Catfish Slime to Cure Dry Mouth in Post-Nasopharynx Cancer Therapy

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Catfish slime has been turned into medicine to treat dry mouth among patients that undergo nasopharynx cancer therapy. This is done by UGM students Zipora Silka Yoretina, dental student, Deaoxi Renaschantika Djatumurti, veterinary student, and Roissatun Nasikah, pharmacy student., supervised by drg. Hendri Susanto, M.Kes, Ph.D.

“Previous research stated that the slime of local catfish (*Clarias batrachus*) contains compounds effective for antimicrobial agent to counter fungi and bacteria,” said Deaoxi onTuesday (17/7) on campus.

In the slime there are contents of claricin, hepcidin, and several supporting protease as antimicrobial agent for primary defence against bacteria and fungi. It comes as no surprise that the animal can defend itself against infections despite living in a murky and muddy water.

The students found an idea to treat patients of post-nasopharynx cancer therapy. Patients that experience chemotherapy or radiotherapy often have side-effects damage in oral mucous, which reduces the saliva production. This makes the patient find it painful to swallow and feel burn

sensation. It also increases the risk of Candida albicans fungal infection in the mouth cavity that becomes vulnerable to candidiasis. Zipora said this could actually be cured with artificial saliva but the material is from pig's stomach mucin, which is not suitable to the majority of Indonesian people who are Muslim. Hence, they looked at an alternative which looks like saliva.

Tests they conducted have shown that the artificial saliva from the slime can inhibit the growth of candida better than existing drugs. Diameter of growth inhibition zone is 20µL artificial saliva 17% reaches 13 mm while nystatin is just 10.69 with the equal volume with the method of disk-diffusion.

Besides, surface tension also showed that the contact angle of the artificial saliva with glass slide has come close to that of natural saliva which was tested in the same manner. Solution pH, however, is still low around 3.67 compared to human natural saliva pH at 6.39.

"This can be overcome by essence addition or supporting aromatic compounds," said Roissatun.

Currently, they still do in vitro pre-clinical testing. Going forward, they will conduct in vivo and clinical test.

"This research is expected to be the pioneer for dry mouth medicine production using natural material that can be well received by Indonesian people," she said.

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