

## ***Abstract***

*Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. Diabetes mellitus is the fourth largest cause of death in the world. Modern lifestyles that tend not healthy, make people with diabetes mellitus increase. This increase is not offset by professionals who deal with the increased patients of diabetes mellitus. The lack of knowledge about the symptoms and preventive measures against these diseases also cause this disease continues to increase every year. Many people with diabetes mellitus are not diagnosed because the lack of knowledge about the symptoms of diabetes mellitus. In that case, we need a decision support system applications using expert system to assist in the decision making for diagnose this disease early. This system diagnose patient for diabetes mellitus based on facts and symptoms that experienced by patients. Certainty factor method is applied to this system as a method to solve the problem of the uncertainty that arises when one feels a symptom, to improve the precision of this system to diagnose diabetes mellitus. Based on the results of the implementation and testing that have been done, obtained conclusion that this DSS for diabetes mellitus can diagnose patients with 80% accuracy, as well as the level of satisfaction, help, needs, functionality, ease of each are satisfied, helpfull, needed, meets functionality, and easy to use for this diabetes mellitus DSS.*

**Keyword:** *expert system, certainty factor, diabetes melitus, dss*