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Institute develops cheap insulin pump

By Ashraf Padanna/Kochi

Here is good news for diabetics. A Kerala institute has developed a cheap automated insulin pump designed for the precise, personalised and continuous delivery of insulin in a subcutaneous manner with all the advanced functionalities.

"We received the US patent last month for the innovation which we want to make available in the market at one-tenth the price of the existing ones which cost between $6,000 and $8,000," Dr Bipin Nair, head of the Amrita Institute of Biotechnology (AIB), who led the research, said.

Insulin pumps and most of the devices used for managing blood sugar are currently imported in India but they are not popular with ordinary people because of the high prices. Dr Nair said the scene would change once the low-cost device, which matches its current counterparts in every aspect, hits the market.

The AIB under the Kerala-based Amrita Vishwapeetham developed the device with the support of India's Technology Information Forecasting and Assessment Council (TIFAC), global bio-pharma major Biocon Limited and Media Lab Asia.

"We are in talks with some companies in the field for its commercial production and marketing. We need to ensure that it should be in reach of ordinary people in India which has become the world's diabetes capital," said Dr Nair who has numerous publications to his credits in international scientific journals.

The pager-like devise, which is smaller than an average cell phone, is expected to hit the market in the next two years. The AIB has also developed blood glucose metre strips that cost only Rs5 a piece to measure insulin level.

India has some 45mn diabetes patients and the number is expected to grow to 79.4mn by 2030, according to the International Diabetes Foundation. If a fraction of the patients start using the pump, it would be a billion dollar business.

Diabetes management has become prohibitively expensive making it unaffordable for the ordinary people. The complications include kidney disease, impaired vision, nerve damage and cardiac problems.

The university is engaged in several research projects that would make a difference for people suffering from various ailments.

The focus of the Centre for Nano-sciences and Molecular Medicine at the Amrita Institute of Medical Sciences and Research Centre in Kochi is on developing advanced nano-medicines and implants based on the regeneration of the body's own natural tissues using stem cells.

Some of the nano-medicines under development are for application in cancer cases and have been proof tested in-vitro and are currently undergoing animal trials. "These medicines combat drug resistance and prevent toxic side effects associated with chemotherapy regimens," said Dr Shantikumar V Nair who leads the research.

Nair, who also heads the Centre was selected by the Department of Science and Technology in 2011 as the Best Scientist of the Year for his research in the area.