

Abstract

Indonesia is a country with high biodiversity and many plants' potential for pharmaceutical and biotechnology research. *Pangium edule* is one of the local Indonesian spices usually used for a specific cuisine. Currently, there are few studies of *P. edule* as a food preservative agent and none on its medicinal use. *P. edule* seeds contain antioxidants, alkaloids, and polyphenolic compounds, which are known to have antimicrobial activities. Foodborne pathogens such as *Staphylococcus aureus*, *Escherichia coli*, *Salmonella typhimurium*, and *Klebsiella pneumoniae* are commonly found in street food in Indonesia. Foodborne pathogens such as *S. aureus*, *E. coli*, *S. typhimurium*, and *K. pneumoniae* showed antibiotic resistance. This research is another approach to utilizing *P. edule* potential for medicinal purposes, especially against foodborne pathogens, by focusing on investigating the antibacterial activity exerted specifically from a phenolic acid extracted from *P. edule* seeds to target foodborne pathogens such as *S. aureus*, *E. coli*, *S. typhimurium*, and *K. pneumoniae*. The phenolic acid was extracted from the *P. edule* seeds, and Kirby Bauer was used as the method to determine the antimicrobial activity exerted by the free phenolic acid and glycoside bound phenolic acid. In conclusion, phenolic acid extracted from *Pangium edule* seeds can exert antibacterial activity toward *Klebsiella pneumoniae*, *Escherichia coli*, *Staphylococcus aureus*, and *Salmonella typhimurium* as the foodborne pathogen. Therefore, phenolic acid from *P. edule* seeds can be investigated more to be used as a food preservative or pharmaceutical ingredient.

Keywords: *Pangium edule*, phenolic acid, glycoside, *Klebsiella pneumoniae*, *Escherichia coli*, *Staphylococcus aureus*, *Salmonella typhimurium*, antibacterial activity, foodborne pathogen