ABSTRACT

Yaniari Sulis Hasanah. B4109516. Department of Health, Clinical Nutrition Program, Polytechnic of Jember. Effect of leaf extract Celery Against Blood Sugar Levels Decrease During hyperglycemic mice. Supervising Commission, Chairman: dr. Nur Arisanty Setia R, Members: Ir. Heri Warsito, MP.

BACKGROUND : Diabetes mellitus is a collection of symptoms that occur in the aspect of a person caused by an increase in blood sugar levels (hyperglycemia) due to insulin deficiency (Badawi, 2009). One of the medicinal plants that can be used as a folk remedy for diabetes mellitus is celery (Apium graveolens L.). Empirically celery is a plant that can be used to treat diabetes mellitus . Celery mechanism in lowering blood sugar levels because it has an active ingredient that can lower blood sugar levels , among others : the flavonoid compounds apiin. Apiin is the main active substance contained in the celery plant (Arief , 2006). Apiin compound works to stimulate pancreatic beta cells and the time consumed by people with diabetes mellitus will be heading to the adipose tissue and striated muscle, which will enable existing phosphorylation in adipose tissue and skeletal muscle. Phosphorylation stimulates insulin secretion in the patent . So the sugar get into the cells by passive diffusion pancreatic β, which mediated the specific membrane protein (glucose transporter 2). While the sugar into the plasma membrane through which the sugar transporter 4 can also stimulate the secretion of insulin. Because of the insulin secretion of the hormone insulin then productivity can be increased. Automatically decreases the production of sugar by the liver and blood sugar levels can be decreased (Winarto, 2003).

RESEARCH METHODOLOGY : This research is an experimental study (True Experimental). The design used was a pre-test and post-test control group design. The experiment was conducted at the Biomedical Laboratory of the Faculty of Dentistry (FKG) College of Jember in early May to June 2013.

RESULTS: Delivery of celery juice affect blood sugar levels during alloxan-induced mice, however, be seen in the statistical test showed that the decrease in blood sugar levels while not significant among the five groups.

CONCLUSION: The average blood sugar levels (mg / dl) mice after treatment that is in the positive control group (P1) 361.2 mg / dl, celery juice treatment group (P2) 240 mg / dl, celery juice treatment group (P3) 316.8 mg / dl, celery juice treatment group (P4) 279.6 mg / dl, and the drug acarbose treatment group (P5) 171 mg / dl.

Keywords : celery juice , when blood sugar levels , hyperglycemic mice