

**PENGARUH EKSTRAK BIJI JUWET ( *EUGENIA JAMBOLANA* )  
TERHADAP PENINGKATAN JUMLAH SEL BETA PANKREAS DAN JUMLAH  
RESEPTOR INSULIN PADA MENCIT BALB/c JANTAN YANG DIINDUKSI  
STREPTOZOTOCIN**

**INAWATI**

**Pembimbing : Dr. I Ketut Sudiana, MSi.**

**DIABETES MELLITUS**

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**ABSTRACT**

Effect of Extract Juwet (*Eugenia jambolana*) Seed on Increasing the number of Beta Cell Pancreas and the number of Insulin Receptor white male BALB/c Strain Mice after Induced by Streptozotocin.

According to the data in the journal of Diabetes Care 2004, DM patient in Indonesia in 2000 reach 8,4 million people. And ranked 4<sup>th</sup> after India, Cina and USA. Population will increase more than two times in 2030, reach 21,3 million people.

This study was to prove effect of extract juwet seed in beta cell pancreas and insulin receptor in mice after induction of Streptozotocin (STZ). This was experimental study using white male BALB/c strain mice, 10 weeks old with bodyweight of 25-35 grams. Group 1 was received no STZ and extract juwet seed sacrificed in 3<sup>th</sup> day. Group 2 was received STZ but no extract juwet seed, sacrificed in 3<sup>th</sup> day. Group 3 was received STZ but no extract juwet seed, sacrificed in 18<sup>th</sup> day. Group 4 was received STZ and received extract juwet seed. Group 5 was received no STZ and extract juwet seed, sacrificed in 18<sup>th</sup> day. Fasting blood glucose and 2 hours after given oral glucose was examined in 3<sup>th</sup> day and in 18<sup>th</sup> day. Pancreas and musculus were removed and processed in the parafin block, then were stained with immunohistochemistry.

There was significant difference between group those received STZ and received no extract juwet seed and those that received STZ but received no extract juwet seed in the result of Anova analyzed for expression beta cell pancreas ( $p < 0,05$ ) and Anova analyzed showed significant difference ( $p < 0,05$ ) between the number of expression insulin receptor in musculus mice who received STZ but received no extract juwet seed and those who received STZ and received extract juwet seed.

The conclusion of this experiment was the number of expression beta cell pancreas of mice who received STZ and received no extract juwet seed less than in mice who received STZ and received extract juwet seed.

**Keywords: diabetes mellitus, extract juwet seed, and beta cell pancreas**