

# UGM Students Make Anti-inflammation Medication Using Herbs

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Inflammation usually happens due to wounds or infection. Many kinds of medication are available to treat it but long use may cause side-effects.

“Treatment of inflammation using synthetic medication for a long period can cause side-effects such as abdomen damage,” said Apriliyani Sofa Marwaningtyas on Tuesday (31/1) at UGM.

April along with fellows students, Dea Amelia K, Ahmad Eko P, Nadia Khairunnisa, and Ragil Anang, tried to make anti-inflammation medication using herbal sources that are easily available in their surroundings. They examined the efficacy of extract of chamber bitter (*Phyllanthus Niruri* L) leaf and *Securinega virosa* leaf for anti-inflammation.

Chamber bitter and *S.virosa* are wild shrubs that are abundant in the country. Both are known to be able to cure inflammation. *S.virosa* leaf has high securinine compounds that can treat inflammation whilst chamber bitter leaf contains phyllanthin compounds and proved to have anti-inflammation activity, hence, strengthening immunity.



“The extract of chamber bitter and *S.virosa* leaves can treat inflammation. But we have specifically aim this drug for inflammation due to chronic diseases such as cancer, transplantation, and auto-immunity,” she explained.

April revealed the work was sparked by the incidence when she experienced inflammation in her foot. She came to a local traditional masseuse to treat the pain. After being massaged, the foot was covered with mashed leaves and the inflamed part soothed quickly.

“The inflammation recovers in just one day,” she said.

They later made research by extracting the two leaves. The extract was then tested on mice that have been induced with inflammation compounds in the legs. The legs of the mice were injected with the extract per oral for 14 days with 30 mice are divided into 6 control groups, including using chemical drugs as comparison.

“The inflamed legs of the mice that were treated with the extract of chamber bitter and *S.virosa* returned to normal significantly,” Nadia added.

Nadia explained the optimal result was gained with the anti-inflammation drug on the composition of 24 miligram of *S. virosa* and 6.25 miligram of chamber bitter. In vivo test was done on the mice, also in silico from January-Agustus 2016 to know the mechanism of both leaves to inhibit inflammation. It showed that securinine and phyllantin compounds can inhibit enzyme cox-2 that causes inflammation.

The research on chamber bitter and *S.virosa* leaves simultaneously for anti-inflammation, said Nadia, was the first being done in the world. Previous research was on either chamber bitter or *S.virosa*, not the combination of both.

The anti-inflammation named as Nutrasetikal Imer Meniran or Nu Imran, is expected to be an alternative to anti-inflammation. The students will do further research to make the medication can be of use to society.

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