

**THE EFFECTIVE CONCENTRATION SAPONIN OF MANGOSTEEN PEEL
EXTRACTS (GARCINIA MANGOSTANA L.) AS A CAVITY CLEANSER**

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ABSTRACT

Background. The quality of cleaning cavity walls depends on cavity preparation. After cavity preparation, cavity walls are usually covered by debris. Debris is defined as dentinal chips, and residual vital or necrotic pulp tissue attached to the cavity walls, which in most cases is infected. Research stated that debris caused infection which bacteria allowed to multiply and lead to failure of restoration treatment. Mangosteen peel extracts (*Garcinia mangostana l.*) contain saponin compounds that are “surfactans” which can dissolve debris, but until now have not known the effective dose saponin of mangosteen peel extracts (*Garcinia mangostana l.*). **Purpose.** This study was to determine the effective concentration saponin of mangosteen peel extracts (*Garcinia mangostana l.*) which can be as cavity cleanser. **Method.** Sixty three extracted human premolar was selected, stored in normal saline and divided in 9 groups randomly ($n = 7$). After that occlusal surface of human premolar were removed by using separating disk bur, then dentinal walls were drilled by using wheels bur as 1.5 mm. All specimens were cutting in cemento enamel junction horizontally about 5 mm by separating disk bur. During instrumentation, each specimen was rubbed by using microbrush for 60 seconds with Saponin of mangosteen peel extracts (*Garcinia mangostana l.*) with different concentrations according to each group, and a control irrigated with aquadest., then each specimen was irrigated with 1 ml of aquadest by needle syringe. After that, observed the results of cleaning cavity walls by using scanning electrone microscope (SEM). **Result.** There were significant differences between control group and treatments group ($p < 0,05$). **Conclusion.** All concentrations have the same ability for cleaning the cavity wall from debris and Saponin of mangosteen peel extracts (*Garcinia mangostana l.*) with a concentration of 0,78 % effective for cleaning the cavity walls from debris based on the operational definition.

Keywords: Mangosteen peel extracts (*Garcinia mangostana l.*), saponin, debris, cavity cleanser.