

NEUROBEHAVIOURAL AND NEUROHISTOLOGICAL CHANGES IN WISTAR RATS FOLLOWING INHALATION OF SMOKE FROM DRY BROWN *CARICA PAPAYA* (PAWPAW) LEAF

OYEWOLE, A.L. AND OWOYELE, B.V.,
Department of Physiology, University of Ilorin, Nigeria.

Papaya is a tropical plant that forms a member of the family Caricaceae. Documented reports showed that the pawpaw leaves are used for treatment of inflammatory conditions, smoked for asthma attack relief and as a psychoactive substances (Hernandez et al., 2007; Olley, 2007; Owoyele *et al.*, 2008). Hence, the aim of this research is to investigate a possible presence of psychoactive substance in dry brown *Carica Papaya* leaf. Twenty-four adult male wistar rats were grouped into four and were named Group 1 (control), group 2 (Low dose), Group 3 (Medium dose) and dry brown pawpaw leaves respectively in a locally made smoking chamber. Twenty-one (21) days after dual daily exposure, evaluations were done a spontaneous locomotor activities and exploratory behaviour using open field maze test and board hole test. Finally, amygdala was harvested in each group of investigate the histological changes. The results showed a significant increase ($p < 0.05$; ANOVA) in mean for both locomotory activities and exploratory behaviour in the treated groups compare to the control group that was given nothing. Grooming "Self-caring" behaviour was also significantly ($p < 0.05$; ANOVA) reduced in treated groups. Histological changes include moderate neural degeneration

and reduced nissil substance distribution in high dose group. In conclusion, increased locomotor activities and exploratory behaviour imply that the anxiety level is low in the treated groups compare to the control group. This research thus confirms that dry brown *C. papaya* leaf may possibly contain psychoactive substance (s) that become active on burning. Smoking pawpaw leaf should be however discouraged because its mechanism of action seems to include neural degeneration.

References:

1. Hernandex, CN, Valle Mora J, santiesban HA, Bello MR. (2007). *Sci total Environ.* 381:112-25.
2. Olley, BO. (2007). *IFE Psychology.* Vol. 15, No 1: PP. 25-39.
3. Owóyele, BV et al, (2008). *Inflammo-pharmacology*: 16 (4): 168 – 174.