

Use of Home Blood Ketone Meters is associated with a Lower Degree of Metabolic Deterioration in DKA

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Objectives

We wanted to investigate the use of home blood ketone meters immediately before admission for DKA among patients with known T1DM, and test the hypothesis that pH values were lower in patients with no home ketone measurements before admission.

Methods

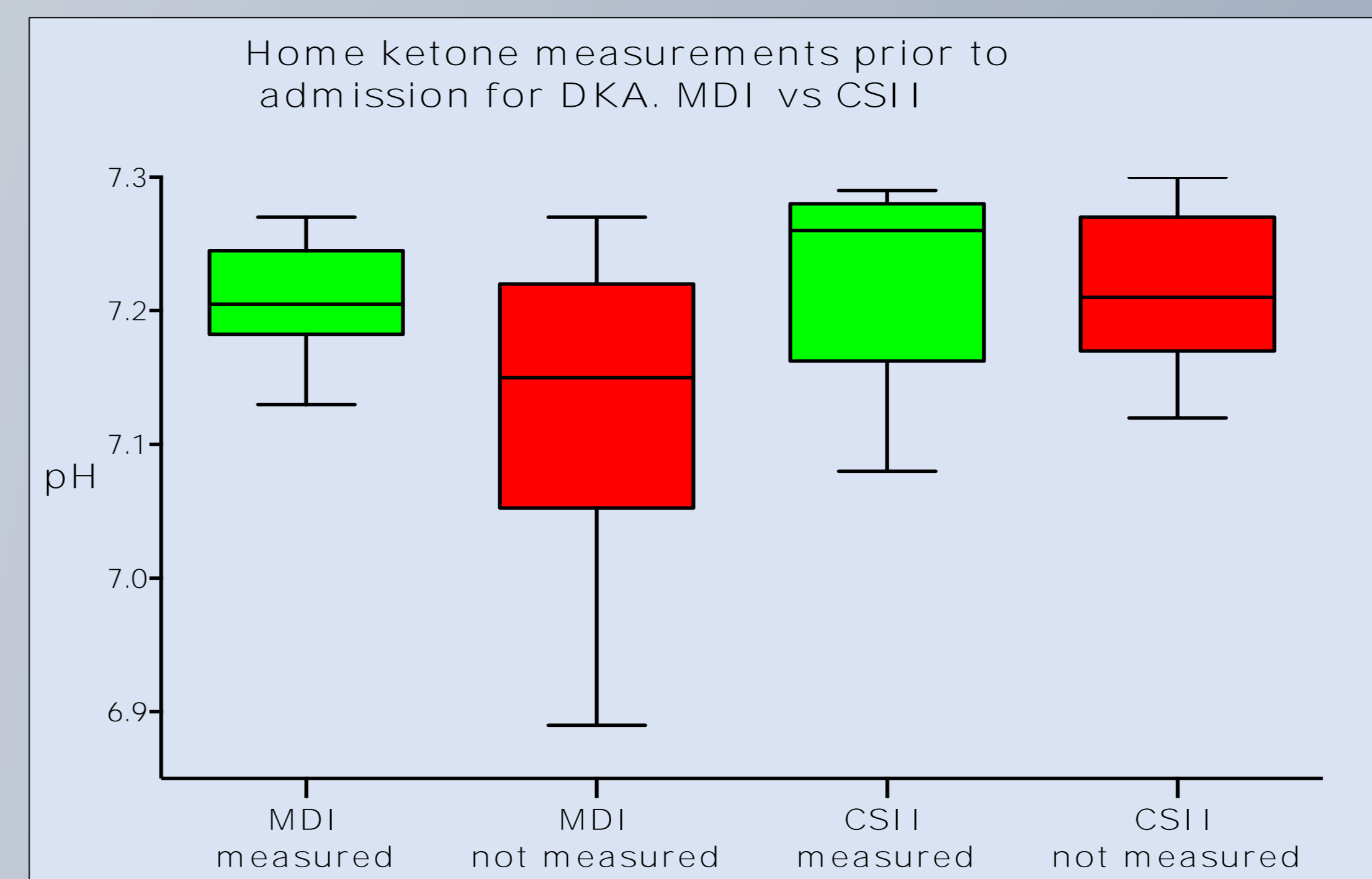
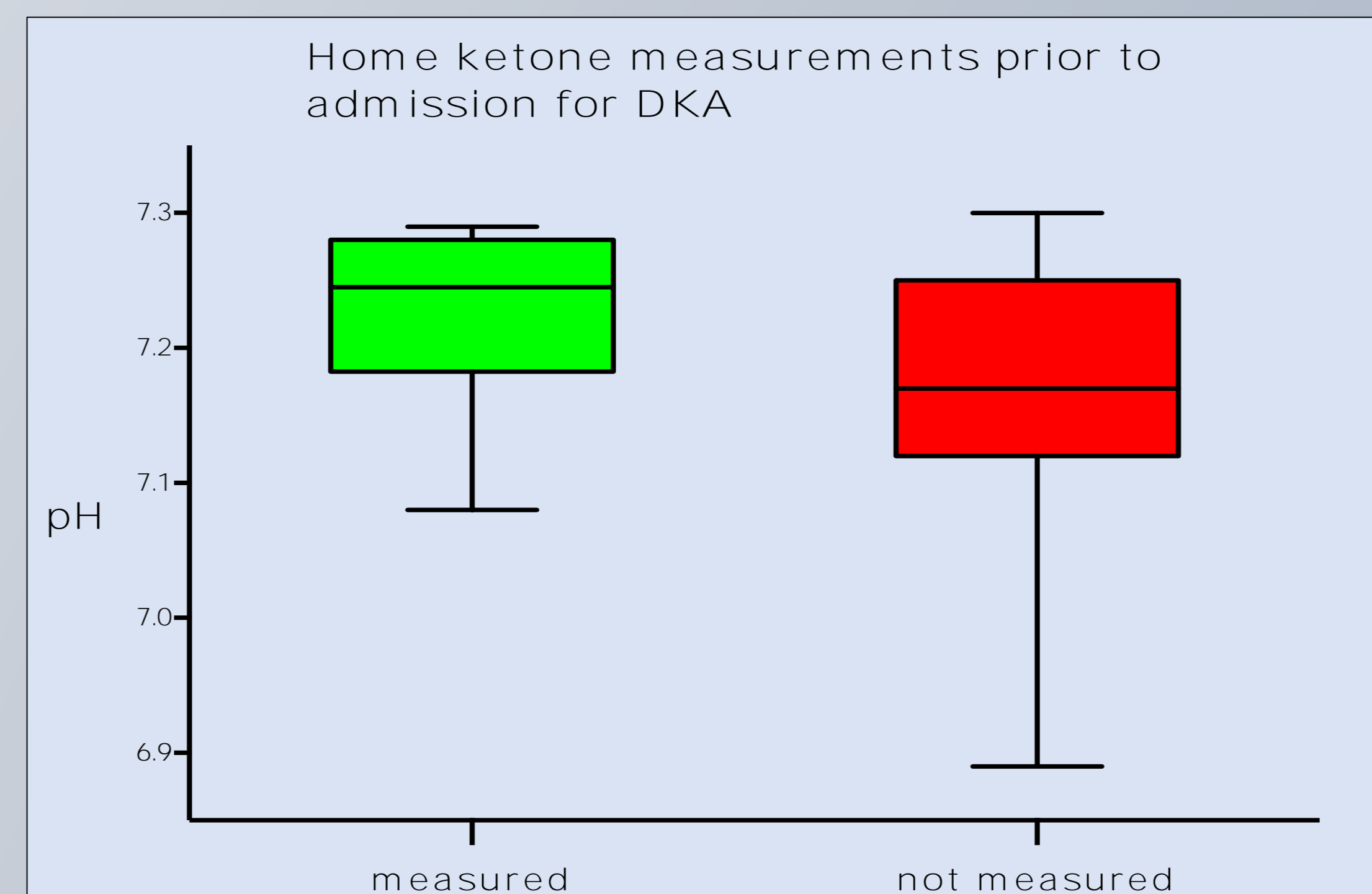
All children in Sweden with known T1DM admitted for DKA and their caregivers were invited to participate in a two-year study from Feb 2015 to Jan 2017. Admission parameters, as well as information about the patients access to, and use of, home ketone meters immediately before admission for DKA was collected through patient records and questionnaires filled out by the caregivers and the attending physicians. Descriptive statistics were used to evaluate proportions and Mann-Whitney U test was used to compare pH values in patients with or without home ketone measurements.

Results

Data from a total of 67 patients were analyzed, corresponding to 56% of the 120 patients with known diabetes and DKA in the SWEDIABKIDS registry. Of the 67 patients, 60 (90%) had acquired a home ketone meter and 36 (60%) patients had used it immediately before seeking medical assistance. Of the 67 patients, 43 (64%) were CSII users and 24 (36%) used MDI. In the CSII group, 42 (98%) had access to a ketone meter and 28 (67%) of those had used it. In the MDI group, 18 (75%) had access to a ketone meter and 8 (44%) had used it. The median pH value in the group who had measured ketones at home was 7.25 and in the group who had not measured ketones at home, the pH was 7.17 ($p=0.009$).

Conclusions

Access to a blood home ketone meter reduces the risk for severe DKA and should be subscribed to all individuals on insulin treatment regimen.



Use of prescribed home ketone meters prior to admission for DKA

