
Nanocellulose-based Heart Catheters in the Pipeline

2019-11-26

Recently, a working prototype of a heart catheter was developed by incorporating nanocellulose into nanoparticle technology at the Indonesian Institute of Sciences (LIPI), which is currently being tested in collaboration with Harapan Kita Hospital. Given the abundance of cellulose resources in Indonesia, boosting the production of this innovative heart catheter is expected to meet the growing demand from Jakarta's hospitals.

The biomaterial research center of the [Indonesian Institute of Sciences \(LIPI\)](#) is currently developing a heart catheter prototype with components made from nanocellulose, a plant-fiber biomass, and other nanoparticles to meet the demand from hospitals across the country.

In a seminar about lignocellulose-based bioproducts in Cibinong, West Java, the head of the LIPI biomaterial research center, Imam Hidayat, said the institute was currently cooperating with a hospital to test out the catheter's compatibility.

He said for the development of the heart catheter, the institute had signed an agreement with Harapan Kita Hospital, the national heart center. "The demand for heart catheters is very great and very urgent. Our catheters will be of excellent quality; however, we will sell them more cheaply to reduce the insurance deficit of the Health Care and Social Security Agency [BPJS Kesehatan]," he said recently.

He said the production of the catheter used nanocellulose and nanoparticle technology from natural fibers. "We use palm tree bark, its stems and seeds. We're currently trying to step up our production scale so we will be able to fulfill all the demand from hospitals in Jakarta. We aim to finish the prototype by the end of 2020," Imam said.

He explained that each year, hospitals in Jakarta needed around 6,000 catheters, with each costing Rp 1.5 million (US\$106). "To meet the demand, we've been importing catheters from

[Japan](#), because it is the country with the most advanced technology in catheter manufacturing along with the US and several European countries,” he said.

Imam explained that nanocellulose technology was strategic in [Indonesia](#) as the country has abundant resources of the raw material.

“Lignocellulose, which comes from wood fiber and rice waste, is still taken lightly by people. Little do they know that such material can be used for nanocellulose,” he said, adding that it could be used for a vast array of products. Imam concluded his statement by saying that all plant cellulose could be used for nanocellulose technology.

Read the [original article](#) on The Jakarta Post.