

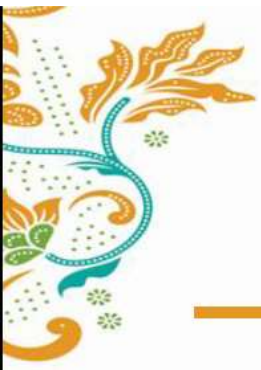


The 2nd Indonesian Young Pharmacist Group (IYPG)
ANNUAL BUSINESS MEETING
&
The 5th Asian Young Pharmacist Group (AYPG)
LEADERSHIP SUMMIT 2019

November 7-10th 2019
Yogyakarta, Indonesia

ABSTRACT BOOK



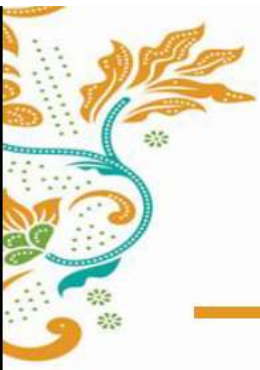


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AYPG LEADERSHIP SUMMIT

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POSTER PRESENTATION



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FORMULATION AND ANTIBACTERIAL ACTIVITIES OF PATCH POMEGRANATE PEEL ETHANOLIC EXTRACT (*PUNICA GRANATUM L.*) AGAINST *STREPTOCOCCUS SANGUIS* ON RECURRENT APHTHOUS STOMATITIS

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Mouth ulcer (*Recurrent Aphthous Stomatitis*) is one of the most common diseases in the community. This disease can be caused by various factors, one of them is bacterium *Streptococcus sanguis*. Previous study showed that pomegranate peel extract (*Punica granatum L.*) had antibacterial activity regarding to the content of tannin. This study aims to know optimal concentration pomegranate peel ethanolic extract (*Punica granatum L.*) as antibacteria. Test to determine the optimal concentration extract in the inhibition of *Streptococcus sanguis* is prepared by agar diffusion method. The concentration of the extract were used 1%, 2.5%, 5%, 10% and 20%. Positive control used is albotyl, while the negative control used is aquadest. Patch formulation is prepared by solvent-casting method by varying the composition of chitosan, PVP and HPMC 1:2:2, 1:2:3 and 2:3:6. Antibacterial activity of patch is also prepared by agar diffusion method. Negative control used is formula of patch without extract. Statistical analysis is performed with *Kruskal-Wallis* method. The results shows that the optimal concentration of extract as antibacteria activity is 10%. Statistical analysis produces *Kruskal-Wallis* p-value which equal to 0.014. The post-hoc Mann-Whitney test shows that all of the extract concentration have a significant difference in inhibition to extract with a concentration of 1%. Meanwhile, pomegranate peel ethanolic extract (*Punica granatum L.*) can be formulated into patch dosage form with the the most satisfied characteristics found in the formula containing in the ratio chitosan, PVP and HPMC 1:2:3 and extract 5%. Pomegranate peel ethanolic extract (*Punica granatum L.*) patch shows no inhibition of the growth of the *Streptococcus sanguis*, which is considered releasing of active substance. However, pomegranate peel ethanolic extract (*Punica granatum L.*) has higher potency as antibacterial agent than the other controls.

Keyword : pomegranate peel extract (*Punica granatum L.*), patch, *Streptococcus sanguis*.