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Jobelyn® reduces aggressive behaviors in animal models predictive of human aggression

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Abstract

Aggression is a series of deliberate violent behaviors emitted against another organism that leads to its harm or death and thus of public health significance. Drugs currently used for treatment of aggression and violent outbursts are limited by severe adverse effects, necessitating the search for new agents. This study evaluated the effect of Jobelyn® (JB), a potent African herbal formulation on intruder- and isolation-induced aggressive behaviors in mice. Male mice that showed aggression after housing individually with female counterparts for 3 weeks or kept in isolation for 4 weeks were treated orally with JB (5, 10 or 50 mg/kg), haloperidol (1mg/kg), fluoxetine (10 mg/kg), p-chlorophenylalanine (50 mg/kg), mianserin (50 mg/kg) or distilled water (10 ml/kg) 60 min before testing for aggression. Interaction studies involving oral treatment of p-chlorophenylalanine (50 mg/kg), fluoxetine (10 mg/kg), or mianserin (50 mg/kg) to aggressive mice that had JB (5 or10 mg/kg, p.o.) 30 min earlier was assessed using the resident-intruder paradigm. Effect of JB on defensive behaviors was also evaluated. JB (5, 10 or 50 mg/kg) decreased aggressive behaviors without impairing the defensive mechanisms. P-chlorophenylalanine (50 mg/kg), an inhibitor of 5-hydroxytryptamine (5-HT) biosynthesis, increased aggressive responses and reduced the anti-aggressive effect of JB. Fluoxetine (10 mg/kg), a 5-HT reuptake inhibitor, suppressed aggression but did not significantly alter the effect of JB. Mianserin (50 mg/kg), 5-HT receptors antagonist, reduced aggression and enhanced the effect of JB. These findings suggest that Jobelyn® has anti-aggressive activity, which appears to be related to enhancement of serotonergic system.

Biography

Solomon Umukoro has completed his Ph.D at the age of 38 years from University of Lagos, Nigeria. He is the head of Neuropharmacology unit, Department of Pharmacology and Therapeutics, University of Ibadan, Nigeria. He has published more than 27 papers in reputed journals and has been serving as a reviewer to both local and international journals.