ABSTRACT

EFEK ANTIOKSIDAN EKSTRAK KOPI ROBUSTA (*Coffea canephora*) TERHADAP SALIVA PENDERITA PERIODONTITIS KRONIS

ANTIOXIDANT ACTIVITY OF ROBUSTA COFFEE (*Coffea canephora*) EXTRACT in SALIVA OF CHRONIC PERIODONTITIS PATIENTS

**Background.** Periodontal disease starts with gingivitis and if left untreated, it will develop into periodontitis. The number of bacteria present on the tooth and gingival can stimulate polymorphonuclear cells (PMN) to release Reactive Oxygen Species (ROS). ROS and antioxidants should be balanced. If this balance were disturbed, there will be a condition called oxidative stress which maintain the inflammation. Robusta coffee is the most coffee product in Indonesia. It’s known has chlorogenic acid, ferrulic acid, and caffeic acid as antioxidant to reduce free radicals by transversing their hydrogen atom. **Purpose.** The aim of this study were to prove the antioxidant activity of Robusta coffee extract. **Method.** This research was done in-vitro experiment from the saliva of chronic periodontitis patients using include and exclude criteria. Robusta coffee extract at concentration: 100%, 50%, 25%, 12.5%, 6.25%, 3.125%, 1.56% dan 0.78% and positive control tested antioxidant activity with DPPH assay. The extract was mixed with saliva of chronic periodontitis patients and DPPH reagent. Then, measured value of absorbance using spectrophotometer. **Results.** 100%, 50%, 25%, 12.5%, 6.25%, 3.125%, 1.56% dan 0.78% is significantly increase antioxidant activity that expressed as percent reduction activity. IC$_{50}$ value was shown in concentration 12.5% (56.958%). **Conclusion.** Robusta coffee extract has an active antioxidant power against salivary periodontitis patients.

**Keywords:** Periodontitis, Saliva, Robusta coffee, Chlorogenic Acid, Antioxidant