

ABSTRACT:

Labisia pumila (Myrsinaceae), known as "Kacip Fatimah," has been used by many generations of Malay women to induce and facilitate child birth as well as a post partum medicine. However, its topical application on skin has not been reported yet. In this study, we have focused on the anti-photoaging effects of *L. pumila*. Extract of *L. pumila* was first analyzed for their antioxidant activities using DPPH (2,2-diphenyl-1-picrylhydrazyl) since UV irradiation is a primary cause of reactive oxygen species (ROS) generation in the skin. The 50% free radical scavenging activity (FSC(50)) of *L. pumila* extract was determined to be 0.006%, which was equal to that produced by 156 microM ascorbic acid. TNF-alpha and cyclooxygenase (COX-2) play a primary role in the inflammation process upon UV irradiation and are known to be stimulated by UVB. Treatment with *L. pumila* extract markedly inhibited the TNF-alpha production and the expression of COX-2. Decreased collagen synthesis of human fibroblasts by UVB was restored back to normal level after treatment with *L. pumila* extract. On the other hand, the enhanced MMP-1 expression upon UVB irradiation was down regulated by *L. pumila* extract in a dose-dependent manner. Furthermore, treatment of normal keratinocytes with *L. pumila* extract attenuated UVB-induced MMP-9 expression. These results collectively suggest *L. pumila* extract has tremendous potential as an anti-photoaging cosmetic ingredient.