

UGM Pharmacy Students Formulate NEJIWAR to Cure Cervical Cancer

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According to World Health Organization in 2014, cervical cancer ranked second as the top causes of death in the world. Despite all the medication available, the fact proved the menace of cervical cancer. Trends in medication have shifted as well. "Back to Nature" has now become an alternative when modern medication is no longer promising.

Based on the fact, three UGM Pharmacy students presented new medicine solution for cervical cancer patients. The team consisting of Ragil Anang Santoso, Amadea Sylvia Lienaningrum, and Eunice Dwininta Bangun has invented a drug named NEJIWAR (Nanoemulsion of Black Cumin and Ficus Septica Extract). NEJIWAR is a nanoemulsion preparation with nature-based ingredients.

According to Ragil, nanoemulsion preparation was chosen as it can increase bioavailability to improve drug administration in the body. On the other hand, black cumin was used because its active thymoquinone can induce programmed cell death (apoptosis) in cancer cells. Additionally, ficus septica plant was also used because the active tylophorine is cytotoxic to cancer cells.

Under the guidance of Prof. Dr. Ratna Asmah Susidarti, M.S., Apt., the team was able to complete

the drug within five months. Ragil said the duration also includes research process. The next step was several tests, including material authenticity determination as well as Thin Layer Chromatography and Gas Chromatography/Mass Spectrometry testing for compound identification. Then, cytotoxicity and cell cycle testing were also conducted to identify the biological aspects. Finally, there were particle size and zeta potential testing to identify the obtained nanoemulsion product stability.

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