Internet-Based Mentoring Program for Patients with Type 1 Diabetes

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Regardless of the type of diabetes, lifestyle modifications is an essential component of diabetes management in patients with diabetes. Maintenance of self-care behavior, including dietary habits, physical activity frequency, and self-monitoring of blood glucose (SMBG), should be started with structured diabetes education. Diabetes Self Management Education (DSME) improves metabolic control, prevents and manages complications, and maximises quality of life in a cost-effective manner [1,2]. For this reason, clinical practice guidelines on diabetes recommend that DSME must be delivered by a certified educator who has received professional training or a multidisciplinary care team [3,4].

In addition, diabetes is typically a progressive chronic metabolic disease, and chronic illnesses are usually emotionally stressful, leading to both physical and psychological fatigue [5]. Also, changing the patients’ daily routines or modifying their lifestyles are not so easy, especially due to the adherence to their current habits that have lasted for a longtime. Even those that generally have self-caring behaviors are under the constant threat of severe and devastating diabetic complications or bothersome symptoms throughout their lives [5,6]. Therefore, to maintain the patients’ self-care behavior, the diabetes educators need to take into account various social, emotional, and psychological factors in addition to the patients’ clinical situation. Consequently, close monitoring of their adherence to previous habits, emotional support, and regular reinforcement is essential to help patients change their lifestyle and maintain it during their lifetime.

To do this, a web-based telemedicine system is a good alternative strategy to guide patients with diabetes. Undoubtedly, telemedicine delivered by health care professionals is cost-effective, time-saving, convenient, and easily accessible. Especially in Korea, more than 40 million people use internet access, corresponding to about 82.5% of the Korean population [7]. Also, telemedicine has a substantial benefit for patients in the sense that it provides more individualized recommendations in real-time.

Suh et al. [8] have recently reported a 12-week internet-based mentoring program for patients with type 1 diabetes whose glycermic control status were inadequate. Using the web-based mentoring protocol, 5 volunteer mentors guided 26 patients regarding appropriate insulin dosing, physical activity, and food intake within 48 hours of mentees’ request. Mentors were either patients themselves or a parent of one who already had experiences in diabetes management, not professional health care providers or doctors.

Unfortunately, in contrast to our expectation, their glycermic control status (HbA1c) with glucose fluctuation (Average daily risk range), number of hypoglycemic episodes, and quality of life measured by Audit of Diabetes Dependent Quality of Life and Diabetes Treatment Satisfaction Questionnaire score were not improved after the mentoring program. However, they found that the mentoring program increased the frequency of SMBG. Considering their study conditions, such as long diabetes duration (about 6 years), young-aged adult (about 32 years old) subjects, small study number, and short observation peri...
od, we believe that emotional or psychosocial support with positive feedback were helpful in motivating patients to famil-

We think that the ideal role and personal qualification of the mentors were the most important factors of this mentoring program for clinical application. Because the mentors had di-

We also believe that increased frequency of SMBG could lead to clinical benefits. It has been proven that a higher frequency of SMBG was associated with better metabolic control among subjects who were able to adjust insulin doses. At the same time, a SMBG frequency over 1 time per day was significantly related to higher levels of distress, worries, and depressive symptoms in non-insulin-treated patients [9]. Therefore, we must consider the appropriate frequency of SMBG suggested by mentors according to individual clinical circumstances, such as stable glycemic status, sick day, and so forth.

A recent study has shown that diabetes-related stress is significantly correlated with a longer diabetic duration and un-

Therefore, we think that the internet-based mentoring program would be beneficial for pa-

In conclusion, well-quali-

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REFERENCES

1. Norris SL, Engelgau MM, Narayan KM. Effectiveness of self-

2. Haas L, Maryniuk M, Beck J, Cox CE, Duker P, Edwards L, Fisher EB, Hanson L, Kent D, Kolb L, McLaughlin S, Orzech E, Piette JD, Rhinehart AS, Rothman R, Sklaroff S, Tomky D, Youssef G; 2012 Standards Revision Task Force. National stan-

3. Ko SH, Kim SR, Kim DJ, Oh SJ, Lee HJ, Shim KH, Woo MH, Kim JY, Kim NH, Kim JT, Kim CH, Kim HJ, Jeong IK, Hong PE, Cho JH, Mok JO, Yoon KH; Committee of Clinical Prac-

4. Zwar N, Hasan I, Hermiz O, Vagholkar S, Comino E, Harris M. Multidisciplinary care plans and diabetes: benefits for patients with poor glycaemic control. Aust Fam Physician 2008;37:960-2.

5. Charman D. Burnout and diabetes: reflections from working with educators and patients. J Clin Psychol 2000;56:607-17.

6. Eom YS, Park HS, Kim SH, Yang SM, Nam MS, Lee HW, Lee KY, Lee S, Kim YS, Park IB. Evaluation of stress in Korean pa-

7. Internet World Stats. Internet usage in Asia. Available from: http://www.internetworldstats.com/stats3.htm (update 2012 Jun 30).

8. Suh S, Jean C, Koo M, Lee SY, Cho MJ, Sim KH, Jin SM, Bae JC, Kim JH. A randomized controlled trial of an internet-

9. Franciosi M, Pellegrini F, De Berardis G, Belfiglio M, Cavaliere D, Di Nardo B, Greenfield S, Kaplan SH, Sacco M, Tognoni G, Valentini M, Nicolucci A; QuED Study Group. The impact of blood glucose self-monitoring on metabolic control and quality of life in type 2 diabetic patients: an urgent need for better educational strategies. Diabetes Care 2001;24:1870-7.

10. Weinger K, Beverly EA, Lee Y, Sinokov L, Ganda OP, Caballe-

http://e-dmj.org