

197

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ABSTRACTS

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EVALUATION OF THE *In vitro* AND *In vivo* ANTIOXIDANT POTENTIALS OF SUDARSHANA POWDER

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Sudarshana powder (SP) is used in Ayurveda as an anti-malarial, anti-pyretic, anti-inflammatory and anti-histamine formulation. Our aim was to evaluate the *in-vitro* and *in-vivo* antioxidant potentials of SP. The *in-vitro* antioxidant effects (AOE) were evaluated using ABTS radical cation decolourization assay and *In-vivo* anti-oxidant activity of SP was analyzed using the method of determination of the Lipid Peroxidation (LPO) in Serum. The level of thiobarbituric acid reactive substance (TBARS) and malondialdehyde (MDA) production was measured in serum by the modified method. Water extraction of SP was used in *in-vitro* assay. The ABTS radical solution was prepared using 2,2'-azinobis-(3-ethylbenzothiazoline-6-sulfonic acid) and potassium persulphate and diluted with water until the absorbance reached 0.700 (± 0.02) at 734 nm. The prepared sample (10 μ l) was added to ABTS solution with phosphate saline buffer until total volume reached (3 ml). This assay was referred to as the Trolox equivalent antioxidant capacity (TEAC). In *in-vivo* assay, Wistar rats were randomly divided into two groups (n=6). Baseline serum of MDA level assessed in day 0 blood samples. Control group received distilled water and test group receive hot water extraction of SP (0.5g/kg). The animals were dosed for 21 consecutive days and blood was collected to evaluate the MDA level. AOE of SP 0.5 μ g was equivalent to 14.45 μ g of standard TROLOX. The percentage-inhibition against the radical formation was 50.93 ± 0.53 %. The findings of the *in-vivo* study in the rats tested, the serum MDA level of the control and test group (SP) respectively were 3.9 ± 0.21 μ mol/L and 2.07 ± 0.08 μ mol/L. SP showed a significant ($p < 0.01$) decrease in the serum level of thiobarbituric acid reactive substance when compared with the control group. These findings suggest that the SP has antioxidant activity which may be responsible for some of its reported bioactivities.

Keywords: Antioxidant, Wistar rats, *In-vitro* and *in-vivo*