

ABSTRACT**Study of Guar Gum Powder Antidiabetic Activity
in Type 2 Diabetes Mellitus**

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The prevalence of diabetes mellitus (DM) from year to year is increasing. Type 2 DM accounts for up to 90% of all cases of DM. One of alternative treatment for diabetes is medical nutrition therapy that can be done by eating dietary fiber, such as guar gum. This study aims to determine antidiabetic activity of guar gum powder in type 2 diabetes mellitus. The method used in this study is literature review with type of non-systematic review (scoping review). Guar gum is obtained from the seed of guar plant (*Cyamopsis tetragonoloba*) from *Leguminosae* family. Guar gum contains water-soluble polysaccharides, galactomannan. Galactomannan is consisting of D-mannose and D-galactose. D-mannose units are linked to each other through the β -1,4 glycosidic linkages while the D-galactose attaches to the C-6 mannose with the α -1,6 bond. The inability of the amylase enzyme to hydrolyze β -1,4 glycosidic bonds in galactomannan causes galactomannan can not be digested in the stomach. Forming gel by galactomannan causes to delay gastric emptying process and decrease glucose absorption in the small intestine. It will make the stomach feel full so that it can increase satiety. Those mechanism can reduce blood glucose levels. Based on this review, guar gum powder causes significant decrease in blood glucose and HbA1c levels in type 2 diabetes mellitus. Thus, guar gum powder has antidiabetic activity in type 2 diabetes mellitus

Keywords: Guar Gum, Antidiabetic, Type 2 Diabetes Mellitus