

Screening of phytochemical properties and antimicrobial activity of Malaysian medicinal plants against aquatic bacteria

ABSTRACT

Aims: Quantitative screening of phytochemical properties and antimicrobial activities were done on some plants of importance in human medicine as traditional herbs to treat fish diseases in Malaysia. Six extracts of *Vitex trifolia*, *Aloe vera*, *Strobilanthes crispus*, *Clinacanthus nutans*, *Pereskia grandifolia* and *Peperomia pellucida* were determined for phytochemical properties and their antibacterial activities against common freshwater pathogens i.e. *Streptococcus agalactiae*, *Aeromonas hydrophila* and *Enterobacter cloacae*. **Methodology and results:** Qualitative screening of phytochemical properties in herbs were determined using conversional method for flavonoids, tannins, saponin, alkaloids steroid and glycoside. The results showed flavonoid was presence in all plant extracts. For the antimicrobial activity, the aqueous and methanolic extracts were tested by using disk diffusion method. Antimicrobial assay of methanolic crude extracts (25 to 100 mg/mL) showed effectiveness against the pathogenic bacteria. Comparatively, all aqueous extracts did not show any antimicrobial activity. Strong antibacterial activity was shown by the methanolic extracts of *V. trifolia*, *A. vera* and *S. crispus* while moderate antimicrobial activity was shown by *C. nutans*, *P. grandifolia* and *P. pellucida*. **Conclusion, significance and impact study:** The current results indicated that the studied plants might indeed be potential sources of natural antimicrobial agents to control fish diseases.

Keyword: *Vitex trifolia*; *Aloe vera*; *Strobilanthes crispus*; Phytochemical; Antimicrobial