

Use of the GLYCEMIZER®-tool by GPs to meet individual HbA1c goals in patients with T2DM

Telemachos Hatziisaak, Nicolas Byron Hatziisaak, Urs Keller

PizolCare Medical Network, Werdenberg-Sarganserland Region, Switzerland, www.pizolcare.ch

Question under study

To assess the usefulness of a simple tool (GLYCEMIZER®) to calculate individual HbA1c-goals in patients with T2DM in general practice.

Results

A total of 184 files (patients' mean age: 69y) were collected by 6 participating general practitioners from the Werdenberg-Sarganserland region in eastern Switzerland. 4 patients did not meet the inclusion criteria [Tab. 1]. The overall median calculated HbA1c-goal did not differ from the targeted and achieved levels (7.1% vs. 7.0% vs. 7.1%, $p=0.89$) [Fig. 2]. There was a significant difference between achieved and calculated HbA1c-levels in patients aged <50 ($n=13$, median 7.2% vs. 6.5%, $p=0.01$, goals not achieved) [Fig. 3] and patients aged >71 ($n=85$, median 6.9% vs. 7.5%, $p=0.005$, lower levels achieved in relation to calculated HbA1c-goals) [Fig. 4]. Both in patients treated with insulin ($n=44$) and in patients without insulin ($n=136$) the achieved HbA1c-levels met the calculated goals (no insulin: 6.9% vs. 7.0%, ns; with insulin: 7.8% vs. 7.7%, ns) [Fig. 5]. In regard to CKD-stages 3 and 4 the achieved HbA1c-levels were significantly lower than calculated ($n=41$, median 6.9% vs. 7.6%, $p=0.001$) [Fig. 6].

	Male	(%)	Female	(%)	Total / Ø	(%)
Patients	106	58,9	74	41,1	180	100
Age Ø y	66		72		69	
Age <50y	9	8,5	4	5,4	13	7,2
Age 51-70y	57	53,8	25	33,8	82	45,6
Age >71y	40	37,7	45	60,8	85	47,2
T2D duration Ø y	9,5		11		10	
T2D duration <5y	38	35,9	22	29,7	60	33,3
T2D duration 6-15y	47	44,3	29	39,2	76	42,2
T2D duration >16y	21	19,8	23	31,1	44	24,4
Insulin use	25	23,6	19	25,7	44	24,4
CKD 1, 2	93	87,7	46	62,2	139	77,2
CKD 3, 4	13	12,3	28	37,8	41	22,8

[Tab. 1] Baseline characteristics. Note, women included in this cross sectional study were older, had a longer history of diabetes and more frequently an impaired renal function.

Methods

In this cross-sectional study participating general practitioners were asked to anonymously file at least 30 consecutive patients with T2DM presenting in his/her office from May 1st to August 15th 2016. Demographic, clinical and biochemical data were used to feed the GLYCEMIZER®-tool to calculate the individual HbA1c-goals. A statistical analysis was conducted in order to compare the calculated HbA1c-goals with targeted (gut feeling) and achieved HbA1c-levels.

Conclusions

Calculating HbA1c-goals using the GLYCEMIZER® tool is more accurate than relying on gut feeling and specifically useful in the treatment of type 2 diabetic patients of less than 50 years of age, as well as in patients aged more than 71 years. Additionally, it is helpful in patients with CKD-stages 3+. The participating GPs showed a very high compliance with the actual treatment-guidelines for T2DM.

Abbreviations

CKD Chronic Kidney Disease, eGFR estimated Glomerular Filtration Rate, HbA1c Glycated Haemoglobin, T2DM Type 2 Diabetes Mellitus, GP General Practitioner.

