotline service for those with acute diabetes-related problems.

Among our patients are 5000 with type 1-diabetes (T1D): 30% treated with insulin pumps and 40% with continuous glucose monitoring (CGM) or intermittently scanned CGM. Here, I focus on the situation for these individuals.

Usually, on arrival at SDCC, the laboratory technicians upload the data from blood glucose meters, CGMs, and insulin pumps before the consultation. Not all individuals upload their device data from home. Lack of time and resources for training and users’ frequent device changes, with the accompanying changes in programs and procedures, often prevent this. Our small number of routine telemedicine consultations is mainly due to tradition and our previous remuneration system, which favors attendance.

On March 11 this year, Denmark’s Prime Minister announced various measures to reduce the spread of the coronavirus. Among them were restricting hospital visits to acute cases only and requesting all public employees, including those at SDCC, to work from home. We immediately rescheduled all routine checks as telephone consultations and a few video-link consultations done by the staff from their homes. Today, with the corona crisis, the outpatient clinic has face-to-face contact with only 10-15 individuals daily, mostly those with newly diagnosed T1D or those with acute problems.

When I realized we needed to change the way we ran our consultations, my first concern was for those individuals treated with technology: “would they manage to upload their device data?”. After four weeks, my concerns diminished: several individuals with T1D had successfully uploaded the data before the consultation, meaning that any glucose-management issues could then be addressed. However, a prerequisite is that I have access to and am familiar with analyzing data from three different systems: Carelink Personal (Medtronic devices), Libre View (Freestyle Libre Flash), and Diasend (Dexcom G6, Tandem, Omnipod, and others). Unfortunately, the Danish authorities do not permit us to use Tidepool due to concerns about data confidentiality. For those individuals not uploading, in most cases I can guide them through reading summary data on their devices, such as mean glucose, standard deviation (SD), and time in ranges from the previous weeks, but for a few this is not possible.

These days, almost all patients express their thanks at being called, a bonus for all the staff. We feel we are doing a valuable job. Telephone consultations exclude visual contact with the patients, but with only one screen at home, I prefer to reserve it for data. Some SDCC dietitians have used video-link consultations with good results. Their use during the consultation of food items, food declarations, apps, and other materials makes telephone calls less useful.

In the future I predict many more telemedicine consultations at SDCC. I believe that these consultations are more convenient for many people. Studies objectively evaluating this are already underway. The success of telemedicine consultations depends on all those with insulin pumps and CGM being trained in uploading device data. This will benefit treatment overall, providing we encourage individuals to upload data regularly, to engage, to analyze, and reach out to us if they feel unsure. As soon as we resume “normal working conditions,” we’ll introduce mandatory training in uploading device data and start work on finding the right balance between face-to-face and telemedicine consultations. Clearly, not all consultations should be telephone or video-link consultations. Face-to-face contact between patients and healthcare providers is invaluable, and physical

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contact is a necessity in eye and foot examinations and in regular blood sampling. I will also urge everybody in my hospital to find a way to upload insulin pump and CGM data to a compatible platform, irrespective of the company producing the device.

I am looking forward to soon offering SDCC attendees high-quality telephone and video consultations as part of their routine diabetes care. I’m also looking forward to establishing access to a shared uploading system for all devices, one where I can customize output and use the data for quality assessment in my clinic.

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