

# Effect of soursop (*Annona Muricata*) on patients with cancer: A systematic review

Isaali Mohd Taha Ariff<sup>1</sup>, Jamil Nurdiana<sup>2</sup>, Ahmad Kamarudin<sup>1,3</sup>

<sup>1</sup>Hospital Miri, Sarawak, <sup>2</sup>Faculty of Pharmacy, University of Cyberjaya, Selangor, <sup>3</sup>Clinical Research Centre Hospital Miri, Sarawak

## ABSTRACT

**Introduction:** *Annona muricata* is one of the most popular herbal medicines among cancer patients. It has been widely studied on in-vivo and in-vitro data. However, no systematic review had been done exclusively to pool the studies conducted on humans with cancer. The aim of this review was to explore various effects of *Annona muricata* on cancer by summarising the effects and exploring the possible mechanism of action and safety of *Annona muricata* on patients with cancer. **Methods:** Systematic review was conducted from inception until February 2022 through MEDLINE, Cochrane Library, EMBASE, ClinicalTrials.gov, WHO Trials Portal, Google Scholar, and grey literature reports. The studies were then screened for eligibility of studies based on inclusion and exclusion criteria. **Results:** Out of 475 unique abstracts, 11 were extracted for full review and five were included in the final analysis. All of the studies included have high or critical risk of bias and have different measures of outcomes which warrants caution in interpreting the result. *Annona muricata* demonstrates an inhibitory effect on cancer cells, increase in caspase activity, and anti-inflammatory effect and are found to be safe with minimal side effects in humans with cancer as *Annona muricata* does not affect bone marrow function, liver and kidney function and nutritional status. **Conclusion:** Based on limited studies, *Annona muricata* may have a potential anticancer effect which is safe in humans with cancer. The lack of high-quality studies and incomplete evidence makes it hard to conclude. Further research is needed to confirm the efficacy and safety of *Annona muricata*.