ABSTRACT

Background. Dental caries is a disease that damages dental hard tissue that is formed from the accumulation of plaque on the tooth surface. Streptococcus mutans and Lactobacillus acidophilus are the pathogenic bacteria causing dental caries in human. One of the natural ingredients as antibacterial is pomegranate rind. The pomegranate rind extract (Punica granatum Linn) has the highest antimicrobial activity compared with other plant parts extract because it contains more tannins, flavonoids, and polyphenols. Purpose. The aim of this study was to determine the inhibitory effect of gel pomegranate rind extract (Punica granatum Linn) on Streptococcus mutans and Lactobacillus acidophilus. Method. The sample of this study was pomegranate rind (Punica granatum Linn) that had been mixed with ethanol to obtain pomegranate rind extract. The extract was then given gel solution with CMC Na 3% base to obtain a concentration of 0.8%, 0.4%, 0.2%, 0.1%, 0.05%. Each concentration values were then tested its inhibitory effectiveness on Streptococcus mutans and Lactobacillus acidophilus on Tryptone Yeast Cystine and Muller Hinton media with diffusion method. Result. At a concentration of 0.1%, Streptococcus mutans were not seen around gel pomegranate rind extract (Punica granatum Linn). It also occurred in Lactobacillus acidophilus at a concentration of 0.2%. Conclusion. Gel pomegranate rind extract (Punica granatum Linn) had inhibitory effect to bacteria Streptococcus mutans and Lactobacillus acidophilus. The minimum inhibitory concentration gel pomegranate rind extract against Streptococcus mutans dan Lactobacillus acidophilus bacteria were 0.1% and 0.2%.

Keywords: Gel pomegranate rind extract, Streptococcus mutans, Lactobacillus acidophilus