

# ASSESSMENT OF BLOOD GLUCOSE LEVELS IN ANIMALS TREATED WITH *COCOS NUCIFERA* ENDOCARP AND DATA INTERPRETATION BASED ON NON-COMPARTMENT ANALYSIS AND RATE PROCESS

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## ABSTRACT

*Cocos nucifera*, an herbal plant, has potential in combating diabetes mellitus. The study aims to explore the role of coconut oil (oil from fruit of *C. nucifera*) in managing diabetes and to investigate the significance of the coconut endocarp, discerning their individual effects and whether the oil's efficacy is influenced by the bioactive constituents present in the endocarp. The blood glucose-lowering effect was assessed in albino Wistar rats using an oral glucose tolerance test, with metformin as the standard. Various methods were employed to analyze blood glucose levels. Based on the mean blood glucose level, dried endocarp exhibits better activity in lowering glucose ( $149.25 \pm 9.7 \text{ mg dL}^{-1}$ ) and demonstrates greater percentage glucose reduction (10.23 %) at 30<sup>th</sup> min. Compared to coconut oil and endocarp, the standard drug is superior. However, considering the rate of the process, the standard drug is superior in controlling the blood glucose level ( $0.22 \text{ min}^{-1}$ ) compared to both coconut oil and the endocarp at 0-30<sup>th</sup> min. The study concludes that dried *C. nucifera* endocarp extract exhibits a greater hypoglycemic effect compared to coconut oil and the activity of coconut oil may be because of the phytoconstituents of endocarp itself. The study has a future perspective to incorporate the endocarp as part of a nutraceutical.