Control of Blood Glucose Level by Green Tea and or Mullberry Leaf Tea on Diabetic Rats

Evy Damayanthi[1,2),*], Rusman Efendi[3], Lilik Kustiyah[1)], and Nastiti Kusumorini[4)]

[1)] Department of Community Nutrition, Faculty of Human Ecology, Bogor Agricultural University
[2)] Southeast Asian Food and Agricultural Science and Technology (SEAFAST) Center
[3)] Muhammadiyah University, North Maluku
[4)] Faculty of Veterinary, Bogor Agricultural University
* email: evyimam@yahoo.com

Abstract

Antidiabetic activity of green tea (GT), mullberry leaf tea (MLT), and their mixture (GT+MLT) were evaluated in alloxan-induced diabetic rats. Blood glucose level (BGL) were measured at baseline/day-0, day-4, day-8, day-12, and day-16. Twenty five male Sprague Dawley (SD) rats aged 8 weeks were used and divided into five groups. They were) Normal rats-Water (N); Alloxan injection-Water (C); Alloxan injection-GT; Alloxan injection-MLT; Alloxan injection-GT+MLT. The dosage of treatment is 1 ml/100g body weight (BW) or equal to 100 mg polyphenol/kg BW using secondary data of polyphenol content in tea and the treatment were administered forcibly. Four groups were diabetic rats induced by alloxan intraperitoneal injection (120 mg/kg body weight (BW).

The result showed that the interaction between the period of BGL measurement and the kind of drink intervention treatment influenced BGL of diabetic rats significantly. The BGL of diabetic rats tend to decrease for treatment group, although there is not significantly different between day-0 and 4. The BGL on diabetic rats of day-8, 12 and 16 were significantly lower than the day-0 and -4.

Introduction

The biggest impact of globalization in the field of food and nutrition are changes in behavior and lifestyle of the community. This change influence on the occurrence of the epidemiologic transition from communicable disease,