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## PHARMACEUTICAL BIOTECHNOLOGY

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***Raphia australis* polyphenols for cancer treatment****Muyiwa Arisekola**

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Cancer, the second cause of death in the world, has been treated with the use of several synthetic drugs. Some of the chemotherapeutic drugs used in orthodox medicine include vinblastine, topotecan, irinotecan and silvestrol. All these drugs come with their side effects like anemia, tiredness, mouth soreness, nausea, hair loss, loss of appetite, skin changes, pain, and infertility. The major anticancer secondary metabolites are saponins, tannins and flavonoids. Due to the low toxicity, and given the fact that there has been no literature report on polyphenols present in the genus *Raphia*, this work therefore looks into the use of *Raphia australis* ethanol extract in cancer chemotherapy. Extraction was done on the dried pulp of *Raphia australis* by steeping in ethanol after extracting and concentrating, thin layer chromatography (TLC) analysis was carried out using ethanol-ethyl acetate-ammonia solvent system in the ratio 5:3:2 respectively. Gravity column chromatography was run using this solvent system. Similar fractions were combined together for further analysis using liquid chromatography-mass spectrometry (LC-MS). Three flavonoids and three tannins were identified which are: afzelechin epicatechin ( $m/z=561.1397$ ), catechin ( $m/z=289.0712$ ), protocatechuic acid ( $m/z=153.0182$ ), umbelliferone also known as 7-hydroxycoumarin ( $m/z=353.0873$ ), anthocyanidin, and quinic acid ( $m/z=191.0556$ ). These phenolics all showed anticancer activity. Due to the ubiquitous application of these polyphenols in the treatment of various forms of cancer, this work therefore suggests the use of ethanol extract of the pulp of *Raphia australis* in the treatment of various forms of cancer. The biological evaluation will be done using MTT assay.

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