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'Vazhakoombu,' a panacea for many health issues



SPECIAL CORRESPONDENT

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NIIST study says it is effective against diabetes, cancer

Mention Nendran banana and what jumps to mind are visions of fried chips and other mouthwatering delicacies. So, what about the Vazhakoombu — the inflorescence — which, for the most part, gets tossed out? Now, researchers at the National Institute for Interdisciplinary Science and Technology (CSIR-NIIST) here have established that the Vazhakoombu can be a potent weapon against lifestyle diseases, particularly diabetes and colorectal cancer.

of biologically active compounds possessing 'significant anti-diabetic and anticancer potential,' an NIIST team

The Nendran inflorescence is a rich source

led by P. Nisha, Senior Scientist, Agro Processing and Technology Division, along with Arun K.B., a former NIIST researcher now doing his post-doctoral fellowship at the Rajiv Gandhi Centre for Biotechnology, has found.

Plantain inflorescence contains a wealth of bioactive antioxidant phytochemicals

as well as prebiotic dietary fibre, according to them.

They also claim to have figured out the mechanism behind the antidiabetic and

anticancer qualities of Nendran blossoms. The research was funded by the Council of Scientific and Industrial Research (CSIR) and Indian Council of Medical Research and the findings have been published in the *Journal of Functional Food, Food & Function, Journal of Food Biochemistry* and *PLOS One,* Dr. Nisha said.

The inflorescence is widely used in Indian medical systems for treating obesity,

kidney stones and diabetes mellitus, but scientific validation of its health benefits have rarely been reported, the researchers said.

According to them, plantain inflorescence can play a crucial role in the prevention

'Lowers hypertension'

and management of metabolic disorders and colon cancer. In the case of diabetes, the team discovered that extracts from the inflorescence could reduce carbohydrate digestion, interfere with the formation of advanced glycation end products (AGE) and enhance glucose uptake in muscle cells. "The extract from the inflorescence inhibits the oxidation of low density lipoproteins and thus lowers hypertension, indicating its protective role against cardiovascular risk factors," Dr. Nisha said.

Using cell culture, the team studied the potential of the inflorescence extract in combating colon cancer. The results were promising. Cancer cells divide uncontrollably, grow abnormally and evade apoptosis - the process that triggers natural cell death in normal cells. Plantain inflorescence being a good source of biologically active compounds can, in simple terms, promote apoptosis, Dr. Nisha

natural cell death in normal cells. Plantain inflorescence being a good source of biologically active compounds can, in simple terms, promote apoptosis, Dr. Nisha said.

NIIST started research on the plantain inflorescence in 2012 after a chance discussion with a consortium of plantain growers concerning value additions

from the banana plant. Now, the team has embarked on further studies using the antioxidant dietary fibre and bioactives to create healthy, functional food products, she said.

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