

Herbal Dental Mask, Natural Teeth Whitening Solution

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Currently, there are many kinds of teeth whitening products in the market. The teeth whitening product becomes one of the alternative solutions for various oral cavity problems due to the habits of consuming coffee, tea, colored foods, and smoking. However, most of those teeth whitening products contain chemicals that can cause teeth problems.

“Most of teeth whitening products contain chemicals such as hydrogen peroxide and carbamide peroxide that have side effects if we do not use them properly. Several side effects caused by those compounds are irritation in the oral cavity and the teeth can become more sensitive,” said the student of Faculty of Dentistry UGM, Nurzahra Sekar Ningrum, on Tuesday (11/7).

Collaborating with other dentistry students, Rizky Septianto, Natalia Kristanti, Muzzammal Alfath, and Qushayvi H, Ningrum tried to make a whitening product from natural materials that can solve those problems which are apple vinegar, lemon extract, and tamarind extract. From these three materials, they conducted a research to find which one can give the best teeth whitening effect.

“The malic acid and citric acid contents in apple vinegar, lemon, and tamarind have a certain mechanism to remove the coloring on teeth, thus they can make the teeth whiter. Then, those extracts are formulated with adhesive substance which are gelatin and HMPC that can be used to attach the extracts to the teeth surface and it will be made in gel form,” said Ningrum.



This research was conducted under the supervision of Dr. drg. Archadian Nuryanti, M.Kes. They performed in vitro test on the teeth with three treatments which are before teeth coloring by tea, during tea brewing, and after using HDM gel on the teeth which have become brownish because of the brewing.

“Then, we measure the tooth color degree using the colorimeter,” she added.

The test result of this teeth whitening named as Herbal Dental Mask (HDM) was measured quantitatively, thus the average measurement result will be obtained. The bigger value of the measurement indicates the whiter the teeth. Then, the measurement result of each HDM natural materials was compared using hydrogen peroxide as the positive controller because it is the common whitening material used in the society and its effectivity has been proven.

“From the in vitro test in this HDM research, the natural material which gives the best whitening effect is tamarind extract of 10% which is not of any poorer quality than that of hydrogen peroxide, noting that this HDM gel has fewer side-effects because it is made from natural material,” said Ningrum.

In the future, these students hope their research can be tested more advancedly so it can be processed to become a product that can be used widely by the society.

“We hope we can develop this research by doing in vitro test. If the result shows it is effective to be teeth whitening and safe to be used, we hope we can produce it massively in the future,” said Rizky.

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