Social Media and Diabetes: Can Facebook and Skype Improve Glucose Control in Patients With Type 1 Diabetes on Pump Therapy? One-Year Experience

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Diabetes Care 2015;38:e51–e52 | DOI: 10.2337/dc14-2487

Health care providers are faced with enormous numbers of patients and visits due to the increase in diabetes prevalence (1). As the world is changing, traditional health care services should be adapted for the new era of technology and Internet. Patients use Internet to seek, meet, and interact with a community of patients with similar problems; to share clinical information; and to provide and receive support (2,3). Facebook, with over 1.2 billion registered users worldwide, (4) has specific groups for disease information.

The Facebook group "Diabetes Macedonia" was formed in 2008. It is a closed group that helps patients to share diabetes information and experience. The enormous growth of new users (1,430 patients, family members, and others by September 2014) led to the development of a structured platform by health care providers to adjust and correct the information posted by patients, if needed.

The aims of the study were to evaluate results from social media (Skype and Facebook) and CareLink software as tools to improve diabetes control in patients with type 1 diabetes using insulin pumps with glucose sensors. To our knowledge, this is the first study where Facebook is used as treatment alternative to regular clinic visits.

A total of 56 children and adolescents with type 1 diabetes, ages 14–23, were randomized in two groups: Regular group and Internet group. The Regular group is composed of 29 patients who were treated using standard medical protocol with regular visits at clinic. Data were uploaded at the clinic and interventions (pump settings, basal bolus insulin, and education) were given to the patient by health care professionals. The Internet group was composed of 27 patients who were treated using CareLink software (Medtronic Diabetes). Data were uploaded by the patient at home and interventions (same as Regular group) were given via Facebook (chats) and Skype (sound and video).

Both groups had improved A1C at 12 months (Regular group: 7.7 $\pm$ 1.6% [61 $\pm$ 17.5 mmol/mol] at baseline vs. 6.6 $\pm$ 1.5% [49 $\pm$ 16.4 mmol/mol] at 12 months; Internet group: 7.8 $\pm$ 1.9% [62 $\pm$ 20.8 mmol/mol] at baseline vs. 6.4 $\pm$ 1.6% [46 $\pm$ 17.5 mmol/mol] at 12 months, $P < 0.05$ at 12 months) (Table 1). Internet visits were performed with Facebook (54%), Skype (12%), and both Facebook and Skype (34%).

Improvement occurred in the first 6 months and was maintained for 6 additional months. There were no differences in acute complications (diabetic ketoacidosis and severe hypoglycemia events), total daily dose of insulin, and weight change in both groups at 12 months.

Personalization, presentation, and participation in social media and health care (5) can be tailored to the priorities of the patients. Every Internet visit was personalized with patient needs (appointment date and time) and used active patient participation in the decision-making process of diabetes management.

We found that social media use allows patients to gain diabetes knowledge and information and interact in their daily insulin adjustments. Moreover, it could help patients cope better with their daily life. This brief trial suggests that patients prefer to communicate with their health care providers using social media. Facebook and Skype can improve diabetes control similar to regular clinic visits.

Acknowledgments. The authors would like to thank all the children and adolescents and their families who participated in the study with great enthusiasm.

Duality of Interest. No potential conflicts of interest relevant to this article were reported.

Author Contributions. G.P. performed the study concept and design, data acquisition, statistical analysis and interpretation of data, drafting of the manuscript, and clinical revision of the manuscript. M.Z. performed statistical analysis and interpretation of data, drafting of the manuscript, and clinical revision of the manuscript. S.S.S. performed statistical analysis and interpretation of data. G.P. is the guarantor of this work and, as such, had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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Table 1—Clinical characteristics of patients enrolled in the study

	Regular group	Internet group	*P*
n	29	27	
Age (years)	16.9 ± 2.7	17.4 ± 2.4	N.S.
Men/women (*n*)	13/16	12/15	
Diabetes duration (years)	5.6 ± 2.1	5.4 ± 2.8	N.S.
BMI (kg/m^2)	22.4 ± 3.8	21.7 ± 3.4	N.S.
Baseline TDD insulin (units)	48.6 ± 1.9	45.4 ± 2.1	N.S.
Baseline A1C			
%	7.7 ± 1.6	7.8 ± 1.9	N.S.
mmol/mol	61 ± 17.5	62 ± 20.8	N.S.
12-month A1C			
%	6.6 ± 1.5	6.4 ± 1.6	0.001
mmol/mol	49 ± 16.4	46 ± 17.5	0.001

Data are shown as mean ± SD. TDD, total daily dose.

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