Potential of Ketapang Leaf (Terminalia catappa) Extract as a Functional Agent in Edible Films with Antidiarrheal Benefits

Ulfah Ayu Ninsih*, Muhammad Amin, Muh. Hidayat

Department of Pharmacy, Faculty of Pharmacy, Universitas Muslim Indonesia, Makassar, 90231, Indonesia
**Presenter's Email Address : ulfahayuninsih@gmail.com*

Abstract. Diarrhea remains one of the most prevalent health issues in Indonesia. Data indicates that the prevalence of diarrhea cases in Makassar reaches 40.26%, making it a significant public health burden. This highlights the need for exploration of safe, affordable, and sustainable alternative therapies based on natural ingredients. Ketapang leaves (*Terminalia catappa* L.) are known to contain secondary metabolites such as tannins, which play a crucial role in antidiarrheal activity. Tannins decrease intestinal movement and fight bacteria that cause diarrhea. Tannins are isolated through extraction and can be applied in the development of water-soluble edible films. Literature reviews indicate that bioactive tannins can reduce defecation frequency and inhibit the growth of pathogenic bacteria causing diarrhea. The innovation proposed is the development of edible films based on *Terminalia catappa* extract as a biodegradable material and as a functional oral delivery system. Integrating the extract into a biopolymer matrix has the potential to maintain physicochemical stability while expanding the application of herbal pharmaceuticals. Therefore, edible films based on *ketapang* leaf extract represent an innovative pharmaceutical strategy that combines pharmacognosy with modern delivery technology and has the potential to be developed as a candidate herbal formulation for antidiarrheal therapy.

Keywords: *Terminalia catappa*, Tannins, Antidiarrheal, Edible Films, Herbal Pharmaceutics