



ABSTRACT

Medical nutrition therapy and home monitoring in type 2 diabetes mellitus patient with metabolic syndrome and history of diabetic ketoacidosis

Anak Agung Eka Widya Saraswati¹, Yohanessa Wulandari¹, Lily Indriani Octovia¹

^{1.} Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo General Hospital, Jakarta Indonesia.

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Background and objectives: Obesity, one of the risk factors for type 2 diabetes mellitus (T2DM), is known to cause low-grade inflammation and increase T2DM morbidity. Obesity and T2DM also lead to other comorbidities, such as metabolic syndrome. The provision of medical nutrition therapy accompanied with routine home monitoring could improve glycemic control and achieve therapeutic targets, simultaneously.

Method: We reported one case of male patient, aged between 55–60 years old with T2DM and history of diabetic ketoacidosis (DKA). The patient also had grade I obesity, metabolic syndrome, and history of acute on chronic kidney disease (CKD). Patient was evaluated during and after hospitalization. Throughout home monitoring every three weeks for seven weeks, subjective and objective signs were recorded. Anthropometry examination, including waist circumference and skin fold thickness were conducted. Intake food pattern was analyzed using 24-hour food recall. Blood glucose examination, functional capacity and quality of life were also recorded. Individual medical nutrition therapy and counseling were given to patient and caregiver after the examination.

Results: Improved macronutrient and fat composition intake (saturated fatty acids (SAFA) 33.6 g to 18.6 g, monounsaturated fatty acids (MUFA) 8.8 g to 13.1 g, and polyunsaturated fatty acids (PUFA) 7.5 g to 11.2 g) were found. Weight loss (59.6 kg to 58 kg), decreased waist circumference (96.2 cm to 95.3 cm), better estimated fat mass (21.4% to 20.8%), and enhanced quality of life were also found after seven weeks of home monitoring.

Conclusion: Individual medical nutrition therapy along with frequent home monitoring would help patient and caregiver to achieve therapeutic targets, thus decrease the morbidity and progression complications of T2DM. Further studies are needed to evaluate the duration of home monitoring in T2DM patients with different morbidity.

Keywords: medical nutrition therapy, type 2 diabetes mellitus, home monitoring, metabolic syndrome

Corresponding author:

dr. Anak Agung Eka Widya Saraswati, M.Gizi
Department of Nutrition, Faculty of Medicine, Universitas
Indonesia – Dr. Cipto Mangunkusumo General Hospital
Jakarta, Indonesia
Email: ekawidyasaraswati@gmail.com