An *in vitro* evaluation of *Tribulus terrestris* L. fruit extract for exploring therapeutic potential against certain gut ailments

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The enteric pathogens and oxidative stress are known to generate intestinal inflammation, chronic gut ailments and oncogenesis. Modulation of the gut microbial peak populations through herbal agents, offers a promising therapeutic modality. *Tribulus terrestris* Linn. (Tt), a widely documented medicinal herb in Ayurveda, was investigated for antioxidant, anti-inflammatory and antimicrobial activities *in vitro*. Fruit extract of Tt and quercetin, evaluated for free radical scavenging by DPPH method, revealed IC_{50} values as 98.83 and 24.77 µg/mL, respectively. Anti-inflammatory attributes of Tt fruit extract and indomethacin, a known anti-inflammatory drug, rendered IC_{50} values as 10.8 and 12.9 µg/mL against protein denaturation. MTT assay on HCT-15 cells revealed a decrease in viability from 78 to 22% against 30 and 70 µg/mL of Tt fruit extract, respectively. Zone of inhibition against *E. coli* increased from 0.19 to 9.82 cm^2 at 200 and 1000 µg/mL of Tt, respectively. The fruit extract of Tt enhanced the growth of probiotic *Lactobacillus rhamnosus* (*L.rh*) by 19, 44 and 50 % over the control at 100, 150 and 200 µg/mL, respectively. This study indicated the potential of *Tribulus terrestris* fruit extract against inflammatory, oxidative and microbe generated pathogenic ailments in the digestive system.

Keywords: Anticancer, Antioxidant, Anti-inflammatory, Antimicrobial, Ayurveda, Cytotoxicity, Devil's horn, Gokshura, Gut microbiota, Inflammation, *Lactobacillus rhamnosus*, Probiotics, Puncture vine