

## The Giving Effects of Virgin Coconut Oil on Profile Pharmacokinetics Diclofenac Sodium

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**Abstract :** Pure coconut oil (*Virgin Coconut Oil*, VCO) includes medium chain fatty (*Medium Chain trigliseride*, MCT) is quickly digested and absorbed in a short time, can be converted into energy so as to increase the body's metabolism. It is thus able to influence the metabolism of drugs when combined with diclofenac sodium. The aim of this study is to determine the effect of VCO on the pharmacokinetics profile of diclofenac sodium. The method adopted in this study using Wistar rats of body weight 200-250 g. VCO used in this study is the Palm Mustika with variations of three doses of VCO (12.5 ml, 25 ml and 50 ml) and the therapeutic dose of diclofenac sodium (4.5 mg/kg). Span of blood samples ( 0', 15', 30', 45', 75', 105', 135', 195', 255', 315', 435') and the measurement of drug levels in the blood ( $K_{abs}$ ,  $T_{max}$ ,  $C_{max}$ , AUC, MRT AUMC, Vd,  $T_{1/2}$ ,  $K_{el}$  and CL) using a High Performance Liquid Chromatography (HPLC). The result of data analysis is performed using one-way ANOVA. The results showed that the value  $K_{abs}$ ,  $T_{max}$ ,  $C_{max}$ , AUC, AUMC, MRT, Vd and  $T_{1/2el}$  containing VCO with dose variation ( 12.5 ml, 25 ml, 50 ml) decreased compared to the control of diclofenac sodium. While the value of  $K_{el}$  and CL containing VCO with dose variation (12.5 ml, 25 ml, 50 ml) increased when compared to controls diclofenac sodium. This is because the VCO can increase the body's metabolism so that the effect on drug metabolism when combined with diclofenac sodium. While, according to statistics show that the value of  $K_{el}$ ,  $T_{1/2el}$ ,  $T_{max}$ ,  $C_{max}$ , Vd and CL have a significance value  $< 0.05$  which states that there are differences between groups . This is because the VCO influence to increase the body's metabolism so that if there are other chemicals into the body in this case sodium diclofenac will be quickly eliminated from the body.

**Keywords:** *Virgin Coconut Oil* (VCO), Pharmacokinetics, Diclofenac Soium, AntiInflammatory.