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ANTIOXIDANT AND HYPOCHOLESTEROLAEMIC ACTIVITIES OF *BORASSUS FLABILLIFER* L (PALMYRAH) FRUIT

Recent studies showed the Palmyrah fruit pulp (PFP) to be rich in carotenoids especially lycopene, which is an antioxidant. Lycopene is known to be beneficial in prevention of cardiovascular ailments and cancer. It is believed by people in the regions where consumption of PFP is common, that the reduction in these diseases is due to the incorporation of PFP in their diet. The objectives of this study were to investigate the effects of PFP on cardiac antioxidant level and serum cholesterol level in Institute of Cancer Research (ICR) mice.

The mice were randomly divided into two groups (n=10). Everyday for 4 weeks one group received a diet incorporated with PFP at a 10% level into WHO-recommended standard mice feed. The control group was given the standard diet and both groups were given water *ad libitu*m. After four weeks the mice were anaesthetized and blood drawn from hearts for estimation of serum cholesterol levels. Hearts were excised for *in vivo* lipid peroxidation assay. The antiradical potential of PFP was determined *in vitro* by the ability to scavenge DPPH (1,1-diphenyl-2-picrylhydrazyl) free radical and anti-lipoperoxidant potential was evaluated by the effect on malonaldehyde (MDA) formation *in viv*o.

In the crude extract, the ability to reduce the stable radical DPPH was found to be in the range of 7.5-10.0 mg/mL (IC50) whereas the control ascorbic acid gave a value of 0.022 mg/mL. Although the IC50 value obtained for PFP is fairly high, the *in vivo* assay showed the feeding had a ignificant ($p<0.001$) antioxidant effect. In the *in vivo* lipid peroxidation assay the reduction in TBARS (thiobarbituric acid reactive substances) generation in the heart when compared with control gave a value of 48.6 ±7.5%. Serum cholesterol levels were significantly reduced by PFP (19%, $p=0.0434$). Our results show that PFP has antioxidant and cholesterol lowering capacity.