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ANTI-THROMBOCYTOPENIC AND ANTI-LEUKOPENIC PROPERTIES OF SYZYGIUM CUMINI (L.) SKEELS (MYRTACEAE) LEAVES IN A MURINE MODEL

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Dengue has remained to be a national epidemic in the Philippines and has been one of the leading causes of mortality in children. Although there is no quick dengue infection confirmation test, a complete blood count might show thrombocytopenia and leukopenia. *Syzygium cumini* (L.) Skeels (Myrtaceae) is widely used for various diseases and is particularly abundant with quercetin. The air-dried S. cumini leaves underwent sequential extraction using hexane, ethyl acetate, and methanol followed by phytochemical screening, where the methanolic extract was found to contain the highest amount of flavonoid (87.5 mg QE/gram), followed by the ethyl acetate extract (56.1 mg QE/gram), and the hexane extract (32.5 mg QE/gram), respectively. The methanolic leaf extract, given its numerous toxicity studies to be safe from 5 to 2,000 mg/kg as per OECD 423 guidelines, was then subjected to *in vivo* bioassay utilizing 24 male Sprague-Dawley rats. The rats were divided into four groups (n=6) namely: distilled water 10mL/kg p.o., hydroxyurea 15 mg/kg p.o., methanolic extract 400 mg/kg p.o., and methanolic extract 800 mg/kg p.o., where hydroxyurea was used to induce thrombocytopenia and leukopenia in all groups. The thrombocyte and leukocyte counts were measured before induction to get the baseline, after induction, and at the 1st, 3rd, and 6th day of treatment. Applying one-way ANOVA and Duncan Test as post-hoc, results revealed that the methanolic leaf extract of S. cumini exerted an anti-thrombocytopenic property at both doses of 400 and 800 mg/kg and an anti-leukopenic property at the dose of 800 mg/kg. This study significantly claimed for the first time that the leaves of S. cumini can be orally active and effective in increasing platelets and WBCs in hydroxyurea-induced thrombocytopenia and leukopenia. Hence, it is a potential candidate for further research leading to the development of an herbal therapeutic agent for dengue.

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