

Anti-cancer activity of three terminalia species and preliminary phytochemical screening

ABSTRACT

This study evaluated anticancer potential of three Terminalia species, Terminalia muelleri, Terminalia bellerica, and Terminalia laxiflora and also their phytochemical content were determined. Anticancer potential of the plant extracts was measured according to MTT assay. The results showed that T. muelleri methanolic extract was active against breast cancer cell line with IC₅₀ 40 µg/mL. T. bellerica methanolic extract exerted cytotoxic effects only against colon cancer and liver cancer cell lines with IC₅₀ of 50 and 15µg/mL, respectively. While T. laxiflora methanolic extract did not inhibit the proliferation of all cancer cell lines tested. Phytochemical investigation of the three plant species proved the presence of carbohydrates, flavonoids, tannins, and triterpenes. The methanolic extracts of T. muelleri and T. bellerica had a significant anticancer activity and so further phytochemical study to isolate and identify the bioactive molecules responsible for the observed anticancer activity is necessary.

Keyword: Terminalia species; Bark; Anticancer; Phyto-constituents