

IMPROVING EDUCATION OF MEDICAL STUDENTS BY INVOLVING A TELEMEDICAL SYSTEM FOR DIABETES INTO LECTURES

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INTRODUCTION

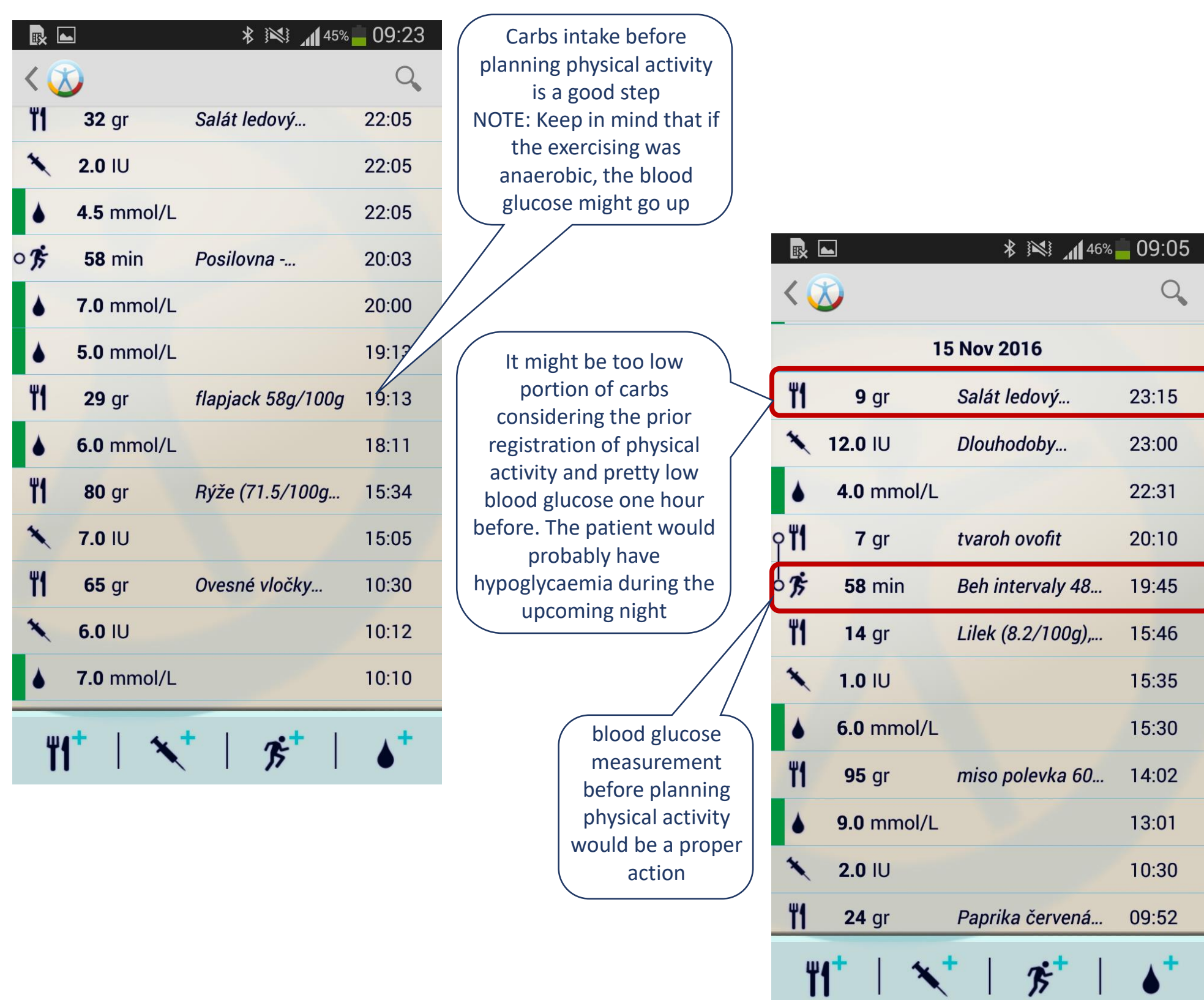
Modern diabetes-related technologies are rarely involved in the teaching plan of medical students. Giving them an insight into current technologies, including innovative use initiated by the patients themselves, together with the principles of the disease itself, can deepen their knowledge in this area.

METHODS

Medical students at the Charles University in Prague who were attending a new course called „Advanced Technologies in Diabetes Care“ were taught about modern technologies in diabetes treatment and experienced both a position of a patient and a clinician. The students were practically working with a telemedicine system Diani that enables to collect data automatically and in a real-time from the Diabetes Diary mobile app, Xiaomi MiBand activity tracker, Pebble smartwatch and CGM using xDrip device.

When being in the **role of a patient** the students were using the Diabetes Diary where they registered data about their nutrition, insulin dosing with respect to a given carbs intake, physical activity and also fictional glycaemia values.

After a 2-week period the students sent the database with their registrations to a lecturer for review. During the final lecture, the records were consulted with the students and potential incorrect inputs were explained to them.



When being in the **role of a clinician** the students got an access to anonymous data of a randomly chosen patient and were able to monitor the patient in a real-time. The students could also send a message to the patient in case they needed more information to better analyze monitored data or they wanted to know a reason for a given treatment decision of the patient.

From a one-week period of the monitored data the students could choose one day to make an analysis of what the patient did throughout the day with respect to his self-management, and point out potential errors or correct steps he made.



RESULTS

Three of the subscribed medical students (n=28) who delivered their database from the Diary made 260 registrations. For the monitoring part, 4 T1D patients were involved, 15 accesses to the Diani web application by the students were detected and 3 messages were sent to the patients. Based upon the final questionnaire, 77% of the students evaluated the introduction of the practical part into lectures as excellent or suitable. Among the responses on question „What did you like the most on this course“ were often mentioned the practical experiences and point of view of a real patient on diabetes treatment, clinical point of view on the treatment, practical demonstrations of the technologies, the connection of medicine and technology itself (since this is still rarely involved in education of medical students) and also one teleconference lecture held by our colleague from Norwegian Centre for E-health Research.

CONCLUSION

Nowadays technologies in diabetes care enable, besides better self-management of patients, also a good support in decision-making processes of clinicians. Making medical students familiar with them can increase both their understanding and the acceptance in their later real practice.

In case you would like to include our system into your lectures, contact the main author or use the following email: diani@cleverttech.cz

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