

THE ANTI-CANCER PROPERTIES OF NIYOG NIOGAN (*Quisqualis indica*), TSAANG GUBAT (*Carmona retusa*), AND PANSIT PANSITAN (*Peperomia pellucida*)

**Benjamin B. Jularbal<sup>[1]</sup>**

<sup>[1]</sup>St. Paul University Philippines  
bjularbal@spup.edu.ph

**ABSTRACT**

*Cancer remains to be one of the leading causes of death in the Philippines and around the world. One common therapeutic approach to inhibiting growth of cancer cells is the use of chemotherapeutic agents. However, many of these agents are presently placed in a predicament because of their drug resistance and toxic effects to normal cells. For these reasons, research and development on new classes of anti-cancer agents which exhibit efficient and selective toxicity is increasing attention. In the Philippines, DOH approved ten herbal medicines for human use as home remedies for different diseases. Of the ten herbal plants, Quisqualis indica, Carmona retusa and Peperomia pellucida have not been studied for their anti-cancer potential. Thus, there is a need to discover their potential anti-cancer properties to provide opportunities in the discovery of drugs against cancer. Four biological assays were used in the evaluation of the anti-cancer properties of Quisqualis indica, Carmona retusa and Peperomia pellucida. Results showed that the extracts were able to inhibit angiogenesis in both the CAM and HUVEC assays. Moreover, the plant extracts were able to decrease the level of VEGFR (1 and 2) and CD-34 gene expression and increase TGF-β1 expression. The extracts also decreased the viability of human breast cancer cells. This decrease in viability is attributed to apoptosis which is characterized by extensive DNA fragmentation. Further studies may want to identify the bioactive compounds present in the plants, including their possible effects on different cancer cell lines.*

**Keywords:** *apoptosis, cancer cells, gene expression, herbal plants*